May 5, 2011

Dear Annual Meeting Participants:

Welcome to the Energy Bar Association's Sixty-Fifth Annual Meeting. I hope that you find the program both informative and enjoyable, and that you put down your Blackberries and smart phones long enough to talk with both old friends and new colleagues.

I wish to thank each of our distinguished speakers, including our panelists and moderators, who will share with us their experiences and expertise today. We are honored by their presence.

We extend a particular thank you to our Keynote Speaker, Yakout Mansour, CEO of the California ISO, and our Luncheon Speaker, Federal Energy Regulatory (FERC) Commissioner Cheryl LaFleur, who have so graciously taken time from their busy schedules to share with us their thoughts on the pressing issues facing our industry.

Immediately following our program at 5:30 p.m. today, we will hold EBA's annual business meeting, receive the reports of the Association and its Foundations on the year's activities, and vote for our new officers and board. I urge you to attend and participate in this meeting.

A reception for all attendees, speakers, and guests will begin at 5:45 p.m. today, and the annual dinner will follow. With great anticipation, we welcome FERC Commissioner John Norris as our Dinner Speaker. Please join us for this evening of good cheer and camaraderie. Many thanks to the Commissioner for agreeing to step up to the plate and provide the evening's entertainment.

For those who can stay through tomorrow, we hope you will join us at the Eighth Annual Charity Golf Outing for the benefit of the Charitable Foundation and its grantees. Please contact Michele Duehring (at the front desk) today for more information.

As the Association's year ends, I express my deep appreciation to our program chairs, Jeanette Pablo and David Yaffe, for all of their hard work in shepherding the Annual Meeting program through from inception to reality. They have devoted many hours throughout the year to one of the most visible and crucial
tasks that the Association performs. Similarly, I thank the many members who have organized the various programs provided by our Chapters and Committees this year. Many hands make lighter work.

A very special thank you to the officers and board members of the Association, each of its six chapters, the Foundation of the Energy Law Journal and the Charitable Foundation. On behalf of the Association Board and myself, I also want to thank our committee chairs and vice chairs for their time, dedication and leadership, and our outstanding professional staff – Lorna Johnston Wilson, Marlo Brown, Michele Duehring and Mary Singletary – for their tireless efforts, continuing dedication and good cheer. Without our professional staff, all of our volunteers’ good ideas would come to naught.

Many thanks to all of the dedicated volunteers that enabled the Association, the Charitable Foundation, the FELJ and the Energy Law Journal to carry out their missions through financial contributions and the contribution of their time and effort. I am pleased to include with this material the lists of members who have provided financial support to the Foundations this year. Those continued contributions are greatly appreciated.

Finally, thank you to all the members of the Association for granting me the honor and privilege of the office of the President of the Association this past year. I leave office with a new appreciation for all three organizations and the great work they do.

Sincerely,

Susan N. Kelly
President
### Foundation of the Energy Law Journal Contributors*

---

#### Corporate/Law Firm

<table>
<thead>
<tr>
<th>Sustaining</th>
<th>Sponsors</th>
<th>Friends</th>
</tr>
</thead>
<tbody>
<tr>
<td>K&amp;L Gates LLP</td>
<td>Marston Law</td>
<td></td>
</tr>
</tbody>
</table>

#### Contributors

- Brunenkant Law Firm, LLP
- Crested Butte Catalysts LLC
- Energy Business, Inc.
- Law Office of Thomas Hirsch, P.C.
- The Mehle Law Firm PLLC
- National Rural Electric Cooperative Association
- Navigant Consulting, Inc.
- Snake Hill Energy Resources, Inc.
- Southern Co.
- Strategic Power Management, LLC
- Willoughby & Hofer, PA
- Wisconsin Public Power Inc.

#### Individual

<table>
<thead>
<tr>
<th>Sustaining</th>
<th>Sponsors</th>
<th>Friends</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stephen A. Herman</td>
<td>Freddi L. Greenberg</td>
<td>Philip M. Marston</td>
</tr>
<tr>
<td>Clinton A. Vince</td>
<td>Susan N. Kelly</td>
<td>William L. Massey</td>
</tr>
<tr>
<td></td>
<td>Kathleen C. Lake</td>
<td>Catherine P. McCarthy</td>
</tr>
<tr>
<td></td>
<td>William S. Scherman</td>
<td>Kevin J. McIntyre</td>
</tr>
<tr>
<td></td>
<td>Mark C. Williams</td>
<td>Brian J. McManus</td>
</tr>
<tr>
<td></td>
<td>Richard D. Avil, Jr.</td>
<td>Richard Meyer</td>
</tr>
<tr>
<td></td>
<td>James H. Barkley</td>
<td>Gary J. Newell</td>
</tr>
<tr>
<td></td>
<td>Douglas M. Canter</td>
<td>Randall S. Rich</td>
</tr>
<tr>
<td></td>
<td>Carol Caul</td>
<td>Jane I. Ryan</td>
</tr>
<tr>
<td></td>
<td>G. Mark Cook</td>
<td>Frank P. Saponaro, Jr.</td>
</tr>
<tr>
<td></td>
<td>Roger B. Cooper</td>
<td>William S. Scherman</td>
</tr>
<tr>
<td></td>
<td>Carolyn F. Corwin</td>
<td>Charles H. Shoneman</td>
</tr>
<tr>
<td></td>
<td>Donald K. Dankner</td>
<td>Richard G. Smead</td>
</tr>
<tr>
<td></td>
<td>M. Douglas Dunn</td>
<td>David R. Stevenson</td>
</tr>
<tr>
<td></td>
<td>Katherine B. Edwards</td>
<td>Kevin M. Sweeney</td>
</tr>
<tr>
<td></td>
<td>Eugene R. Elrod</td>
<td>David G. Tewksbury</td>
</tr>
<tr>
<td></td>
<td>Robert S. Fleishman</td>
<td>James B. Vasile</td>
</tr>
<tr>
<td></td>
<td>Paul W. Fox</td>
<td>Mary K. Vasile</td>
</tr>
<tr>
<td></td>
<td>George F. Goodisy</td>
<td>Ben F. Vaughan, III</td>
</tr>
<tr>
<td></td>
<td>Roberta Lee Halladay</td>
<td>Jeffrey D. (Dan) Watkiss</td>
</tr>
<tr>
<td></td>
<td>Sylvia Harrison</td>
<td>Joseph B. Williams</td>
</tr>
<tr>
<td></td>
<td>R. David Hendrickson</td>
<td>Raymond B. Wuslich</td>
</tr>
<tr>
<td></td>
<td>Andrea R. Hilliard</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Thomas E. Hirsch, III</td>
<td></td>
</tr>
<tr>
<td></td>
<td>James J. Hoecker</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Donald A. Kaplan</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Amy S. Koch</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Andrea S. Kramer</td>
<td></td>
</tr>
</tbody>
</table>

#### Contributors

- Susan K. Ackerman
- Janice A. Alperin
- James J. Alex
- Allan W. Anderson, Jr.
- Chinedu Uchechukwu Arah
- Mercia E. Arnold
- Donna M. Attanasio
- Georgetta J. Baker
- Bernays T. Barclay
- Kenneth A. Barry
- Harry E. Barsh, Jr.
- Michael R. Beiting
- Kevin B. Belford
- James F. Bendernagel, Jr.
- William O. Blome
- David I. Bloom
- Richard M. Blumberg
- Donna J. Bobbish
Christopher T. Boland
Ruth A. Bosek
Jerry K. Boyd
Lisa G. Bradley
Tracey L. Bradley
Steven H. Brose
John F. Brown
Jennifer L. Brundige
Robert Butkin
Robert W. Byrne
Donna M. Byrne Francescani
Glenn E. Camus
Stuart A. Caplan
Wendell Cauley
John H. Conway
David F. Crabtree
Richard D. Cudahy
Kelly L. Dawson
Anthony C. DeCusatis
William D. DeGrandis
Michele Dennis
Kimberly H. Despeaux
Romulo L. Diaz, Jr.
Daniel P. Duthie
Thomas J. Eastment
N. Beth Emery
Leslie B. Enoch, II
Jonathan S. Epstein
Sedina Eric
Miriama Swydan Erickson
Christine F. Ericson
Sarah A. W. Fitts
Philip A. Fleming
Cheryl M. Foley
Frances E. Francis
Robert J. Frank
Leo W. Fraser, III
Ira Freilicher
Eric T. Fresch
Joseph F. Furay
John S. Gaske
Linda S. Gilbert
Marsha Gransee Conway
Richard C. Green
Constance D. Groh
Michael Chase Hales
Walter R. Hall, II
Roland V. Harris
Steven E. Hellman
Michael Henry
John C. Herbert
Patrick J. Hester
Thomas A. Hill
Sheila S. Hollis
Thomas E. Holmberg
Marcia C. Hooks
William A. Horin
Geric F. Hull
Stephen L. Huntoon
Ernest J. Irrerdi
Timothy P. Ingram
James P. Johnson
Andrea Z. Jones
Myra L. Karegianes
Andrew S. Katz
Andrea M. Kearney
Robert W. Kehres
Tim D. Kelley
Suedeen G. Kelly
Don L. Keskey
Michael L. Kessler
Bruce F. Kiely
Martin V. Kirkwood
Jay L. Kooper
Tulin Caglar Koray
Richard J. Kruse
Alicia Lamboy
Lisa C. Langeneckert
Stephen R. Larson
Deborah B. Leahy
Shaun D. Ledgerwood
Jason F. Leif
Peter C. Lesch
Joel D. Levinson
Jackson D. Logan, III
Joseph W. Lowell
Melissa Lozano
Ellen S. Maher
Cynthia A. Marlette
Herbert J. Martin
Jeffie J. Massey
Michael J. Matison
Casey P. McFaden
Gregory M. Medici
Colette B. Mehle
Rebecca J. Michael
Richard B. Miller
Gary A. Morgans
Andrew P. Mosier, Jr.
Scott J. Mueller
Sarah G. Novosel
Kristina Nygaard
James P. O'Brien
Earle H. O'Donnell
Karen J. Onaran
Brian D. O'Neill
Mustafa P. Ostrander
Jeanette M. Pablo
Chiara Pappalardo
Raymond V. Petniunas
Marjorie R. Philips
David R. Poe
Daniel J. Poynor
Shelby L. Provencher
Demetrios G. Pulas, Jr.
Janice K. Raburn
Steven G. Thomson Reed
Steven B. Richardson
Patrick C. Rock
Jerry E. Rothrock
Sherrie N. Rutherford
Jason M. Ryan
Bobby Saadati
Keith T. Sampson
Mindi Sauter
Laura M. Scheles
Jennifer Lokvenitz Schwartz
Peter M. Schwolsky
Michael F. Shepard
Timothy K. Shuba
Marek Smigielski
Andrew K. Soto
Phillip J. Stephenson
Channing D. Strother, Jr.
David M. Sweet
Richard Tabors
Branko Terzic
J. Leroy Thilly
Carolyn Y. Thompson
James L. Thorne
Thomas C. Trauger
Edmunds Travis, Jr.
Sheila R. Tweed
Theo Thomas Twiggs
James T. Tynion III
Carla J. Urquhart
Steven I. Venezia
Susan H. Vrahoretis
Thomas George Wagner
Linda L. Walsh
Robin J. Walther
David B. Ward
Wendy Barrett Warren
Stephanie A. Watson
Joseph F. Weiler
Jon B. Wellinghoff
Heidi Wernitz
Lodie D. White
Stanley W. Widger, Jr.
Robert C. Williams
Dennis J. Whithie
Alan Z. Yudkowsky
Charles A. Zelinski
Bryan D. Zumwalt
*As of March 31, 2011
ABS Complete Printing
Access Litigation Services
Alston & Bird LLP *
American Electric Power Co.
American Public Power Association
APX, Inc.
Ballard Spahr LLP
Beacon Power Corp.
Bingham McCutchen LLP
Black & Veatch Enterprise
Management Solutions
Boardwalk Pipelines, LLC
Bracewell & Giuliani LLP *
Bruder, Gentile & Marcoux, L.L.P. *
Carver, Darden, Koretzky, Tessier, Finn, Blossman & Areaux L.L.C.
CenterPoint Energy, Inc.
Chadbourne & Parke LLP *
Clearwell Systems
Covington & Burling LLP
Crested Butte Catalysts LLC
Cullen and Dykman LLP
Customized Energy Solutions Ltd.
Davis Wright Tremaine LLP
Day Pitney LLP *
Deseret Power
Dewey & LeBoeuf LLP *
Duane Morris LLP
Duncan & Allen
Duncan, Weinberg, Genzer & Pembroke, P.C. *
Edison Electric Institute
Edwards & Associates
Electric Power Supply Association
Energy Bar Association *
Exelon Corp.
FPL Energy, LLC
Fulbright & Jaworski L.L.P.
Harkins Cunningham LLP *
Heller Ehman LLP *
Hunton & Williams LLP *
Huron Consulting Group, LLC
Husch Blackwell Sanders, LLP
ILD Telecommunications, Inc.
Jennings, Strouss & Salmon, P.L.C.
John & Hengerer
Jones Day *
KBHOME
K&L Gates LLP *
Kroll OnTrack/TrialGraphix
Latham & Watkins LLP
Law Offices of Paul B. Mohler PLC
Leonard, Street and Deinard, P.A.
Loeb & Loeb LLP
Long Law Firm
Luminant
Marston Law
McCarthy, Sweeney & Harkaway, P.C.
McNees Wallace & Nurick LLC
Miller, Balis & O'Neil, P.C. *
Mirant Energy Trading LLC
Moore & Van Allen, PLLC
Morgan, Lewis & Bockius LLP
Morrison & Foerster Foundation *
National Rural Electric Cooperative Association
New England Power Generators Association
Northeast Utilities *
NRG Energy, Inc.
Orr & Reno, P.A.
Pacific Gas and Electric Co.
Paragon Partners Ltd.
Paul, Hastings, Janofsky & Walker LLP
Pierce Atwood LLP
Pitney Bowes Legal Solutions
PNM Resources
PowerGrid Strategies
Public Service Enterprise Group Inc. (PSEG) *
PSEG Energy Resources & Trade LLC
Ryan Glover LLP
Sapire Search Group, Inc.
Sidley Austin LLP *
Skadden, Arps, Slate, Meagher & Flom LLP *
Snake Hill Energy Resources, Inc.
SNL Financial
SNR Denton
Steptoe & Johnson LLP *
Stinson Morrison Hecker LLP *
Strategic Power Management, LLC
Sullivan & Worcester LLP *
Swidler Berlin LLP *
The Brattle Group
Thelen Reid Brown Raysman & Steiner LLP *
Thompson Coburn LLP
Tower Research Capital LLC
Troutman Sanders LLP *
Van Ness Feldman, P.C. *
White & Case LLP
Wiley Rein LLP
Wright & Talisman, P.C. *
* Originating Founders
CHARITABLE FOUNDATION OF THE ENERGY BAR ASSOCIATION
INDIVIDUAL CONTRIBUTORS
(Contributions from 1/1/10 – 4/1/11)

Steven A. Adducci
James J. Alex
Massimo Amoruso
Allan W. Anderson, Jr.
Pamela J. Anderson
Donna M. Attanasio *
Richard D. Avil, Jr.
Nancy E. Bagot
James H. Bailey
Vicky A. Bailey
Georgetta J. Baker
Nancy Baker
Michael A. Bardee
Sarah M. Barker-Ball
James H. Barkley
Lynne Anne Baronas
Brooksany Barrowes
Elizabeth C. Barton
Patricia M. Batsie
Kevin B. Belford
James F. Bendorngal, Jr.
Stan Berman
Frederic G. Berner, Jr.
James J. Bertrand
Gunnar Birgisson
Bonnie S. Blair
David I. Bloom
Richard P. Bonnifield *
Victoria L. Bor
Ruth A. Boek
James W. Bowen
Matthew R. Bowles
Tracey L. Bradley
Paul M. Breakman
Lawrence Brenner
Deborah C. Brentani
Steven H. Brose
John F. Brown
Terry Brown
Jennifer L. Brundige
Charles E. Bullock
Robert Butkin
Neil H. Butterklee
Robert W. Byrne
Donna M. Byrne Francesciani
Margaret Caffey-Moquin
Glenn E. Camus
Stuart A. Caplan *
Deborah A. Carpentier
Megan M. Ceronsky
Meredith Berger Chambers
Laurence G. Chaset
Robert F. Christin
Adrienne E. Clair

John Clements
Barry Cohen
Sharon L. Cohen
John H. Conway
David N. Cook
Roger B. Cooper
Dean M. Cordiano
Carolyn F. Corwin
M. Lisaane Crowley *
David Lyles Cruthirds
Richard D. Cudahy
Heather L. Curlee
Donald K. Dankner
Patrick O. Daugherty
Sidney Mannheim Davies
Kelly L. Dawson
William D. DeGrandis
Michele Dennis
David T. Doot *
Kevin M. Downey
Daniel P. Duthie
Derek A. Dyson
Robert L. Earle
Jack E. Earnest
Katherine B. Edwards
Eugene R. Elrod
N. Beth Emery
Sedina Eric
Christine F. Ericson
Howard J. Feldman
Nataara G. Feller
Cynthia Femano
Kim Fernandes
Sarah A. W. Fitts
Martha S. Fitzmaurice
Philip A. Fleming
J. Cathy Fogel
Frances E. Francis
Leo W. Fraser, III
Eric T. Fresch
Jeffrey L. Futter
Jignasa P. Gadani
Jennifer E. Gallette
Ashley L. Garber
Gerald Garfield
Steven S. Garwood
J. Stephen Gaske
Michael J. Gergen
Patrick M. Gerity
Christiana M. Gianopoulos
Linda S. Gilbert
Patricia Fry Godley
George F. Goolsby
CHARITABLE FOUNDATION OF THE ENERGY BAR ASSOCIATION
INDIVIDUAL CONTRIBUTORS
(Contributions from 1/1/10 – 4/1/11)

Marsha Gransee Conway
Freddi L. Greenberg
Constance D. Groh
Michael E. Haddad
Michael Chase Hales
Walter R. Hall, II
Roberta Lee Halladay
Jesse Halpern
Emma F. Hand
Patricia J. Harrell
Roland V. Harris
Joseph R. Hartsocoe
Michael Henry
Stephen A. Herman
A. Karen Hill *
David J. Hill
David R. Hill
Hugh E. Hilliard
Sheila S. Hollis
Marcia C. Hooks
William A. Horin
Glen Howard
Linda K. Howey
Gerit F. Hull
Melissa I. Hunt
Stephan L. Huntoon
Kevin H. Huyler
Larry T. Inouye
Kurt H. Jacobs
Douglas F. John
Lori Johnson
Meredith M. Jolivert
Andrea Z. Jones
Eric R. Jones
Donald A. Kaplan
Myra L. Karegianes
Andrew S. Katz
Patrick J. Kealy
Michael Keegan
Suedeen G. Kelly
Susan N. Kelly
Michael L. Kessler
Edwin G. Kichline
Tulin Caglar Koray
Theodore J. Korth
Joseph S. Koury
Andrea S. Kramer
Bret Kravitz
Catherine M. Krupka
Edward F. Krzanowski
Iryna Kwasny
Ariel C. Lager
Julia A. Lake
Kathleen C. Lake
Cheryl A. LaFleur
Alicia Lamboy
Kevin M. Lang
Lisa C. Langeneckert
Deborah B. Leahy
Shaun D. Ledgerwood
Jason F. Leif
Peter C. Lesch
Frank R. Lindh
Jill E. Little
Robert H. Loeffler
Jackson D. Logan, III
Melissa Lozano
Christopher M. Lyons
Martin Peder Maarbjer
Ellen S. Maher
Mary Jo Manning
Lorrie M. Marcil
J. Michel Marcoux
Cynthia A. Marlette
Jeffie J. Massey
Michael J. Matison
Jay Matson
Ernest J. Mattei
Michael F. McBride
John Edward McCaffrey
Bobbie J. McCartney
Casey P. McFaden
W. McGilpiin
Kevin J. McIntyre
Anna A. McKenna
Gregory M. Medici
J. Curtis Moffatt
Paul B. Mohler
Diane Moody
Margaret A. Moore
Janice Moore
Stephen P. Munro
Donna J. Murphy
C.M. (Mike) Naeve
Howard L. Nelson
Gary J. Newell
Earle H. O'Donnell *
Gwenneth A. O'Hara
Susan A. Olenchuk
Karen J. Onaran
Bryan D. O'Neill
Thomas C. Orvald
Mustafa P. Ostrander
Terri Parsons
Sarah A. Pavlik
Jeanette M. Pablo
CHARITABLE FOUNDATION OF THE ENERGY BAR ASSOCIATION
INDIVIDUAL CONTRIBUTORS
(Contributions from 1/1/10 – 4/1/11)

Mosby G. Perrow, IV  Roger E. Smith
Thomas R. Peterson  Douglas W. Smith
Raymond V. Petniunas  William H. Smith, Jr.
Jeffrey M. Petresh  Robert H. Solomon
N. Petresh  Andrew K. Soto
Marjorie R. Philips  Linda G. Soucy
Frederick H. Pickel  David R. Stevenson
Emily R. Pitlick  Stephen A. Stolze
David R. Poe  Penny M. Storms
Pamela Polacek  Michael A. Stosser
Steven A. Porter  Channing D. Strother, Jr.
Richard E. Powers, Jr.  Debbie A. Swanstom
Daniel J. Poynor  Allan Bert Taylor
Sherry A. Quirk  Robert M. Taylor
Leslie P. Recht  Renee Terry
Steven G. Thomson Reed  David G. Tewksbury
Presley R. Reed  Christine L. Tezak
Wendy N. Reed  Roshini S. Thayaparan
Evan C. Reese, III  Glen R. Thomas
Lawrence J. Reilly  Carolyn Y. Thompson
Harvey L. Reiter *  Michael J. Thompson
John D. Rhea  Wallace F. Tillman
Randall S. Rich  Eric Todderud
Peter J. Richardson  Jennifer H. Tribulski
Sandra Rizzo  John C. Tweed
Richard L. Roberts  Thane Thomas Twiggs
Thomas C. Roberts  Stacey Tyrewala
Pamela J. Russo  Carla J. Urquhart
Jane I. Ryan  Douglas R. Vanvalenburg
Bobby Saadati  James B. Vasile
Keith T. Sampson  Ben F. Vaughan, III
Odette M. Santos  Steven I. Venezia
Nancy J. Saracino  William R. Vigor
Mindi Sauter  Clinton A. Vince
Janine L. Scancarelli  Susan H. Vrahoretis
Laura M. Schepis  Thomas George Wagner
William S. Scherman  Linda L. Walsh
Sara Schoenwetter  David B. Ward
David L. Schwartz  Richard M. Wachtchow
Monica A. Schwebs  Jeffrey D. (Dan) Watkiss
Terry L. Schwennesen  Monique Watson
Abbie K. Seltzer  Stephany A. Watson
Howard H. Shafferman  Ambrea Watts
Steven A. Shapiro  David Watts
Howard Elliot Shapiro  Robert P. Wax
Michael Shea  Robert A. Weishaar, Jr.
Celia R. Sher  Jon B. Wellighoff
Charles H. Shoneman  Heidi Werntz
James Sicilian  Paul F. Wight
Daniel R. Simon  D. Gideon Wiginton
Julie Simon  Thomas R. Wildman
Kenneth M. Simon  Mark C. Williams *
Marek Smigielski  William A. Williams
CHARITABLE FOUNDATION OF THE ENERGY BAR ASSOCIATION
INDIVIDUAL CONTRIBUTORS
(Contributions from 1/1/10 – 4/1/11)

<table>
<thead>
<tr>
<th>Joseph C. Williams</th>
<th>David P. Yaffe</th>
</tr>
</thead>
<tbody>
<tr>
<td>James F. Wilson</td>
<td>Ellen S. Young</td>
</tr>
<tr>
<td>Lorna Johnston Wilson</td>
<td>Michael A. Yuffee</td>
</tr>
<tr>
<td>Kristine R. Wilson</td>
<td>Sara L. Zagorski</td>
</tr>
<tr>
<td>Dallas Winslow</td>
<td>Albert Zakarian</td>
</tr>
<tr>
<td>Walter F. Wolf</td>
<td>Nadia Zakir</td>
</tr>
<tr>
<td>Julia Scarpino Wood</td>
<td>Katherine C. Zeitlin</td>
</tr>
<tr>
<td>Linda G. Wood</td>
<td>Charles A. Zielinski</td>
</tr>
<tr>
<td>Shawn T. Wooden</td>
<td>Bryan D. Zumwalt</td>
</tr>
<tr>
<td>Raymond B. Wuslich</td>
<td></td>
</tr>
</tbody>
</table>

* Originating Founders
CHARITABLE FOUNDATION OF THE
ENERGY BAR ASSOCIATION
2011 ANNUAL FUNDRAISING
GOLF TOURNAMENT SPONSORS

ABS Complete Printing
Dominion Resources Services, Inc.
Duane Morris LLP
Susan N. Kelly
McGuireWoods LLP
Pendulum Consulting
PowerGrid Strategies, LLC
Van Ness Feldman, P.C.
Rapid changes to established energy industry business practices are creating challenging new issues for participants in the energy industry and lawyers who advise them. Do you know what you need to know to advise clients how to navigate effectively and safely in this changing landscape?

Speakers at the EBA’s Sixty-Fifth Annual Meeting will discuss these changes, the challenges they present, and will provide insights into the solutions being proposed and implemented. After the Keynote Address, two panels address (i) how implementation of the Dodd-Frank Act may affect price hedging in the energy industry and (ii) the effects on infrastructure and regulation caused by dramatic supply/production shifts. Concurrent panels then discuss (i) whether federal and states policies, including mandates and subsidies, are tilting the market for electric generation, including new generation, in ways not anticipated during federal and state electric restructuring; (ii) developments in pipeline safety regulation proposed in Congress and by the Pipeline and Hazardous Materials Safety Administration in response to recent, highly publicized, incidents; (iii) the effects of new electricity resources (particularly intermittent supply, demand side management, and storage) upon other electricity resources and service reliability; and (iv) the use of various joint venture forms as the corporate vehicle for meeting the challenges of financing new infrastructure, and how such entities can be structured and governed to pass regulatory and legal muster, including withstanding antitrust-type challenges.

**PROGRAM SCHEDULE**

**THURSDAY, MAY 5, 2011**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 a.m.</td>
<td>REGISTRATION</td>
</tr>
<tr>
<td>8:30 a.m.</td>
<td>WELCOME AND INTRODUCTION</td>
</tr>
<tr>
<td></td>
<td>David P. Yaffe</td>
</tr>
<tr>
<td></td>
<td>Co-Chair, EBA Programs &amp; Meetings Committee</td>
</tr>
<tr>
<td></td>
<td>Van Ness Feldman, P.C.</td>
</tr>
<tr>
<td></td>
<td>Susan N. Kelly</td>
</tr>
<tr>
<td></td>
<td>President, Energy Bar Association</td>
</tr>
<tr>
<td></td>
<td>American Public Power Association</td>
</tr>
<tr>
<td>8:45 - 9:15 a.m.</td>
<td>KEYNOTE SPEAKER</td>
</tr>
<tr>
<td></td>
<td>Yakout Mansour, Chief Executive Officer</td>
</tr>
<tr>
<td>9:15 - 10:30 a.m.</td>
<td>Countdown to Dodd-Frank Act: Do You Know Where You Stand?</td>
</tr>
<tr>
<td></td>
<td>The use of swaps to hedge or mitigate commercial risk by energy</td>
</tr>
<tr>
<td></td>
<td>market participants is widespread and essential to current energy</td>
</tr>
<tr>
<td></td>
<td>market operation. Dodd-Frank has empowered the Commodities</td>
</tr>
<tr>
<td></td>
<td>Futures Trading Commission (CFTC) to adopt a number of rules to</td>
</tr>
<tr>
<td></td>
<td>regulate the previously unregulated swap markets, which rules</td>
</tr>
<tr>
<td></td>
<td>could complicate and increase the cost of energy related swap</td>
</tr>
<tr>
<td></td>
<td>transactions affecting all industry sectors: power, natural gas, and</td>
</tr>
<tr>
<td></td>
<td>oil. Many of these new rules will become effective this year.</td>
</tr>
<tr>
<td></td>
<td>This panel will explain the nature and role of swap transactions</td>
</tr>
<tr>
<td></td>
<td>in the energy markets, and how the proposed regulations under</td>
</tr>
<tr>
<td></td>
<td>Dodd-Frank might impact these transactions. Specific focus will</td>
</tr>
<tr>
<td></td>
<td>include the CFTC proposed definitions of &quot;swap,&quot; &quot;swap dealer&quot; and</td>
</tr>
<tr>
<td></td>
<td>&quot;major swap participant&quot;; the proposed &quot;end-user&quot; exemption and how</td>
</tr>
<tr>
<td></td>
<td>its proper crafting could avoid serious costs and disruptions</td>
</tr>
<tr>
<td></td>
<td>associated with Dodd-Frank’s exchange trading</td>
</tr>
<tr>
<td>10:30 - 10:45 a.m.</td>
<td>NETWORKING BREAK</td>
</tr>
<tr>
<td>10:45 a.m. - 12:00 noon</td>
<td>The New Sourcing of Gas and Oil Supply – Impact on Infrastructure</td>
</tr>
<tr>
<td></td>
<td>and Regulation</td>
</tr>
<tr>
<td></td>
<td>The past several years have witnessed a dramatic surge in gas and</td>
</tr>
<tr>
<td></td>
<td>oil production in North America, including surging shale gas and</td>
</tr>
<tr>
<td></td>
<td>increasing oil production in oil sands and the Bakken play. Within</td>
</tr>
<tr>
<td></td>
<td>North America, in both the gas and liquids industries, supply</td>
</tr>
<tr>
<td></td>
<td>shifts and emerging unconventional production have altered</td>
</tr>
<tr>
<td></td>
<td>pipeline utilization, affected pipeline ratemaking</td>
</tr>
<tr>
<td></td>
<td>strategies, encouraged infrastructure projects and raised new</td>
</tr>
<tr>
<td></td>
<td>regulatory issues. Both North American production changes and</td>
</tr>
<tr>
<td></td>
<td>potential unconventional reserve development abroad may have</td>
</tr>
<tr>
<td></td>
<td>significant impacts on international gas markets, including the</td>
</tr>
<tr>
<td></td>
<td>export of domestic U.S. gas as LNG, displacement of LNG</td>
</tr>
<tr>
<td></td>
<td>originally intended for U.S. markets, changes in cross-border</td>
</tr>
<tr>
<td></td>
<td>flows between Canada and the U.S., and the spurring of shale gas</td>
</tr>
</tbody>
</table>
development in other continents. The panel will discuss both the current impact and the projected direction of these changes, including recent rate proposals and regulatory developments.

**Moderator:** Christopher J. Barr, Principal  
Post & Schell, P.C.

**Speakers:**  
Andrew Bradford  
Director of Origination and Business Development  
Bentek  
Andrew K. Soto, Senior Managing Counsel of Regulatory Affairs  
American Gas Association  
Steven H. Brose  
Steptoe & Johnson LLP  
Susan L. Sakmar, Adjunct Professor of Law  
University of San Francisco School of Law

**12:00 - 1:45 p.m.**  
LUNCHEON AND LUNCHEON SPEAKER

**Introduction:**  
Susan N. Kelly  
President, Energy Bar Association  
American Public Power Association  
The Honorable Cheryl LaFleur  
Commissioner  
Federal Energy Regulatory Commission

**1:45 - 2:00 p.m.**  
NETWORKING BREAK

**2:00 - 3:30 p.m.**  
CONCURRENT SESSIONS

**Session A:**  
Subsidies, Mandates, and Other Interventions: Impact of State and Federal Policies on Electricity Competition

Electricity restructuring policy has long attempted to balance the benefits of various state and federal interventions with the benefits of market forces, particularly as we transition to a lower-carbon, more efficient electricity supply portfolio. Those interventions have taken on more complexity in recent years, ranging from fuel-based subsidies, demand-side mandates and prices rules, renewable portfolio standards, locational capacity requirements, transmission planning and cost allocation rules, and others. This topic is heating up, as different stakeholders respond to various interventions in their investment decisions and market participation. In order to advise their clients, energy practitioners will therefore want to understand how market interventions affect the operation and competitiveness of electricity markets. For example, how do interventions affect the “playing field” for market participants? How are price signals and incentives for entry affected? And are interventions creating opportunities for firms to behave strategically, to the detriment of competition and consumers?

**Moderator:** Susan A. Olenchuk  
Van Ness Feldman, P.C.

**Speakers:**  
Jeff Wiese, Associate Administrator for Pipeline Safety  
Pipeline and Hazardous Materials Safety Administration  
Frank R. Lindh, General Counsel  
California Public Utilities Commission  
Lauren O’Donnell, Director, Division of Gas, Environment & Engineering  
Federal Energy Regulatory Commission  
Chad Zamarin  
Vice President - Engineering  
NiSource Gas Transmission & Storage

In 2010, serious pipeline accidents redirected the attention of Congress, the public, and the media on the regulatory programs of the Pipeline and Hazardous Materials Safety Administration (PHMSA). Members of Congress have introduced legislative proposals that would strengthen PHMSA’s enforcement and penalty authority, and expand the scope of its oversight. PHMSA, itself, has initiated an evaluation of its existing regulations and appears to be entertaining some substantial changes. PHMSA also has issued guidance that states it will focus near-term enforcement efforts on recordkeeping and integrity management, following urgent National Transportation Safety Board (NTSB) recommendations related to pipeline pressure and recordkeeping. This panel will address the present changes in PHMSA’s compliance and enforcement expectations, as well as the implications of future changes in the direction or focus of the pipeline safety program. Panelists will discuss how pipelines should evaluate and respond to PHMSA’s recent guidance, the potential opportunities and challenges of the expansion of PHMSA’s programs and oversight, and the status and future of the federal-state pipeline safety oversight framework.

**Moderator:** George E. Johnson  
Dickstein Shapiro LLP

**Speakers:**  
John E. Shelk, CEO  
Electric Power Supply Association  
Doug Egan, CEO  
Competitive Power Ventures  
Sonny Popowsky, Consumer Advocate  
Pennsylvania Office of Consumer Advocate  
Martin Livingston, Executive Director of the Global Energy Group  
WestLB Securities, Inc.

**Session B:**  
What’s Next for Pipeline Safety? The Implications of New Agency Guidance and Pending Statutory and Regulatory Change
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:30 - 3:45 p.m.</td>
<td>NETWORKING BREAK</td>
<td></td>
</tr>
<tr>
<td>3:45 - 5:15 p.m.</td>
<td>CONCURRENT SESSIONS</td>
<td></td>
</tr>
</tbody>
</table>
| Session A:    | Reliability and New Energy Resources | The electric utility industry is increasingly relying on new energy resources to meet the needs of consumers, including variable energy resources, demand response, energy efficiency, and energy storage. Congress has considered proposals to require utilities to incorporate 20% or more of renewable energy and energy efficiency into their portfolios. California requires utilities to obtain 33% of their energy from renewable resources and has additional mandates for energy efficiency, demand response and energy storage. Regional Transmission Organizations and Independent System Operators are adjusting their tariffs and operating procedures to incorporate renewable resources, demand response and energy storage more fully into their markets. The North American Electric Reliability Corporation (NERC) has begun to evaluate the reliability implications of these changes, with task forces on the integration of variable energy resources, demand response data, and the smart grid. This panel will look at what some of the reliability implications could be of future changes in the industry’s resource base and will discuss how reliability concerns should be evaluated, raised, and addressed by policymakers as they craft proposals to promote alternative resources and to integrate those resources into the existing system.  
Moderator: Jay Morrison  
National Rural Electric Cooperative Association  
Speakers: Mark G. Lauby  
Vice President and Director, Reliability Assessments and Performance Analysis North American Electric Reliability Corp.  
Pat Brown, Manager of NERC Compliance PJM  
The Honorable Joseph T. Kelliher  
Executive Vice President, Federal Regulatory Affairs, NextEra and Former Chairman, Federal Energy Regulatory Commission  
Sydney Berwager  
Director, Strategy Integration Bonneville Power Administration |
| Session B:    | Joint Ventures as a Means To Build the Energy Future | Collaborations and joint ventures are common in all aspects of the energy industries, ranging from LNG terminals, deep-sea oil drilling platforms, petroleum refining, electric transmission facilities, traditional and renewable generation facilities, generation and transmission cooperatives, and municipal joint action agencies. In an era where some claim that companies must merge to achieve the scale needed for capital-intensive energy projects, joint ventures and other forms of collaborations may provide an alternative means to bring together necessary capital without the difficulties of consummating a merger. This panel examines three important aspects of joint ventures about which energy practitioners should be aware when advising clients: financing, corporate governance and antitrust. Experts in each area will discuss recent developments from each perspective and across a variety of energy industries. For example, how are joint ventures financed differently than sole-venture investments and why? What different or specialized risks do they present and how does this affect the ease and cost of financing? In regard to corporate governance, what issues arise in structuring agreements and oversight of joint ventures? In antitrust, what do participants need to do to avoid antitrust liability, for example, when bidding jointly owned facilities into energy markets? Do the Supreme Court’s 2010 decision in American Needle, Inc. v. National Football League and the antitrust agencies’ 2010 revision of the Horizontal Merger Guidelines have implications for how joint venture participants organize and conduct themselves?  
Moderator: Diana L. Moss  
American Antitrust Institute  
Speakers: Corey C. Brown  
Porter Hedges  
Mark Spradling  
Vinson & Elkins L.L.P.  
Raj Rao, President and CEO Indiana Municipal Power Agency  
Mary Lehner  
Mergers III Division, Bureau of Competition Federal Trade Commission  |
| 5:30 p.m.     | BUSINESS MEETING             |                                                                                                                                                                                                       |
| 5:45 - 7:00 p.m. | RECEPTION                    |                                                                                                                                                                                                       |
| 7:00 p.m.     | DINNER & DINNER SPEAKER      | Dinner Speaker: The Honorable John R. Norris  
Commissioner  
Federal Energy Regulatory Commission |
Countdown to Dodd-Frank Act:
Do You Know Where You Stand?
Countdown to Dodd-Frank Act: Do You Know Where You Stand?

Energy Bar Association Annual Meeting
May 5, 2011
Washington, DC

Janice R. Moore
Pierce Atwood, LLP
Dodd Frank Title VII Basics

• Date of enactment - July 21, 2010
• Effective Date - July 16, 2011
Dodd Frank Title VII

- Commodity Futures Trading Commission ("CFTC") will regulate the swaps marketplace - not just futures and options contracts and related markets (e.g., NYMEX, CBOT)
Dodd Frank Major Provisions

- Exchange Trading - §723 (CEA § 2(d))
- Clearing - §723 (CEA §2(h))
  - “End User” Exemption
    §723(a) (CEA §2(h)(7))
- Margin Requirements – §736 (CEA §8a(7))
- Position Limits - §737 (CEA §4a(a))
- Reporting - §723 (CEA §2(h)(5))
Dodd-Frank Major Impacts

• Loss of market liquidity
• Reduction in unsecured credit
• Additional expense and capital requirements
  • New agreements
  • New margin requirements
  • Record retention and reporting requirements

expect reach depth results
Dodd-Frank Action Items

• Meet with Credit/Risk Dept/CFO to review risk/credit analysis, new entities, new agreements/terms, reporting capabilities.

• Brief board about Dodd Frank impacts, including capital cost of entering into swaps and board approval to enter into swaps that are not cleared.

• Get involved in comment process.
Legal Stuff

Because of its generality, the information provided in this summary may not be applicable to all situations and should not be acted upon without specific advice from legal counsel. If you have any questions concerning this summary or how it applies to any particular entity or circumstance, please contact Janice Moore by phone at (202) 470-6426 or by email at jmoore@pierceatwood.com.
Energy Bar Association
Annual Meeting
May 5, 2011

Countdown to Dodd-Frank Act:
Do you know where you stand?
Swaps Regulation

Dodd-Frank = Swaps Regulation

☐ Necessary? – Yes
☐ Easy? – No
☐ But – what is a swap?
  • a contract in which the parties agree to exchange liabilities – often a fixed rate or payment stream for a floating rate or variable payment stream.
Broader Definition

☐ In the Dodd-Frank Act, Congress has developed a long definition of the term “swap.”

☐ Includes the traditional view of a swap: fixed for float swap, basis swap, swing swap, etc…

Plus … any agreement, contract or transaction that is a “put, call, cap, floor, collar, or similar option of any kind that is for the purchase or sale, or based on the value, of one or more interest or other rates, currencies, commodities, securities, instruments of indebtedness, indices, quantitative measures, or other financial or economic interests or property of any kind."
Dodd-Frank = Cleared Swaps

- What is clearing?
  - Novation of a contract with a clearinghouse
    - Reduce counterparty risk
    - Concentrate risk in clearinghouses?

![Diagram of swaps regulation](image-url)
Background

- **The Economic Stimulus Act of 2008**
  - signed into law on February 13, 2008

- **The Emergency Economic Stabilization Act of 2008 (TARP)**
  - signed into law on October 3, 2008

  - signed into law on February 20, 2009

- Each of these initiatives sought, in its own way, to:
  - encourage banks to resume lending to each other and to consumers & businesses
  - create jobs and promote investment
  - boost consumer spending

  Or, to encourage the flow of credit throughout the economy
Countdown

- July 31, 2007 – Bear Stearns liquidates two hedge funds invested in mortgage-backed securities
- March 24, 2008 – JP Morgan acquires Bear Stearns
- September 15, 2008 – Lehman Brothers files for Chapter 11 bankruptcy protection
- September 16, 2008 – “The US government seized control of American International Group” ….. the government decided AIG truly was too big to fail
- November 10, 2008 – AIG financial support restructured
- March 02, 2009 – AIG financial support restructured
Many stakeholders; consumer groups, political leaders & others, called for radical reform of the financial markets following the rescue of AIG.

AIG’s ‘toxic’ portfolio consisted primarily of Credit Default Swaps (CDS’s) and Collateralized Debt Obligations (CDO’s), each a specialized derivative considered an exotic product, not the types of products most end-users require to hedge commercial risk.

AIG was bailed-out prior to any meaningful portfolio analysis which led to the adoption of the ‘too big to fail’ battle-cry.

The debate shifted from the mismanagement of an exotic portfolio to the use of Over the Counter (OTC) markets generally.

Misuse of OTC derivatives was cited as one of the key contributors of the financial crisis.

AIG failed from a lack of basic risk management and corporate governance – not the use of OTC markets.
The Path Forward

March 23, 2009

- The Federal Reserve and the Treasury issue a joint statement on the role of each institution throughout the crisis and beyond. The four key points are:

  - The Fed and the Treasury will continue to cooperate to improve the functioning of the credit markets.
  - The Fed should avoid credit risk/allocation. That’s the role of the President & Congress.
  - To preserve monetary stability without impacting employment.
  - Recognizes the need for a long-term, comprehensive resolution to systemically important financial institutions.

Again – It’s all about credit!
Dodd - Frank

- The Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank)
  - Signed into law on July 21, 2010

- Significantly restricts the flow of credit
  - Renders the use of credit *unlawful* for certain business activity
  - Requires the conversion of credit risk to other risk types

The law of conservation of energy:

... energy can neither be created nor destroyed: it can only be transformed from one state to another ...
Typical Hedge Activity

Hedge programs convert a portion of one’s price risk to a balanced mix of credit risk and liquidity risk.

- OTC derivatives used to manage risk as credit risk.
- Exchange trading & clearing used to manage risk as liquidity risk.
Potential Impacts of Dodd-Frank

- Requiring clearing of all OTC trades serves as a risk transfer mechanism that arbitrarily converts credit risk to liquidity risk.
- Liquidity risk is the more systemic risk – Bear Stearns, Lehman Brothers and AIG all ultimately failed because of a liquidity crisis, not a credit loss event.
- Simply requiring universal clearing does not guaranty that institutions will have adequate collateral for an extreme price movement.
- End-users hedge with derivative products to protect ratepayers and shareholders from commodity price risk.
- Even for a large end-user, the potential losses on all its derivatives contracts do not approach the level of posing a systemic risk to the financial system.
Principal Concerns

- Monitoring the legislative process to determine how the new rules might impact end-users.

- What’s at risk?
  - Continued access to OTC financial markets
  - Increased costs associated with margin not currently required
  - Capital constraints market-wide
  - Increased transaction costs
  - Increased administrative and compliance costs
  - Uncertain regulatory framework
Principal Concerns

- Now that some time has passed and we’re much of the way through the rule-making process …..

- What’s at risk?
  - Continued access to OTC financial markets
  - Increased costs associated with margin not currently required
  - Capital constraints market-wide
  - Increased transaction costs
  - Increased administrative and compliance costs
  - Uncertain regulatory framework

Not much has changed!
Access to OTC Markets

- Definitions are everything -
  - The impact of the Act and subsequent rule-making is influenced by the manner in which key terms are defined

- Swap Dealer - Would include any entity that:
  - holds itself out as a dealer in swaps;
  - makes a market in swaps;
  - regularly engages in the purchase of swaps and their resale;
  - is commonly known in the trade as a dealer or market maker in swaps

- Major Swap Participant - Would include any non-dealer:
  - That maintains a *substantial net position* in outstanding swaps
  - Whose outstanding swaps create *substantial net counterparty exposure* that could have serious adverse effects on U.S. financial stability

- End User – Not a defined term, however:
  - Would include any non-Dealer, non-MSP market participant that;
  - Uses swaps to hedge commercial risks
Access to OTC Markets

Systemic Risk

Swap Dealer

Major Swap Participant

De-minimis Exception

Nature of Swap Market Activity

End-User
Access to OTC Markets

Systemic Risk

Swap Dealer

De-minimis Exception

Major Swap Participant

End-User

Nature of Swap Market Activity
Access to OTC Markets

- Major Swap Participant
- End-User
- Swap Dealer
- De-minimis Exception

Systemic Risk vs. Nature of Business Activity
Capital Cost and Capacity

- The cost of managing Credit Risk is equal to the credit spread.
- The cost of managing Liquidity Risk is equal to the total Cost of Capital.
- Both cost and capacity (available capital) determine how much Liquidity Risk an entity is willing and/or able to manage.
# Reporting

<table>
<thead>
<tr>
<th>Pre-enactment</th>
<th>Transition</th>
<th>Prospective</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>07/21/10</strong></td>
<td><strong>07/16/11 (?)</strong></td>
<td>Going forward</td>
</tr>
</tbody>
</table>

- **Pre-enactment**: Reporting of any financial deals that were entered into prior to the 07/21/2010 enactment date and not yet settled. These data must be submitted to the CFTC or a swap data repository (SDR) by a date yet to be determined by the Commission.

- **Transition**: The second data set spans the time frame between the Pre-enactment period and the Prospective reporting obligation. The assumed dates bounding this period are 7/21/2010 through 7/16/2011, with the end-date adjusted to reflect the implementation time-line.

- **Prospective**: This last segment for reporting encompasses three sets of data streams (real-time, confirmation, state data) and will begin on the implementation date established in the CFTC’s final ruling. Additional reporting on positions, orderly liquidation, valuation, valuation dispute resolution, and reporting related to end-user exemptions are also regulatory reporting requirements. These requirements have yet to be finalized by the CFTC.
Reporting

Reporting for each swap (real-time, confirmation, state data)

Swap Reporting Timeline
As Described in CFTC Proposed Rules

1Assumption of 5 minute real-time reporting obligation based on example provided in 75 FR 76146
275 FR 76582
3Assumption that state data snapshot report will be submitted during overnight period
4Assumption of 24 hour primary economic terms reporting obligation for swaps neither executed nor verified electronically (75 FR 76582)
575 FR 76583
6Assumption of 24 hour confirmation reporting obligation for swaps confirmed manually (75 FR 76583)
Regulatory Uncertainty

Regulatory uncertainty exists at several layers within our primary swaps regulator – the CFTC. The rule making process is a substantial undertaking that has necessarily resulted in a decentralized rule making process.

☐ Order –
  • Draft rules – NOPR’s – have been offered for comment without the regulated product having been defined.

☐ Timing –
  • Many of the proposed rules require substantial effort and capital to implement.
  • It’s difficult to know what to do and when to start.

☐ Rules within Rules –
  • Many proposed rules labeled as Swap Dealer or Major Swap Participant rules affect end-users.
  • The entire body of proposed rules must be understood.
Regulatory Uncertainty

Regulatory uncertainty exists across regulators.

- The FERC is the primary regulator for physical energy markets.
- The CFTC regulates much of the hedging activity around physical assets.
  - Dodd-Frank adds swaps to the mix of products regulated by the CFTC.
- There does exist the potential for overlap in regulatory jurisdiction between the FERC and the CFTC.
- The market is awaiting a Memorandum of Understanding (MOU) between the principal energy market regulators.

The prudential regulators have introduced rules for their registrants that affect end-users. Renders compliance more difficult and more complex (more costly).
Managing Through the Process

- **Legal Support** – Both outside counsel and a dedicated internal resource.

- **Policy** – Charged with monitoring the issuance of interim rules, NOPR’s, aNOPR’s, and the like. Responsible for tracking the public comment opportunities, understanding which rules impact end-users, coordinating our response, acting as liaison with industry groups and individual market participants as appropriate.

- **Implementation** – Manage the identification and collection of transaction documentation required for Pre-Enactment and Transition reporting requirements.

- **IT Development** – This effort is focused on developing a robust, compliant reporting tool that is flexible enough to configure as the rules change.

- **Training & Tracking** – There are a number of issues that may not affect an entity immediately, but that must be captured for future consideration. There is also a need to provide training on the impact of the rules on all commercial activity.
Countdown to Dodd-Frank Act:
Do you know where you stand?
David C. Holden Vice-president – Enterprise Risk Management
Dominion Resources Services, Inc.

Swaps Regulation

- Dodd-Frank = Swaps Regulation
- Necessary? – Yes
- Easy? – No
- But – what is a swap?
  - a contract in which the parties agree to exchange liabilities – often a fixed rate
    or payment stream for a floating rate or variable payment stream.

Broader Definition

- In the Dodd-Frank Act, Congress has developed a long definition of the term “swap.”
- Includes the traditional view of a swap: fixed for floating swap, basis swap, swing swap,
  etc.
- Plus … any agreement, contract or transaction that is a “put, call, cap, floor, collar, or
  similar option of any kind that is for the purchase or sale, or based on the value, of one or
  more interest or other rates, currencies, commodities, securities, instruments of
  indebtedness, indices, quantitative measures, or other financial or economic interests or
  property of any kind.”
Background

- The **Economic Stimulus Act of 2008**
  - signed into law on February 13, 2008
- The **Emergency Economic Stabilization Act of 2008 (TARP)**
  - signed into law on October 3, 2008
- The **American Recovery and Reinvestment Act of 2009 (ARRA)**
  - signed into law on February 20, 2009

Each of these initiatives sought, in its own way, to:

- encourage banks to resume lending to each other and to consumers & businesses
- create jobs and promote investment
- boost consumer spending

Or, to encourage the flow of credit throughout the economy

Countdown

- July 31, 2007 – Bear Stearns liquidates two hedge funds invested in mortgage-backed securities
- March 24, 2008 – JP Morgan acquires Bear Stearns
- September 15, 2008 - Lehman Brothers files for Chapter 11 bankruptcy protection
- September 16, 2008 – “The US government seized control of American International Group” ….. the government decided AIG truly was too big to fail
- November 10, 2008 – AIG financial support restructured
- March 02, 2009 – AIG financial support restructured

AIG’s Rescue

- Many stakeholders; consumer groups, political leaders & others, called for radical reform of the financial markets following the rescue of AIG.
- AIG’s ‘toxic’ portfolio consisted primarily of Credit Default Swaps (CDS’s) and Collateralized Debt Obligations (CDO’s), each a specialized derivative considered an exotic product, not the types of products most end-users require to hedge commercial risk.
- AIG was bailed-out prior to any meaningful portfolio analysis which led to the adoption of the ‘too big to fail’ battle-cry.
- The debate shifted from the mismanagement of an exotic portfolio to the use of Over the Counter (OTC) markets generally.
- Misuse of OTC derivatives was cited as one of the key contributors of the financial crisis.
AIG failed from a lack of basic risk management and corporate governance – not the use of OTC markets.

The Path Forward

March 23, 2009

• The Federal Reserve and the Treasury issued a joint statement on the role of each institution throughout the crisis and beyond. The four key points are:

  — The Fed and the Treasury will continue to cooperate to improve the functioning of the credit markets.
  — The Fed should avoid credit risk/allocation. That’s the role of the President and Congress.
  — To preserve monetary stability without impacting employment.
  — Recognizes the need for a long-term, comprehensive resolution to systemically important financial institutions.

Again – It’s all about credit!

Dodd - Frank

The Dodd–Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank)

• Signed into law on July 21, 2010

Significantly restricts the flow of credit

• Renders the use of credit unlawful for certain business activity
• Requires the conversion of credit risk to other risk types

The law of conservation of energy:

….. energy can neither be created nor destroyed: it can only be transformed from one state to another …..

Just like energy, risk can neither be created nor destroyed: it can only be transformed from one state to another…
**Typical Hedge Activity**

Hedge programs convert a portion of one’s price risk to a balanced mix of credit risk and liquidity risk.

- OTC derivatives used to manage risk as credit risk
- Exchange trading & clearing used to manage risk as liquidity risk

---

**Potential Impacts of Dodd-Frank**

- Requiring clearing of all OTC trades serves as a risk transfer mechanism that arbitrarily converts credit risk to liquidity risk.
- Liquidity risk is the more systemic risk – Bear Stearns, Lehman Brothers and AIG all ultimately failed because of a liquidity crisis, not a credit loss event.
- Simply requiring universal clearing does not guaranty that institutions will have adequate collateral for an extreme price movement.
- End-users hedge with derivative products to protect ratepayers and shareholders from commodity price risk.
- Even for a large end-user, the potential losses on all its derivatives contracts do not approach the level of posing a systemic risk to the financial system.

**Principal Concerns**

- Monitoring the legislative process to determine how the new rules might impact end-users …..
- What’s at risk?

  - Continued access to OTC financial markets
  - Increased costs associated with margin not currently required
  - Capital constraints market-wide
• Increased transaction costs
• Increased administrative and compliance costs
• Uncertain regulatory framework

☐ Now that some time has passed and we are much of the way through the rule-making process …..
☐ What’s at risk?
  • Continued access to OTC financial markets
  • Increased costs associated with margin not currently required
  • Capital constraints market-wide
  • Increased transaction costs
  • Increased administrative and compliance costs
  • Uncertain regulatory framework

  Not much has changed!

Access to OTC Markets
☐ Definitions are everything -
  • The impact of the Act and subsequent rule-making is influenced by the manner in which key terms are defined
☐ Swap Dealer - Would include any entity that:
  • holds itself out as a dealer in swaps;
  • makes a market in swaps;
  • regularly engages in the purchase of swaps and their resale;
  • is commonly known in the trade as a dealer or market maker in swaps
☐ Major Swap Participant - Would include any non-dealer:
  • That maintains a substantial net position in outstanding swaps
  • Whose outstanding swaps create substantial net counterparty exposure that could have serious adverse effects on U.S. financial stability
☐ End User – Not a defined term, however:
  • Would include any non-Dealer, non-MSP market participant that
  • Uses swaps to hedge commercial risks
Access to OTC Markets

Systemic Risk

De-minimis Exception

Nature of Swap Market Activity

Swap Dealer

Major Swap Participant

End-User

Access to OTC Markets

Systemic Risk

De-minimis Exception

Nature of Swap Market Activity

Swap Dealer

Major Swap Participant

End-User
Access to OTC Markets

- Systemic Risk
- Swap Dealer
- Major Swap Participant
- De-minimis Exception
- End-User

Nature of Business Activity

Capital Cost and Capacity

- The cost of managing Credit Risks equal to the credit spread.
- The cost of managing Liquidity Risks equal to the total Cost of Capital.
- Both cost and capacity (available capital) determine how much Liquidity Risk an entity is willing and/or able to manage.
### Reporting

<table>
<thead>
<tr>
<th>Pre-enactment</th>
<th>Transition</th>
<th>Prospective</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/21/10</td>
<td>07/16/11 (?)</td>
<td>Going forward</td>
</tr>
</tbody>
</table>

- **Pre-enactment**: Reporting of any financial deals that were entered into prior to the 07/21/2010 enactment date and not yet settled. These data must be submitted to the CFTC or a swap data repository (SDR) by a date yet to be determined by the Commission.

- **Transition**: The second data set spans the time frame between the Pre-enactment period and the Prospective reporting obligation. The assumed dates bounding this period are 7/21/2010 through 7/16/2011, with the end-date adjusted to reflect the implementation time-line.

- **Prospective**: This last segment for reporting encompasses three sets of data streams (real-time, confirmation, state data) and will begin on the implementation date established in the CFTC’s final ruling.

- Additional reporting on positions, orderly liquidation, valuation, valuation dispute resolution, and reporting related to end-user exemptions are also regulatory reporting requirements. These requirements have yet to be finalized by the CFTC.

---


**Reporting for each swap** (real-time, confirmation, trade data)

![Swap Reporting Timeline](image)

---

*Assumption of 5 minute real-time reporting obligation based on example provided in 75 FR 76148
* Assumption that state data snapshot report will be submitted during overnight period
* Assumption of 24 hour primary economic terms reporting obligation for swaps other executed or verified electronically (73 FR 75852)
* Assumption of 24 hour confirmation reporting obligation for swaps confirmed manually (73 FR 76583)
**Regulatory Uncertainty**

Regulatory uncertainty exists at several layers within our primary swaps regulator – the CFTC. The rule-making process is a substantial undertaking that has necessarily resulted in a decentralized rule-making process.

- **Order** –
  - Draft rules – NOPRs – have been offered for comment without the regulated product having been defined.

- **Timing** –
  - Many of the proposed rules require substantial effort and capital to implement.
  - It’s difficult to know what to do and when to start.

- **Rules within Rules** –
  - Many proposed rules labeled as Swap Dealer or Major Swap Participant rules affect end-users.
  - The entire body of proposed rules must be understood.

**Regulatory Uncertainty exists across regulators.**

- The FERC is the primary regulator for physical energy markets.
- The CFTC regulates much of the hedging activity around physical assets.
  - Dodd-Frank adds swaps to the mix of products regulated by the CFTC.
- There does exist the potential for overlap in regulatory jurisdiction between the FERC and the CFTC.
- The market is awaiting a Memorandum of Understanding (MOU) between the principal energy market regulators.
- The prudential regulators (e.g., FDIC, Federal Reserve) have introduced rules for their registrants that affect end-users, which makes compliance more difficult and more complex (more costly).
Managing Through the Process

- **Legal Support** – Both outside counsel and a dedicated internal resource.
- **Policy** – Charged with monitoring the issuance of interim rules, NOPR’s, aNOPR’s, and the like. Responsible for tracking the public comment opportunities, understanding which rules impact end-users, coordinating our response, acting as liaison with industry groups and individual market participants as appropriate.
- **Implementation** – Manage the identification and collection of transaction documentation required for Pre-Enactment and Transition reporting requirements.
- **IT Development** – This effort is focused on developing a robust, compliant reporting tool that is flexible enough to configure as the rules change.
- **Training & Tracking** – There are a number of issues that may not affect an entity immediately, but that must be captured for future consideration. There is also a need to provide training on the impact of the rules on all commercial activity.
Developments in US Derivatives Regulation

Energy Bar Association Annual Meeting
May 5, 2011
Washington, DC

Mark Lenczowski
Managing Director
Disclaimer

This is a summary that was compiled as of 04/25/2011 and that we believe may be of interest to you for general information purposes. It is not a full analysis of the matters presented and should not be relied upon as legal advice. Information contained herein is believed to be reliable but we do not warrant its completeness or accuracy. Opinions and estimated constitute our judgment and are subject to change without notice. This summary should not be distributed to others or replicated in any form without our prior consent. We are not responsible for any error, omission or for the interpretation of any statute or regulation.
US Derivatives Legislation (Title VII of Dodd-Frank Act)

Products

- Sets up two parallel regulatory regimes based on underlying asset
  - Rates, FX, commodities and transactions based on broad based indices are under CFTC jurisdiction
  - Equities, bonds, narrow based indices are under SEC jurisdiction
  - FX:
    - Forwards and currency swaps - -included within derivatives regulation, unless the Secretary of the Treasury rules otherwise;
    - FX options are included within derivatives regulations;
    - FX spot is excluded from derivatives regulation
  - Excludes forwards on non-financial commodities “so long as the transaction is intended to be physically settled”
### Scope

Differences between CFTC and SEC. CFTC jurisdiction does not extend to activities outside the US unless they have a “direct and significant connection with activities in, or effect on, US commerce.” SEC jurisdiction does not extend to transactions executed outside the US unless necessary to “prevent the evasion of any provision” of the Law.
**US Derivatives Legislation (Title VII)**

<table>
<thead>
<tr>
<th>Registration and Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Swap Dealers and Major Swap Participants (MSPs) will be required to register with the CFTC and SEC and will be subject to ongoing trade reporting and business conduct requirements.</td>
</tr>
<tr>
<td>- MSP is a non-dealer which maintains a “substantial position” in swaps excluding positions held for hedging or mitigating commercial risk or whose overall swaps portfolio would pose a systemic risk if it defaulted. CFTC and SEC proposed quantitative tests tied to “outward”, i.e. out-of-the-money, unsecured exposure and to potential exposure (derived from aggregate notional using regulatory capital formula).</td>
</tr>
<tr>
<td>Business Conduct Rules</td>
</tr>
<tr>
<td>------------------------</td>
</tr>
<tr>
<td>- Will include rules dealing with prevention of fraud and market manipulation, diligent supervision, adherence to position limits, required risk disclosures relating to material risks and conflicts of interest; obligation of dealer to provide daily MTM to counterparties; provision requiring disclosure of dealer profit on individual trades was deleted, but proposed rule requires disclosure of mid-market rates/price at time of dealing</td>
</tr>
</tbody>
</table>
## Duties owed to Special Entities

- “Special Entities” defined as (1) employee benefit plans as defined in ERISA, (2) governmental plans, as defined in ERISA, (3) governmental entities, and (4) endowments.

- Proposed rule provides that a swap dealer that “recommends” a swap or a trading strategy to a Special Entity is deemed to act as an advisor to the Special Entity. “Recommend” is broadly defined, with only exclusions being for providing generic market information and for providing swap terms in response to a competitive bid. Compliance with proposed Business Conduct Advisors probably would constitute “recommending,” meaning the swap dealer probably would be an advisor.

- Advisors have a duty to act in the best interests of the Special Entity, equivalent to a fiduciary duty.

- Proposal also requires swap dealers to assess whether the Swap Entity has a qualifying independent representative.
## US Derivatives Legislation (Title VII)

<table>
<thead>
<tr>
<th>Clearing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imposes mandatory clearing of derivatives that are required to be cleared by the regulators and that are between “financial entities” (swap dealers, MSPs, commodity pools, investment funds, employee benefit plans and entities that are “predominantly engaged in business of banking”) unless no clearing organization will accept the swap. Exemption to clearing requirement if one of the parties is a commercial end user that is using the swap to hedge its own commercial risk. Clearing required prospectively only.</td>
</tr>
</tbody>
</table>
Swaps that are required to be cleared must be traded on or through an exchange or swap execution facility (SEF), unless none makes the swap available for trading.

- SEF is a new creation, defined in the statute as “a trading system or platform in which multiple participants have the ability to execute or trade swaps by accepting bids and offers made by other participants that are open to multiple participants in the facility or system, through any means of interstate commerce”.

- CFTC has proposed in a qualifying Request for Quote SEF, participants have to contact at least 5 market participants. SEC proposal does not have a numerical requirement, could be just one quote.

- CFTC and SEC have proposed rules which impose numerical limits on the control of, or the exercise of voting rights with respect to, CCPs and SEFs in order to mitigate conflicts of interest resulting from dealer ownership of a CCP or SEF. The comment period for these rules has ended, and the regulators are considering those comments in drafting the final rules.
<table>
<thead>
<tr>
<th>Mandatory Margin for non-cleared trades</th>
</tr>
</thead>
</table>

- Swap dealers and MSPs will be subject to mandatory initial and variation margin requirements. Banking regulators and the CFTC have published draft rules implementing this requirement. Banking regulators’ proposal would require end-users to post margin in certain circumstances; CFTC’s proposal exempts end-users.
### US Derivatives Legislation (Title VII)

<table>
<thead>
<tr>
<th>Mandatory Margin: Segregation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon counterparty request, swap dealers will be required to segregate initial margin provided by counterparties in an account with an independent third-party custodian</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Trade Repositories</th>
</tr>
</thead>
<tbody>
<tr>
<td>All trades that are not cleared must be reported to a central trade repository, or to the CFTC or SEC</td>
</tr>
<tr>
<td>Post-trade transparency</td>
</tr>
</tbody>
</table>
**Position Limits**

CFTC authorized to impose position limits as appropriate on (i) exchange traded contracts, (ii) SEF traded OTC contracts and (iii) non-SEF traded OTC contracts that perform a significant price discovery function.

- Hedge exemptions available only for commercial hedging

- Significant issues posed in proposed CFTC rule-making: netting of positions across markets, size of limits, account aggregation
**Legal Certainty:**
A transaction is not void or unenforceable by virtue of not being cleared or not being executed on an exchange or SEF

**Effective Date:**
Generally, later of 360 days after law is passed (mid-July 2011) or 60 days after relevant regulatory rule is finalized
“Push-Out” Provisions (§716)

- Permitted activities of depository institutions
  - Hedging and risk mitigating activities directly related to the bank’s own activities
  - Acting as dealer for swaps in rates, foreign exchange, bullion (gold, silver, platinum, palladium and copper), cleared CDS (but not on high yield names)

- Pushed out of depository institution: Commodity derivatives, other than bullion-based; equity derivatives; uncleared CDS; CDS on high-yield names

- Can transact swaps in a subsidiary of the bank’s holding company

Only applies to swaps entered into after the end of a 24-month transition period (so after July 2012 earliest)
<table>
<thead>
<tr>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two proposed rules, from Banking Regulators (OCC, Federal Reserve, FDIC, etc) and from CFTC</td>
</tr>
<tr>
<td>Rules are broadly the same except</td>
</tr>
<tr>
<td>(1) Banking Regulators require Nonfinancial End Users to post margin in certain cases but CFTC does not and</td>
</tr>
<tr>
<td>(2) Banking Regulators apply rules outside the US whereas CFTC is silent on extraterritoriality</td>
</tr>
<tr>
<td>Summary</td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td>Both rules call for initial margin and variation margin.</td>
</tr>
<tr>
<td>Initial Margin levels can be calculated on the basis of a percentage of notional or on the basis of an approved model (99% confidence level, 10 day time horizon)</td>
</tr>
<tr>
<td>Margin requirements become effective 180 days after effective date of rule.</td>
</tr>
<tr>
<td>Neither rule applies to existing trades.</td>
</tr>
<tr>
<td>Acceptable collateral will be USD cash (except when currency used to settle swap payments is non-USD), USD Treasury and Agency securities.</td>
</tr>
</tbody>
</table>
### New Proposed rules for Margin on uncleared trades

<table>
<thead>
<tr>
<th>Four Categories of Entities</th>
<th>• <strong>Swap Entities</strong> – Swap Dealers and Major Swap Participants, referred to as “Covered Swap Entities”)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• 2 types of <strong>Financial End Users</strong> (Commodity Pools, Pension Plans, Hedge Funds (US and non-US), Banks and entities whose “activities are financial in nature,” and Non US Sovereigns/Supranationals)</td>
</tr>
<tr>
<td></td>
<td>• <strong>Low Risk Financial End Users</strong> – an entity with less than (1)(a) $2.5bn in daily uncollateralized “outward” (i.e. o-t-m) rates/commodities/FX m-t-m exposure or (b) $4bn in (1)(a) + potential outward exposure OR (2) $1bn in daily uncollateralized “outward” (i.e. o-t-m) credit/equity m-t-m exposure or (b) $2bn in (2)(a) + potential outward exposure, whose activities are predominantly hedging <strong>AND</strong> subject to prudential capital requirements, including those set by state insurance regulators)</td>
</tr>
<tr>
<td></td>
<td>• <strong>High Risk Financial End User</strong> – Any entity that does not meet all requirements of Low Risk Financial End User</td>
</tr>
<tr>
<td></td>
<td>• <strong>Nonfinancial End Users</strong></td>
</tr>
</tbody>
</table>

---

**J.P.Morgan**
Different Margin Required for Different Entities

Swap Dealer to Nonfinancial End User

• Banking Regulator proposal: Swap Entities must establish credit exposure thresholds (risk-based) for commercial end users for both initial margin and variation margin and then only collect margin when exposure exceeds those limits. Initial margin, if required, must be pledged at or before trade date. Variation margin calls at least once a week.

• CFTC Proposal: exempts commercial end users from mandated margin requirements.

• Both proposals require all commercial end users to execute CSAs, regardless of whether they ever have to post.
### New Proposed rules for Margin on Uncleared Trades

#### Different Margin Required for Different Entities

<table>
<thead>
<tr>
<th>Swap Dealer to Swap Dealer or Swap Dealer to Major Swap Participant</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Two way Initial Margin and daily variation margin required for all counterparties</td>
</tr>
<tr>
<td>• Initial Margin held by an independent third party custodian and cannot be rehypothecated</td>
</tr>
<tr>
<td>• Zero unsecured threshold with $100K minimum transfer amount for operational reasons</td>
</tr>
<tr>
<td>Different Margin Required for Different Entities</td>
</tr>
<tr>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>• Two way Initial Margin and Variation Margin must be collected, but not mandatory to pay</td>
</tr>
<tr>
<td>• No mandatory segregation of Initial Margin</td>
</tr>
<tr>
<td>• High Risk Financial End Users have zero unsecured thresholds</td>
</tr>
<tr>
<td>• Low Risk Financial End Users have thresholds set at the lower of (a) $15 to 45 million and (b) 0.1% to 0.3% of the Covered Entity’s Tier 1 Capital (exact thresholds to be determined through rulemaking process)</td>
</tr>
</tbody>
</table>
NOTES
The New Sourcing of Gas and Oil Supply -- Impact on Infrastructure and Regulation
Natural Gas Market Update

BENETEK Energy
Andrew Bradford
Energy Bar Association
May 5, 2011
The Rush to Liquids
U.S. Active Rig Locations

- Williston Basin Bakken Shale (Oil Play)
- Marcellus Shale Gas Play
- Niobrara Shale Play (Oil Play)
- Fayetteville Shale Gas Play
- Woodford Shale Gas Play
- Haynesville Shale Gas Play
- Barnett Shale Gas Play
- Granite Wash Tight Gas
- Pinedale/Jonah Tight Gas
- Uinta - Piceance
- Permian Basin - Oil Targets
- Emerging Eagle Ford Shale Play
- Fayetteville Shale Gas Play

Source RigData and BENTEK: Lower 48 States, April 2011
Active Rig Additions Since Recent Low - May 2009

North-South “Liquids” Fairway Developing

Source: RigData, BENTEK
Sub $4.00 Breakevens Drive Resource Plays

Note: Breakevens computed at 12:1 Crude Ratio and 1:1 NGL Ratio
Green Circles Breakeven’s Computed at $80 Crude and 1:3 NGL Ratio
Based on 3Q2010 Financials and State Production Data
U.S. Production at Record Highs

2009 Avg. = 56.4 Bcf/d
2010 Avg. = 57.8 Bcf/d
2011 ytd Avg. = 59.5 Bcf/d

Source: BENTEK Supply and Demand Report, Dry Production
Freeze Offs vs. Hurricanes

Source: BENTEK Supply and Demand Report, Marketed Production
Shale Production Growth

Select Shale Basin Production Growth (Bcf/d)

Over 7 Bcf/d Growth in 4 Years

Source: BENTEK Production Market Model & Production Monitor
Knowledge Gains Speed
Production Growth Rates

No. of Months

Production (Bcf/d)

Marcellus
Haynesville
Fayetteville
Barnett
US Supply Long: Lower 48 Production Forecast

Lower 48 Dry Gas Production Forecast (Bcf)

Marcellus, Eagle Ford
Granite Wash
+ Haynesville, Fayetteville

Source: BENTEK Forward Curve Quarterly
US Supply Long: Lower 48 Production Forecast

Resource Base: Unconventional vs. Conventional

Source: BENTEK Forward Curve Quarterly
BENETEK Energy

BENETEK is an energy market analytics company, focused on the natural gas market and related energy sectors.

Andrew Bradford
abradford@bentekenergy.com

Contact Any Analyst Direct at (303) 988-1320

DISCLAIMER. THIS REPORT IS FURNISHED ON AN “AS IS” BASIS. BENETEK DOES NOT WARRANT THE ACCURACY OR CORRECTNESS OF THE REPORT OR THE INFORMATION CONTAINED THEREIN. BENETEK MAKES NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE USE OF ANY INFORMATION CONTAINED IN THIS REPORT IN CONNECTION WITH TRADING OF COMMODITIES, EQUITIES, FUTURES, OPTIONS OR ANY OTHER USE. BENETEK MAKES NO EXPRESS OR IMPLIED WARRANTIES AND EXPRESSLY DISCLAIMS ALL WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

RELEASE AND LIMITATION OF LIABILITY: IN NO EVENT SHALL BENETEK BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES (INCLUDING LOST PROFIT) ARISING OUT OF OR RELATED TO THE ACCURACY OR CORRECTNESS OF THIS REPORT OR THE INFORMATION CONTAINED THEREIN, WHETHER BASED ON WARRANTY, CONTRACT, TORT OR ANY OTHER LEGAL THEORY.
THE REGULATORY IMPLICATIONS OF A CHANGING GAS SUPPLY PICTURE

BY ANDREW K. SOTO
SENIOR MANAGING COUNSEL
AMERICAN GAS ASSOCIATION

PRESENTED TO THE ENERGY BAR ASSOCIATION
MAY 5, 2011

Over the past decade and even before, much that was said about the natural gas supply picture in the United States was less than rosy. Outlooks often described supplies as constrained or tight, and there were perennial calls for increased access to supply sources such as on the outer continental shelf off of the east and west coasts. The U.S. gas supply picture has changed dramatically and almost overnight. The fact is that natural gas is abundant in North America. Proved domestic reserves are at their highest level in 40 years, and domestic production is the strongest it has been since 1974.\(^2\) Estimates of the undiscovered natural gas resources underpinning the U.S. supply picture from groups such as the Potential Gas Committee point to a total natural gas resource (including proved reserves) of over 2,000 trillion cubic feet.\(^3\) Much of the increase in resources comes from the use of technology, such as hydraulic fracturing, to economically produce less conventional sources of gas from coal seams, tight sands and gas shales. Indeed, the Potential Gas Committee now identifies about 600 trillion cubic feet of natural gas resource potential attributable to shales alone.\(^4\)

The significance of our shale resources lies not only in their size but in their location. Gas-producing shale formations occur all across the country, particularly in areas where infrastructure already exists to process the gas and transport it to market. Moreover, gas shales

---

1 This paper attempts to discuss issues without taking positions or proposing solutions. To the extent an opinion can be inferred, the opinions are my own and not those of the American Gas Association or any of its members. I am grateful for the assistance I received from my friends and colleagues, Chris Barr, Bruce Henning, and Michael Murray and Arushi Sharma, in discussing the issues and reviewing drafts.
3 Id.
4 Id.
are located close to consuming regions. For example, the Marcellus shale formation, considered to be among the most prolific of shale formations for natural gas production, stretches across Ohio, West Virginia, Pennsylvania and into New York – right in the heart of the Northeast consuming region.

This robust natural gas supply picture, with diverse sources of supply including substantial sources close to major consuming regions, is providing natural gas consumers with increased options for where to purchase their gas supplies. Gas purchasers will increasingly seek to enter into new pipeline contracts, and use whatever flexibility they have in their existing pipeline contracts, to reach the lowest cost sources of supply. The increased optionality and associated purchasing decisions will likely change the value of gas at many of the trading hubs and along with it the implicit value of pipeline transportation between the hubs, i.e., basis differentials. For much of the last decade or more, natural gas pipeline expansions have been driven by economic assessments of these basis differentials and supported by negotiated rate contracts designed to capture the economic value of moving gas between basis points. What happens when these basis relationships change?

This paper will examine some of the regulatory issues associated with changes in the U.S. natural gas supply outlook and related changes in gas flows on the pipeline system. In particular, this paper will focus on some potential strategies pipelines may employ to address changes in the economic value of their assets and the regulatory implications of those strategies. One of the fundamental policy questions that will play out before the Federal Energy Regulatory Commission (“FERC”) as the gas industry tackles these regulatory implications is who should bear the risk of changes in the economic value of pipeline assets – pipeline investors or pipeline shippers?
INCREASE RATES

One response to changes in where shippers seek to source their gas is to raise rates to make up for the revenue shortfall. As fewer customers contract for capacity to reach traditional sources of supply, even assuming no changes in costs, the revenue requirement must be spread over fewer units of service thus resulting in an increase in the per unit rates. This response is not a long-term solution, however. As rates increase to access those traditional sources of supply, fewer customers will be interested in wanting to reach those sources of supply leading to more rate increases and even fewer customers. At some point, the pipeline will become uncompetitive as the per-unit rates exceed what shippers can obtain from available supply alternatives – a so-called “death-spiral.”

This type of problem has apparently been developing on the TransCanada Pipeline system for the past several years. The TransCanada system extends from Alberta across Canada to various pipeline interconnections and local distribution companies in Eastern Canada and the Northeast United States, and is fed by traditional sources of supply in the Western Canadian Sedimentary Basin. A number of factors have contributed to declining long-line transportation throughput on the system, including, among other things, declining production in Western Canada, increased demand in Western Canada for oil production, competition from new sources of supply, including the Marcellus shale gas and imported LNG at the Canaport terminal on the St. Lawrence River in Eastern Canada, and reduced gas demand due to the global economic downturn. In a recent filing with Canada’s National Energy Board, TransCanada stated that over the past five years, mainline, long-haul contracted volumes have decreased by approximately 70
TransCanada added that while its costs have also decreased, the resulting rates have increased nearly 60 percent.\(^5\)

TransCanada established a joint industry task force comprising industry stakeholders to develop rate solutions that would improve the overall competitiveness and long-term viability of the mainline system. While TransCanada was able to gain the support of the Canadian Association of Petroleum Producers on a proposal, a broader consensus was not achieved.\(^7\) In reviewing TransCanada’s proposal, the National Energy Board concluded that TransCanada’s proposed rate levels for 2011 and beyond were not in the public interest on an interim basis.\(^8\) Instead, the Board set the 2011 interim rates at the 2010 final rate level. Later, the Board allowed TransCanada to charge revised interim rates for 2011 calculated in accordance with previously-approved rate methodologies.\(^9\) However, the Board has not yet made a final determination on TransCanada’s original proposal, so it remains to be seen what kind of overall solution would gain the approval of the Canadian regulator.

---


\(^6\) Id. at para. 22-23.

\(^7\) Id. at para. 22-23.


SHIFT COSTS AMONG CUSTOMERS

Another response to changes in where shippers seek to source their gas is to revise the rates to reflect the new uses of the system. One of the controversial elements of TransCanada’s proposal, in addition to an increase in rates compared to 2010 levels, is that it would have substantially shifted the costs allocated to the eastern (short-haul) portion of its system. Proposals to redistribute cost responsibility in response to changes in pipeline system utilization also lie at the heart of two recent major rate cases filed at FERC late last year by Columbia Gulf Transmission Company and Tennessee Gas Pipeline Company.10 Both pipeline systems were built to move gas from producing regions in and around the Gulf of Mexico to the major consuming regions in the Northeast. Both pipelines claimed that changes in the gas marketplace, including increased production from shale plays and also from the Rocky Mountains, have resulted in reductions in shipper reliance on Gulf Coast supplies and related long-haul transportation from that region. Both pipelines proposed rate revisions designed to shift cost responsibility to address expected changes in pipeline utilization.

Columbia Gulf, for example, proposed to consolidate formerly separate rate zones. Columbia Gulf currently has three main rate zones: (1) the Offshore Zone, consisting of various assets in the Gulf of Mexico off the coasts of Texas and Louisiana; (2) the Onshore Zone, consisting of lateral lines in Texas and Louisiana to Rayne, LA; and (3) the Mainline Zone, consisting of the trunkline system from Rayne, LA, through Tennessee to an interconnection with Columbia Gas Transmission at the Kentucky-West Virginia border.11 Columbia Gulf provided testimony in its rate case that there has been a significant decrease in the demand for pipeline capacity designed to bring gas from traditional sources of supply in the Gulf of

11 See Columbia Gulf, 133 FERC ¶ 61,182 at P 3.
Mexico.¹² In addition, incremental supplies from shale gas plays in Texas and Louisiana interconnect with the Columbia Gulf system north of Rayne, LA. As a result, the new supplies do not use the Onshore Zone to reach the markets in the Northeast.¹³

Columbia Gulf, therefore, has proposed to eliminate the Offshore Zone and consolidate the Onshore and Mainline Zones into one Market Zone. Columbia Gulf stated that due to the minimal usage of its offshore facilities and the lack of any firm contracts, it has filed applications to abandon service to the receipt and delivery points on the facilities in the Offshore Zone.¹⁴ Columbia Gulf argued that its preferred rate approach, combining the Mainline Zone and the Onshore Zone into one Market Zone with a single postage stamp rate, would better represent the current and anticipated characteristics of the system and would allow shippers to access supply sources and markets on both ends of the system without having to pay multiple zone rates or incur the administrative burden of contracting and nominating in multiple zones.¹⁵

Tennessee similarly stated in its rate case proceeding that its shippers have reduced their reliance on traditional sources of supply in the Gulf of Mexico and on related long-haul transportation service in favor of market area supplies of shale gas from the Marcellus region and Rocky Mountain supplies from the Rockies Express Pipeline, thus preferring short-haul transportation services at lower usage rates.¹⁶ A number of proposals in Tennessee’s rate case appear to be designed to shift cost responsibility from long-haul transportation services to short-haul transportation services. For example, Tennessee has proposed to use cost classification and allocation methods to move certain costs such as supervision and engineering costs from the

---

¹³ Id.
¹⁵ Id. at pp. 6-7.
¹⁶ See Tennessee, 133 FERC ¶ 61,266 at P 4.
usage (mileage-based) charges to the reservation (non-mileage based) charges. As a result of Tennessee’s proposals, although all of Tennessee’s firm transportation rates would increase, the rate to shippers transporting within it northeastern market zones (Zones 4-6) would increase at a far higher percentage than the rate increases for shippers transporting from the Gulf area to the northeastern markets.

**Discount Adjustments for Negotiated Rate Agreements**

Both Columbia Gulf and Tennessee have proposed to shift costs among customers through the use of discount adjustments – a ratemaking technique that has existed since FERC first allowed selective discounting but which may take on increased significance as long-haul transportation is discounted to remain competitive with other sources of supply. FERC has long permitted pipelines to discount, on a non-discriminatory basis, in order to meet competition, and has allowed pipelines to adjust their rates to reflect such discounts. “[I]f a pipeline grants a discount in order to meet competition, the pipeline is not required in its next rate case to design its rates based on the assumption that the discounted volumes would flow at the maximum rate, but may reduce the discounted volumes so that the pipeline will be able to recover its cost of service.” In order to obtain a discount adjustment in a rate case, the pipeline must show that the discounts were required to meet competition. A regulatory issue that has arisen recently, and one that is present in both of the ongoing Columbia Gulf and Tennessee rate cases, is whether a pipeline can obtain a discount adjustment for its negotiated rate agreements.

---

18 The average increase as calculated by Tennessee was 24 percent, but the rates for transportation within and between Zones 4 through 6 increased by as much as 100%.
20 Id.
In establishing its negotiated rate policies, FERC initially held that pipelines were not permitted to seek discount-type adjustments for their negotiated rate agreements except under very limited conditions. In one of its early cases on the issue, FERC stated that its policy with respect to negotiated rates is that customers electing recourse rates must be no worse off as a result of the use of negotiated rates. FERC explained that while it was not promulgating a per se rule against discount-type adjustments to reflect negotiated rates, it does require that a pipeline’s negotiated rate proposal protect the recourse rate-paying shippers against inappropriate cost-shifting. At the time, FERC rejected attempts by pipelines to include provisions in their tariffs that would permit them to obtain discount-type adjustments for their negotiated rate agreements.

In one of these initial cases, FERC did permit a pipeline to seek a discount-type adjustment for certain negotiated rate agreements under limited circumstances. In Northwest, the pipeline had proposed that it would not seek discount adjustments to demand-charge billing determinants under a newly negotiated rate in future rate cases unless the rate had already been discounted in the initial Part 284 contract, and the adjustment would be based on the greater of the negotiated rate revenues received or the discounted (Part 284) recourse rate revenues that would have been received if the contract had not been converted to a negotiated rate agreement. Northwest argued that under its proposal it had limited the shippers with whom it would negotiate rates (existing Part 284 shippers), and had limited the size of the discount for which it

---

21 NorAm Gas Transmission, 81 FERC ¶ 61,204, at p. 61,872 (1997).
22 Id.
23 Id.; see also Koch Gateway Pipeline Co., 81 FERC ¶ 61,205 (1997); Columbia Gulf Transmission Co., 81 FERC ¶ 61,206 (1997); CNG Transmission Corp., 80 FERC ¶ 61,401 (1997); Tennessee Gas Pipeline Co., 81 FERC ¶ 61,207 (1997).
25 Id. at p. 61,604.
would be permitted to make a discount adjustment to recourse rates in its future rate proceedings.\textsuperscript{26}

FERC concluded that in Northwest’s case, a Part 284 service agreement forms the basis, and condition precedent, for Northwest’s subsequent negotiation of rates; therefore, concerns about the allocation of capacity between recourse rate and negotiated rate shippers were not present.\textsuperscript{27} FERC added that Northwest is foreclosed from making discount-type adjustments in future rate cases greater than the adjustment it would have been permitted to make under the original discounted rate agreement with the shipper. FERC also required Northwest to bear the higher standard for affiliates when seeking discount-type adjustments for negotiated rate agreements, \textit{i.e.}, FERC imposed on Northwest the burden of proving that any discount reflected in the negotiated rate is required to meet competition.\textsuperscript{28}

FERC noted that in applying its policy it has been particularly concerned that no inappropriate cost-shifting take place.\textsuperscript{29} FERC stated that it was requiring additional measures to ensure that a pipeline’s negotiated rates would not be used to shield it from market risks by inappropriately shifting resulting costs to recourse shippers. FERC believed that Northwest’s proposal protected recourse shippers against inappropriate cost shifting because Northwest had limited both the shippers with whom it would negotiate and the amount of any discount adjustment to recourse rates. Thus, FERC concluded that there can be no harm to recourse shippers from Northwest’s negotiated rates below the maximum recourse rate.\textsuperscript{30}

\textsuperscript{26} Id.
\textsuperscript{27} Id. at p. 61,605.
\textsuperscript{28} Id.
\textsuperscript{29} Id.
\textsuperscript{30} Id.
Recently, FERC has begun to permit more pipelines to seek discount adjustments for their negotiated rate agreements. In *Wyoming Interstate*, FERC reiterated that it does not have a *per se* prohibition on discount-type adjustments with respect to negotiated rates, and that in order for a pipeline to be able to seek such adjustments it must include in the negotiated rate provisions of its tariff a protective mechanism that will ensure that its negotiated rate agreements will not cause inappropriate cost-shifting.

Prior to filing its rate case, Columbia Gulf obtained tariff authority to seek discount adjustments for its negotiated rate agreements along the lines approved by FERC in *Wyoming Interstate*. Tennessee has filed for tariff authority to seek similar discount adjustments for negotiated rate agreements as part of its rate case. On April of this year, the pipelines owned by Boardwalk Pipeline Partners (Gulf South Pipeline, Gulf Crossing Pipeline, and Texas Gas Transmission) similarly filed to revise their tariffs to allow them to seek discount-type adjustments for negotiated rate agreements.

In the Columbia Gulf and Tennessee rate cases, FERC will have to address whether and under what circumstances it will permit pipelines to shift costs among customers through discount adjustments for negotiated rate agreements.

**Sell Assets**

For pipelines with significantly underutilized assets, there may be some opportunities to shed those assets or convert them to different uses. As mentioned above, Columbia Gulf has

---

32 *Wyoming Interstate*, 117 FERC ¶ 61,150 at P 11.
33 See *Columbia Gulf Transmission Co.*, 133 FERC ¶ 61,078 (2010).
34 See *Tennessee*, 133 FERC ¶ 61,255 at PP 6, 39.
sought to abandon its offshore facilities. Bob Gibb, at Navigant Consulting, Inc., in the April 2011 edition of Navigant’s NGMarket Notes, reported that many sections of offshore pipelines are becoming uneconomic to operate fundamentally because “there is not enough gas to move through much of the pipe at anything resembling economic rates.” Mr. Gibb suggested a consolidation of all of the offshore pipelines possibly with government involvement similar to Amtrak’s consolidation of passenger rail service in the country.

It is not uncommon for natural gas pipelines to be converted to move petroleum products and vice versa, depending on which form of the hydrocarbons is more valuable. Given the significantly higher value of petroleum products relative to natural gas at present, pipelines may have opportunities to convert some underutilized natural gas pipelines to move liquids or to sell such lines to products pipelines. Looking further out, if carbon capture and sequestration technologies advance to the point of becoming economical, demand for pipelines to move CO₂ from coal and gas-fired generators may provide additional opportunities to convert underutilized pipeline assets.

One of the regulatory issues occasioned by the desire to sell pipeline assets is whether there would be any constraints on the pipeline’s ability to receive authorization from FERC to abandon the facilities or the services provided by the facilities. Section 7(b) of the NGA requires FERC to find either that available gas supplies have depleted such that continuation of service is unwarranted or that the abandonment is permitted by the present or future public convenience

37 Id.
38 See, e.g., KN Interstate Gas Transmission Co., 79 FERC ¶ 61,269 (1997) (issuing a certificate to convert an oil pipeline to gas transmission service); Trunkline Gas Co., Order Granting Abandonment, Docket No. CP00-114-000 (Mar, 29, 2001) (granting abandonment authority to sell an underused 720 mile-long mainline loop for use as a petroleum products pipeline).
and necessity.\textsuperscript{39} FERC has been reluctant to abandon certificated facilities or services where existing shippers would be adversely affected. Indeed, FERC continues to recognize a presumption in favor of continued certificated service.\textsuperscript{40}

Last year, the owners of the Matagorda Offshore Pipeline System filed an application at FERC to abandon the jurisdictional portion of the system asserting that: (1) the system is no longer needed to support a pipeline merchant function; (2) the facilities are underutilized due to declining production and uneconomic to operate; (3) the facilities have experienced integrity issues due in part to decreased production; (4) no parties have expressed an interest in purchasing the system; and (5) the projected revenues from services do not justify the ongoing costs and risks. Several shippers protested the application contesting the owners’ assertions regarding operational problems, projected throughput, and uneconomic operations.

In April 2011, FERC issued an order denying the abandonment application.\textsuperscript{41} FERC determined that the owners had not adequately supported their contention that the available gas supplies had depleted enough that continued service was unwarranted, noting that there appeared to be at least 20,000 Dth per day of gas still flowing on the system and that new well development activities continue in the area.\textsuperscript{42} FERC expressed the concern that if the system were abandoned, known and as yet undiscovered gas reserves could be precluded from development as part of the nation’s gas supply resource.\textsuperscript{43} FERC also determined that the existing shippers did not have readily-accessible transportation alternatives to move their

\textsuperscript{39} Natural Gas Act § 7(b), 15 U.S.C. 717f(b) (No natural-gas company shall abandon all or any portion of its facilities subject to the jurisdiction of the Commission, or any service rendered by means of such facilities, without the permission and approval of the Commission first had and obtained, after due hearing, and a finding by the Commission that the available supply of natural gas is depleted to the extent that the continuance of service is unwarranted, or that the present or future public convenience or necessity permit such abandonment.).

\textsuperscript{40} See Northern Natural Gas Co., \textit{et al.}, 135 FERC ¶ 61,048 at P 35 (2011) (citing Transcontinental Gas Pipe Line Corp. \textit{v. FPC}, 488 F.2d 1325, 1330 (D.C. Cir. 1973)).

\textsuperscript{41} See id.

\textsuperscript{42} Id. at PP 36-37.

\textsuperscript{43} Id. at P 37.
production.\textsuperscript{44} FERC added that while it was sensitive to integrity issues, it appeared that the owners have been generally successful in controlling internal corrosion, and that the owners had not shown that the system was unsafe to operate.\textsuperscript{45}

FERC also noted that the record did not show that absent an increase in revenues, the pipeline would be at risk of operating the system with a negative cash flow.\textsuperscript{46} FERC concluded that it was appropriate for the owners to continue to explore options of either selling the system or negotiating rates with shippers that will cover the costs of continued operation.\textsuperscript{47} “If, after an appropriate rate for service . . . is established, giving full consideration to the costs of operating the facilities and the level of throughput, the . . . shippers do not value the service sufficiently to take it at that rate, [the owners] could present that fact in support of a renewed abandonment application.”\textsuperscript{48} Accordingly, FERC denied the abandonment application.

This recent ruling suggests that offshore pipeline owners continue to have a high hurdle to overcome in shedding underutilized assets over the protest of existing shippers. On the other hand, another recent case suggests that FERC’s policy regarding abandonment of services may be changing. By way of background, following Order No. 636, abandonment of open access transportation and storage services under Part 284 of FERC’s regulations is pre-granted upon expiration of the service agreement, subject to any regulatory or contractual right of first refusal.\textsuperscript{49} In other words, once a shipper’s open access service agreement expires and is not renewed, the service is deemed abandoned, and the pipeline does not have to file for any separate or additional abandonment authorization. Individually certificated services under Part 157, as

\begin{footnotes}
\item[44] Id. at P 38.
\item[45] Id. at P 39.
\item[46] Id. at P 41.
\item[47] Id. at P 43.
\item[48] Id.
\end{footnotes}
opposed to open access services under Part 284, do not generally allow for pre-granted abandonment. Prior FERC authorization to abandon a Part 157 service, therefore, is required.

In March 2011, FERC issued an order authorizing Transcontinental Gas Pipe Line Company (“Transco”) to abandon the Part 157 storage and transportation services that it has provided to Atlanta Gas Light Company upon the expiration of the contract’s term. Transco stated that the storage services that it purchased to provide the service to Atlanta Gas had expired and not been renewed, and that it had provided Atlanta Gas the necessary notice of termination under the agreement. Transco also stated that Atlanta Gas had the option to contract directly for storage services and that Transco had offered replacement transportation services under Part 284. Atlanta Gas argued that Transco failed to overcome the presumption of continued service, and that Transco was obligated to take all reasonable steps to continue to contract for storage service to provide the certificated service to Atlanta Gas.

In its order, FERC stated that while Transco does not have pre-granted authorization to abandon the Part 157 service, Transco is not obligated to continue to provide the case-specific service indefinitely; rather, Transco must file for and obtain specific FERC authority before abandoning the services. In that regard, FERC noted that the standard has changed. FERC rejected precedent suggesting a presumption in favor of continuation of Part 157 service, stating that such precedent involved the appropriate standards for abandonment in proceedings in the 1970’s when interstate pipelines sought to abandon their bundled gas sales services to customers who depended on the pipelines to find and secure their gas supplies. “An application by an interstate pipeline to abandon unbundled transportation or storage pipeline services today

51 Id. at P 37.
52 Id. at P 38.
53 Id. (citing Transcontinental Gas Pipe Line Corp. v. FPC).
generally does not raise the same concerns as applications to abandon bundled sales services did in the past when the regulatory scheme at the time worked to maintain customers’ dependence on their current providers of bundled sales service.”

FERC held that it no longer presumes that service under a case-specific, Part 157 certificate authority should continue after expiration of the service contract. FERC noted that in the past it has not required Part 157 customers to convert their contracts to open access service under Part 284 because the case-specific services were designed to address special circumstances which existed at the time. FERC asserted, however, that once the contracts have expired, allowing the shipper to continue the Part 157 agreement under existing terms may allow the shipper to continue receiving favorable treatment not available to other shippers. “With respect to service provided pursuant to case-specific Part 157 certificates, the Commission now, in essence, presumes that the conversion of that service to service under the open-access regime of Part 284 is appropriate, unless it is otherwise demonstrated in a given case that such conversion would be unreasonable.”

In that regard, FERC noted that the fact that a shipper would have to pay market-based rates to continue using the service does not make it unreasonable for FERC to decline from requiring the pipeline to continue its current services to the shipper.

It appears, therefore, that it may becoming easier to obtain FERC abandonment authorization upon the expiration of case-specific Part 157 contracts, under the theory that customers are no longer dependent upon pipelines to find and obtain their gas supplies. However, pipelines may nonetheless find it more difficult to abandon services and facilities when there are no alternatives for remaining customers.

---

54 Id. at P 38.
55 Id. at P 39.
56 Id.
57 Id.
58 Id. at P 41.
HOOK UP NEW SUPPLIES

As gas purchasers seek to access new sources of supply particularly from shale resources, pipelines may be able to capitalize on bringing these new supplies to market. Indeed, some pipelines are experiencing both losses in long-haul transportation from traditional sources in tandem with substantial increases in volumes from non-traditional sources. Tennessee, for example, has seen significant declines in volumes originating in the Gulf region while experiencing large increases in downstream injections from Rocky Mountain supplies and Marcellus supplies in the Northeast. An interesting regulatory issue has arisen regarding who might be constructing some of these new interconnections and under what jurisdictional regime.

By way of background, in June 2010, Arizona Public Service Company and Sequent Energy Management LP filed a petition with FERC seeking clarification whether a certain gas supply arrangement they wanted to engage in using the storage capacity of a Hinshaw facility (Chevron Keystone Gas Storage LLC) would be considered a prohibited buy-sell transaction. The parties believed that because there were no interstate capacity rights tied to the transactions there was no requirement to comply with FERC’s capacity release rules, including the buy-sell prohibition.

FERC, however, held that the buy-sell prohibition applied to intrastate pipelines providing interstate service under section 311 of the Natural Gas Policy Act of 1978 and Hinshaw pipelines providing such services under limited jurisdiction blanket certificates under section 284.224 of FERC’s regulations, but granted a limited waiver to permit a proposed buy-sell transaction to proceed.59 FERC stated that it was unwilling to grant a blanket authorization for all intrastate and Hinshaw pipelines to engage in buy-sell transactions.60 FERC explained

---

60 Id. at P 16.
that the buy-sell prohibition, together with the shipper-must-have-title rule, helps enforce the central requirement of open access that pipelines provide service without undue discrimination or preference by ensuring that capacity is allocated in a transparent manner.\textsuperscript{61} FERC concluded that allowing such pipelines to let their shippers transfer capacity to other parties without informing the pipeline or publicly disclosing the transaction would create the same potential for discrimination that led FERC to establish the capacity release program.\textsuperscript{62} FERC added that given the absence of generic capacity release programs on intrastate and Hinshaw pipeline systems, FERC was willing to permit buy-sell transactions on a case-by-case basis for good cause shown, and that good cause was shown with regard to the transaction at issue.\textsuperscript{63}

This order caused a bit of a stir among intrastate and Hinshaw pipelines and the marketers that purchase interstate services from them. On rehearing, FERC noted that there were broad policy issues raised by the filing that were more appropriately considered in a generic rulemaking proceeding.\textsuperscript{64} FERC granted a blanket waiver to allow buy-sell transactions on intrastate and Hinshaw pipelines to continue to take place while FERC considers the issues, and FERC stated that it would not institute any enforcement actions with respect to prior buy-sell transactions in recognition of the pre-existing uncertainty of whether the prohibition applied to intrastate and Hinshaw pipelines.\textsuperscript{65}

Contemporaneously, FERC issued a Notice of Inquiry in Docket No. RM11-1-000, seeking comments on whether and how holders of firm capacity on intrastate natural gas pipelines providing interstate service under NGPA § 311 and § 284.224 of FERC’s regulations

\textsuperscript{61} Id.
\textsuperscript{62} Id. at P 18.
\textsuperscript{63} Id. at PP 19-20.
\textsuperscript{64} Arizona Public Service Co. and Sequent Energy Management LP, 133 FERC ¶61,049 at P 24, order denying renewed motion and dismissing reh’g, 133 FERC ¶ 61,247 (2010).
\textsuperscript{65} Id.
should be permitted to allow others to make use of their firm interstate service, including to what extent buy-sell transactions should be permitted.66 FERC asked market participants not only whether buy-sell transactions should be permitted on intrastate and Hinshaw pipelines with respect to their interstate services, but also whether such pipelines should be required to provide for capacity release.67 In particular, FERC asked whether the requirement to provide for capacity should be limited to some category of such pipelines whose activities significantly affect interstate markets or whose business in predominantly interstate.68

In response to the Notice of Inquiry, CenterPoint Energy Gas Transmission Company filed comments noting that some of its recent expansion projects are intended to connect shale gas supplies to multiple interstate pipelines.69 In that regard, CenterPoint stated that these projects to move regional shale gas production to the interstate market put it in competition with intrastate pipeline expansion projects that are also designed to feed the interstate market. CenterPoint argued that there is a large group of intrastate transportation service providers providing interstate transportation services that is granted a number of artificial competitive advantages (with lesser administrative cost burdens) over interstate pipelines regulated by FERC as natural gas companies under the NGA.

Thus, while FERC may have started out pondering whether some intrastate pipelines should provide greater transparency in how capacity transfers are made, it may now have to grapple with who gets to bring shale gas supplies to market.

67 Id. at P 18.
68 Id.
DEVELOP NEW SERVICES

One way to deal with declining revenues from traditional sources and customers is to develop new sources of revenues. For example, Alliance Pipeline issued a press release last December announcing its intention to provide new service offerings in an attempt to address its own looming contracting problem.70 Alliance’s original 15-year agreements, which expire in December 2016, require shippers to give Alliance five years’ notice to extend the contracts for a minimum of one year beyond 2015, and shippers representing only eight percent of capacity have elected to extend their contracts. As a result, Alliance stated that it will seek to generate revenues through the introduction of new services, moving from a single-service, single-toll export pipeline to a multi-service business model providing customers with a suite of transportation service choices. Such services might include receipt and short-haul delivery services, hub services and access to downstream processing facilities.

Some analysts have suggested, however, that new services, even premium-priced services, may be only a short-term solution, and that pipelines secure long-term commitments through diversifying their asset base. In the Columbia rate case, another way to look at the creation of a single Market Zone is to provide a more cost-effective way to reach new sources of supply.71 Columbia apparently hopes to counteract the declining revenues associated with shippers no longer accessing traditional, long-haul sources of supply by making connections to new sources of supply. Some analysts suggest that it may be in the interest of shippers to provide an incentive to the pipeline to reach new supply sources because it will be worth having access to lower-cost sources of supply.

71 See, e.g., Testimony of Mr. John McNamara, Docket No. RP11-1435-000 (filed Oct. 28, 2010).
CAPTURE NEW MARKETS

Another way to deal with declining revenues from traditional sources and customers is to find new customers. A likely area of new customers or increased utilization from existing customers is the power generation sector. Recent statements by industry CEOs at conferences and in interviews suggest that the next wave of new electric generating capacity will be fueled by natural gas. John Rowe, Chairman and CEO of Exelon Corporation, recently remarked that when it comes to capacity additions, “the answer is gas, gas, gas.”72 Even policies that seek to increase the deployment of renewable resources, especially intermittent renewable resources such as a wind and solar, may result in the need for increased natural-gas fired generation to back up or firm the renewable resources. The INGAA Foundation, Inc. released a study in March 2011 evaluating the implications of the increased use of natural gas-fired generation for firming renewable resources on natural gas transmission infrastructure planning and pricing.73

Gas-electric coordination is not a new issue. As set out in FERC Order No. 698, a cold snap in January 2004 highlighted the need for better coordination between the two industries as the need for gas by electric generators at a time of peak demand by gas utilities made the acquisition of gas supply and transportation capacity by electric generators more difficult.74 In Order No. 698, FERC revised its regulations to incorporate business practice standards adopted by the North American Energy Standards Board to improve communications between the two industries.

72 John Rowe, March 9, 2011 Interview with E&ETV, reported at: http://www.eenews.net/tv/transcript/1293
Yet the issue has taken some interesting turns of late. In February of this year, unusually cold weather resulted in generation outages in Texas and the U.S. Southwest which affected both electric and natural gas service in that area as off-line electric compressors led to pressure drops on pipeline systems and outages for some local distribution company systems. FERC has initiated an inquiry into these service disruptions not only to determine their cause but also to identify appropriate actions that could prevent their occurrence. Thus, we have seen where constraints on the gas system can affect electric service and where constraints on the electric system can affect gas service.

As power generation demand increases and the two systems become more interdependent, gas-electric coordination issues are likely to gain more attention. Indeed, FERC Chairman Wellinghoff is reported to have said recently that the relationship between the two industries will be an area of focus for the Commission for the coming year and beyond, examining “how the deliverability of that gas to those electric generating plants impacts reliability overall for the electric system,” as well as “how the tariff structures between the gas suppliers and those electric generators is set up in ways to ensure deliverability when required.”

For some industry groups, specific policy issues may include the gas scheduling and nomination timeline and the existing practice the flowing gas, even to an interruptible customer, cannot be bumped, even by a firm customer, at the last nomination cycle in the day (the “no-bump” rule). In November 2010, the Commission issued a notice of proposed rulemaking in Docket No. RM10-11-000 to reform the open access transmission tariff for electric transmission

---

75 Inquiry into Recent Outages in Texas and the Southwest, 134 FERC ¶ 61,104, Docket No. AD11-9-000 (Feb. 14, 2011).
utilities to remove barriers to the integration of variable energy resources.\textsuperscript{77} In response to the proposal, several parties\textsuperscript{78} argued that FERC’s emphasis on the integration of variable energy resources underscores the need to examine whether existing policies in the natural gas industry need to be reformed.\textsuperscript{79} In particular, they contended that reforms are needed with regard to the gas scheduling and nomination cycles and whether to eliminate or modify the “no-bump” policy.

AGA, on the other hand, believed that any consideration of the issues needed to be broader. It argued that FERC should not focus narrowly on the gas nomination and scheduling cycle as a primary solution to the reliability issues which both industries face.\textsuperscript{80} It reiterated FERC’s conclusion in the Notice of Proposed Rulemaking to incorporate proposed business practice standards following Order No. 698 that “a simple, one-size fits-all solution does not exist that will solve the complex issue of coordinating between the electric and gas industries [because] the diversity within the electric industry (e.g., differing timelines, system peak times, generation mixes, and prevalence of firm gas service), in particular, does not suggest that revising gas scheduling procedures is the most effective means to improve coordination.”\textsuperscript{81}

While the specific policy determinations that are needed for better coordination between the gas and electric industries are yet to be defined, increased demand for natural gas from the power sector will only exacerbate the need for such better coordination.


\textsuperscript{79} Comments of the Joint Parties, Docket No. RM10-11-000 (filed March 2, 2011).

\textsuperscript{80} Comments of the American Gas Association, Docket No. RM10-11-000 (filed March 30, 2011).

Another significant new market may be exports of natural gas, but I leave the regulatory issues associated with exports to other members of this panel.
BACKGROUND ON LIQUIDS PIPELINE REGULATION

- FERC Jurisdiction -- Interstate Transportation by Pipeline of:
  - Crude Oil
  - Refined Products
  - Natural Gas Liquids
BACKGROUND ON LIQUIDS PIPELINE REGULATION

- Differences from FERC Gas Pipeline Regulation
  - ICA vs NGA
  - Common Carriers (no individualized contracts with shippers)
  - No certificate or abandonment authority
  - No federal right-of-way or siting authority
  - No environmental authority

NEW SOURCES OF PIPELINE-ENABLE PETROLEUM LIQUIDS

- Crude Oil
- Natural Gas Liquids
  - Propane
  - Ethane
  - Other
NEW SOURCES OF PIPELINEABLE PETROLEUM LIQUIDS

- Western Canada
- Bakken
- Marcellus

IMPORTANTANCE OF CANADIAN OIL TO U.S.

- Canada’s share of US imports has risen from 13% to 22% since 2000
- By 2035, Canada could account for 40%
- US refiners have invested billions of dollars to upgrade refineries to process heavy crude
- Gulf Coast refiners seeking access to Canadian heavy crude to replace dwindling Mexican/Venezuelan imports
CROSS-BORDER PIPELINE PERMITTING

- Key difference from domestic U.S. pipelines:
  - New crude oil pipelines in the US. typically do not need federal approval
- Cross-border pipelines are an exception
  - Executive Order 13337 requires Presidential Permit for import pipelines
  - President has delegated US. Department of State (DOS) as lead agency for Presidential Permits

PRESIDENTIAL PERMIT PROCESS

- Under NEPA, issuance of Presidential Permit is a “major federal action” – requires environmental assessment or environmental impact statement (EIS)
- As lead agency, DOS solicits public comment and coordinates with other local, state, tribal, and federal agencies
- No construction in U.S. allowed until all permits issued
EIS PROCESS

- Public comment sought on scope of issues
- Draft EIS issued for comment
- DOS may issue supplemental draft EIS if serious concerns raised, as in Keystone XL
- If supplemental EIS issued, further comment period occurs
- Issuance of Final EIS

POST-EIS PRESIDENTIAL PERMIT PROCESS

- Following Final EIS, DOS issues Record of Decision, which includes national interest finding
- Other federal agencies are consulted
POST-EIS PRESIDENTIAL PERMIT PROCESS

- If favorable, Presidential Permit issued under delegated authority of Secretary of State
- Judicial review occurs when Permit is issued
- Opponents may seek stay of construction pending appeal

RECENT ACTIVITY - ALBERTA CLIPPER
RECENT ACTIVITY – ALBERTA CLIPPER

- Enbridge Alberta Clipper
  - 450,000 bpd crude oil pipeline from Hardisty, Alberta to Superior, Wisconsin
  - Enbridge applied for Presidential Permit May 2007
  - Presidential Permit issued August 2009 (27 months)
  - US District Court (Minn.) upheld Permit
  - Pipeline placed in service April 1, 2010

RECENT ACTIVITY – BASE KEYSTONE

[Map showing pipeline route from Hardisty, Alberta to Superior, Wisconsin]
RECENT ACTIVITY – BASE KEYSTONE

- TransCanada Keystone Pipeline (Base Keystone)
  - 590,000 bpd crude oil pipeline from Hardisty to Wood River, IL and Cushing, OK
  - TransCanada applied for Permit April 2006
  - Presidential Permit issued March 2008 (23 months)
  - US District Courts dismissed challenges to Permit
  - Base Keystone placed in service June 2010

RECENT ACTIVITY -- KEYSTONE XL

- TransCanada applied to DOS September 2008 for Keystone XL
  - Proposed 700,000 bpd heavy oil pipeline from Hardisty to US Gulf Coast (via Cushing)
  - Projected cost of $7 billion ($5.4 billion in US)
  - Project supported by long-term contracts to serve US Gulf Coast refineries with Canadian heavy oil
RECENT ACTIVITY -- KEYSTONE XL

- DOS released draft EIS April 2010
- Public comment period closed July 2010
- US EPA declared original EIS “inadequate”
  - DOS announced intent to issue Supplemental draft EIS in March 2011
  - Supplemental draft EIS issued April 15, 2011
  - Intended in part to address concerns about environmental impacts of oil sands production

FUTURE STEPS - KEYSTONE XL

- Public comment period ends June 6, 2011 (45 days)
- After review of comments, DOS will issue final EIS and draft National Interest Determination
- Draft NID triggers 90-day consultation process with other agencies and public comments
- DOS has stated intent to issue final ruling by year-end
CONTROVERSY OVER KEYSSTONE XL

- Unprecedented degree of interest for a cross-border pipeline project
- Dueling PR campaigns by industry and environmentalists
- High level discussions between governments
- President Obama drawn into commenting on Keystone XL in April
- Potential political fallout for Administration whichever way it decides

ENVIRONMENTAL CHALLENGES

- Opponents challenge XL on three primary grounds:
  - XL said to promote oil sands production
    - Opponents claim oil sands cause environmental harm in Canada and increased release of greenhouse gases (GHG)
  - Asserted threat to Ogallala aquifer in Nebraska
    - Ogallala aquifer irrigates up to 20% of US agriculture
    - Potential effect on drinking water supplies from spill
  - Pipeline said to increase US dependency on fossil fuels
PROPONENTS OF XL

- Proponents argue:
  - Environmental effects and risks of XL overstated
  - XL needed to permit market access for Canadian heavy oil in PADD III (Gulf Coast)
  - Alternative to XL is not to limit oil sands production but to divert it to other markets
  - Without access to Canadian crude, Gulf Coast refiners forced to turn to volatile overseas sources

WHAT’S NEXT?

- Outcome of Keystone XL battle is uncertain
  - Secretary of State Clinton quoted in 2010 saying XL is likely to be approved
  - More recently, President Obama suggested doubts about “tar sands” need to be resolved first
  - Oil industry and Canadian government strongly support XL
  - Environmental community (including some in Congress) equally energized in opposition
  - SEIS suggests to some that DOS is leaning in favor of approval
POTENTIAL LEGAL APPEALS

- If Presidential Permit issued for XL, likely to be environmental appeals
- Suits could challenge adequacy of environmental review
- Also likely to raise constitutional issues re Presidential authority to issue Permit and reviewability of Permit decision
- Government prevailed in Base Keystone and Alberta Clipper cases, but legal issues never reviewed by US appellate court
- Issue ultimately could go to US Supreme Court

FIRM SERVICE FOR LIQUIDS PIPELINE EXPANSIONS

- Interstate oil pipelines are common carriers under ICA
- Historically, FERC limited oil pipelines’ ability to offer “firm” or “guaranteed” capacity to specific shippers
  - Belle Fourche Pipeline Co., 28 FERC ¶ 61,150 (1984)
  - Texaco Pipeline Inc., 74 FERC ¶ 61,071 (1996)
**Mid-America Pipeline**

- MAPL involved tariff rule that allocated 80 percent of “expansion capacity” to shippers that had signed volume commitments for discounted service during open season.
- All pre-existing space (and some expansion space) was still available to uncommitted shippers.

**FERC Ruling in MAPL**

- FERC accepted MAPL’s priority service rule.
- Key factor: “All shippers, both current and new, will be equally eligible to participate in the new volume incentive program” through open season.
- Also important that uncommitted shippers would still have access to ample pipeline space.
CURRENT STATE OF PLAY

- FERC has accepted the principle that oil pipelines can provide priority service
- Issue now is how much and under what circumstances
- Availability of priority service for expansions is fairly well-established
- Open question is degree to which new pipelines can offer priority service after open season

KEY DECISIONS

- *Enbridge Pipelines (North Dakota) LLC*, 133 FERC ¶ 61,167 (2010)
- *CCPS Transportation, LLC (Spearhead)*, 121 FERC ¶ 61,253 (2007)
- *Enbridge Pipelines (North Dakota) LLC*, 120 FERC ¶ 61,025 (2007)
NEW NGL SOURCES

- Largest NGL storage market is currently Mt. Belvieu
- NGL pipelines transport propane, ethane, butane to markets in Southeast, Northeast and Midwest
- Marcellus shale produces substantial new quantities of NGLs

NEW NGL SOURCES

- Likely to displace transportation from Gulf Coast area
- But infrastructure is currently lacking
  - Pipelines
  - Storage
NEW NGL SOURCES

- Already causing regulatory litigation as producers, pipelines and customers seek to adapt

- Expect wave of new projects and associated requests for firm service and innovative rate structures
US Shale Gas and LNG Exports: Regulatory and Environmental Challenges

Susan L. Sakmar
Adjunct Professor of Law
University of San Francisco Law School
Energy Bar Association Annual Meeting
Washington, D.C.
May 5, 2011

Photos: (1) Abrahm Lustgarten/ProPublica (2) Architect of the Capital (3) Sabine Pass/Cheniere
Shale gas may be an “energy game” changer but there are numerous environmental and regulatory challenges pertaining to hydraulic fracturing that must be resolved.
The Controversy

So what’s the Fracing, Fraccing, Fracking controversy over shale gas?

- Energy Game Changer?
- Bridge Fuel?
- Environmental Hazard?
- All of the above?
Shale gas is largest contributor to growth in U.S. natural gas production.

Could provide 20% of total gas supply by 2020.

The development of shale gas “creates an unprecedented opportunity to use gas as a bridge fuel to a 21st-century energy economy that relies on efficiency, renewable sources, and low-carbon fossil fuels such as natural gas.”

Vanity Fair
“A Colossal Fracking Mess”
The Dirty Truth Behind the New Natural Gas
June 21, 2010

DON’T FRACK WITH NY!
New York has the best drinking water in the world. Let’s not frack it up.
And the Oscar Goes To . . .

GASLAND

OSCAR NOMINATION “BEST DOCUMENTARY”
And the Pulitzer Prize Goes to … ?

Buried Secrets
Gas Drillings Environmental Threat

The New York Times

Articles in the Drilling Down series from The New York Times examine the risks of natural-gas drilling and efforts to regulate this rapidly growing industry.
Regulatory Overview

- States are primary source of regulation and regulate through state oil and gas agency, state environmental agency, or both.

- Safe Drinking Water Act (SDWA) primary federal law for protecting public water supplies. (42 USC §§1300f-300j-26)

- The EPA administers the SDWA and is required to regulate underground injection of fluids (UIC) but can give primacy to States with UIC programs.
Regulatory Background

- 1997 *Leaf v. EPA* (11th Cir.) ruled that HF of coal bed methane was UIC that must be regulated.

- Subsequent EPA investigation concluded that injection of HF fluids into CBM wells posed little threat to underground sources of drinking water.

- EPA 2004 CBM Study criticized by Members of Congress, EPA and environmental community.
Energy Policy Act 2005

- Energy Policy Act 2005 amended SDWA §1421 to provide that the term “underground injection” EXCLUDES:

  “The underground injection of fluids or propping agents (other than diesel fuels) pursuant to hydraulic fracturing operations related to oil, gas, or geothermal production activities.” 42 U.S. C. §300h(d)(1)(B)(ii).

The FRAC Act

- 111th Congress - H.R. 2766/S.1215 amends SDWA definition of “underground injection” to include HF.

- Requires disclosure of chemicals in HF fluids (but not proprietary formula).

- 64+ House members sign on.

- 112th Congress – March 2011 FRAC Act reintroduced as H.R. 1084/S.587
EPA Investigation


- Some contamination cases may have possible link to HF but EPA needs more information.
EPA Study 2010-2012

- New EPA study authorized Dec 2009.
- Much broader than 2004 EPA CBM Study.
- Case study approach.
- Public hearings – Summer 2010.

**Timeline:**
- Complete study design Oct. 2010.
- Initiate study 2011.
- Initial results late 2012.
EPA Research Questions

- What strategies/methods can identify potential impacts on water?
- Are there vulnerable settings where HF may impact?
- Does proximity of HF to abandoned wells impact water?
- Evidence of HF contaminants in underground water sources?
Potential Impacts on Water Quantity

- HF uses large volume of water (2-5M gallons).
- Could stress drinking water supplies.
- Could lower water tables, decrease stream flows, and reduce volume of water in surface water reservoirs.
Potential Impacts on Water Quality

- Contaminants through natural fractures – or fractures produced by HF - into adjacent drinking water aquifers.
- Contaminants through abandoned or pre-existing wells.
- Leakage of contaminants from improperly or damaged wells.
- Leaching of contaminants from improperly lined storage or drilling pits.
- Spills of HF into surface waters.
Sept. 9, 2010 – EPA requests voluntary disclosure from industry on:

1. Chemical composition of fluids used in HF process;
2. Data on impacts of chemicals on human health and environment;
3. Standard operating procedures at HF sites;
4. Locations of sites where HF conducted.
Seeks disclosure of HF chemicals.

Feb. 18, 2010 letter to 8 companies seeking information.

Recent State Regulations


- Waste water may contain radioactivity at levels higher than previously known.

- Treatment plants may not be able to handle.

Global Shale Gas Initiative (GSGI)

  [http://www.state.gov/s/ciea/gsgi/index.htm](http://www.state.gov/s/ciea/gsgi/index.htm)

- Assist countries that want to develop their own shale gas resources.

- Share information about US umbrella of laws to assist countries in establishing the right regulatory and fiscal structures to develop shale gas in a safe and environmentally sustainable manner.

Many Open Issues

- EPA Study is starting to take shape.
- Will Congress pass the FRAC Act?
- Congress, NGOs, States, and EPA will continue to push for disclosure of fracking fluids. Extent/type of disclosure?
- Industry response? Voluntary disclosure?
- April 2011 – Frac Focus website launched to gather voluntary disclosure of chemicals used by industry. (www.fracfocus.org)
- April 2011 – Presidential subcommittee on hydraulic fracturing and role of natural gas in US energy policy.
The fracing, fraccing, fracking controversy will continue . . . but eventually will be resolved.
US LNG Exports

Will US shale gas production enable the US to become an exporter of LNG?

- Low utilization of US LNG terminals (~10%)
- Market fundamentals:
  - Low Henry Hub (HH) price
  - Abundant US supply
- Exports provide customers with access to US natural gas supply.
- Exports provide markets for US over-supply.
- Need export permits from DOE/FE and FERC approval for liquefaction facilities.

Photos: Qatargas
US LNG Export Applications

- Freeport LNG Expansion, L.P. and FLNG Liquefaction, LLC (collectively FLEX) FE Dkt. No. 10-160-LNG (FTA)
- Freeport LNG Expansion, L.P. and FLNG Liquefaction, LLC (collectively FLEX) FE Dkt. No. 10-161-LNG (Non-FTA)
- Sabine Pass Liquefaction, LLC - FE Dkt. No. 10-111-LNG
- Eni USA Gas Marketing LLC -- FE Dkt. No. 152-LNG (re-exports)
- Chevron U.S.A. Inc. - FE Dkt. No. 10-114-LNG (re-exports)

DOE Export Applications:  http://www.fossil.energy.gov/programs/gasregulation
Regulatory Overview

- Need prior approval from DOE/FE to import/export natural gas/LNG (Section 3 of the Natural Gas Act (15 U.S.C. § 717b)).

- Procedures for import and/or export authorization in 10 CFR Part 590 of DOE’s regulations.

- Blanket authorization allows import/export on a short-term or spot market basis for period of two years.

- Long-term authorization used when have, or intend to have, signed gas purchase or sales agreement/contract for period of time longer than two years.
Exports to FTA/Non-FTA Countries

- Energy Policy Act 1992 amended NGA Sect. 3 - applications for import/export natural gas/LNG from/to FTA nations deemed to be in the public interest and must be granted without modification or delay. (15 U.S.C. 717b(c))

- Applications to import/export natural gas from/to non-FTA require Federal Register Notice and hard copy must be filed.

- Cheniere’s Sabine Pass Liquefaction project is first to seek long-term, multi-contract authorization to export LNG to any WTO country.
Sabine Pass Liquefaction

Current Facility
- 853 acres in Cameron Parish, Louisiana
- 40 ft ship channel 3.7 miles from coast
- 2 berths; 4 dedicated tugs
- 5 LNG storage tanks (17 Bcf of storage)
- 4.3 Bcf/d peak vaporization
- LNG export licenses approved

Liquefaction Expansion
- World’s first bi-directional LNG facility
- Monthly nomination rights to liquefy for export or regasify for import
- Up to 4 liquefaction trains
  - Each 3.5 mtpa / ~ 500 MMcf/d
  - ConocoPhillips Optimized Cascade technology
- Estimated CAPEX: less than $400/ton
- Estimated commercial start date: 2015

Source: Cheniere Energy
Application to Re-Export LNG

- August 2008 - Cheniere Marketing applies for “blanket authorization to export LNG that previously had been imported from foreign sources.”

- Seeks approval to export up to 64 Bcf over a two-year period from Sabine Pass LNG terminal to following countries: United Kingdom, France, Portugal, Spain, Belgium, Turkey, Italy, Brazil, Argentina, Mexico, Japan, Korea, Taiwan, China, India, Dominican Republic, Chile and possibly the Commonwealth of Puerto Rico.

- June 9, 2009 - DOE grants Cheniere’s application to re-export LNG after finding that the LNG sought to be re-exported was not needed to meet domestic demand.
August 11, 2010 - Phase 1 export application seeks long-term, multi-contract authorization to export up to 16 mtpa of LNG (803 billion cubic feet (Bcf) per year) for 30-year term to any nation that the US has a FTA with national treatment for trade in natural gas.

Section 3(c) of the NGA requires DOE /FE to grant on an expedited basis because such exports automatically deemed to be in the public interest.

Sabine Pass Liquefaction – Phase 2

**WTO Nations - Now Pending**

- September 7, 2010 – Application seeks long-term, multi-contract authorization to export up to 16 mtpa of domestically produced LNG for 20-year period to non-FTA countries that are members of the WTO and non-WTO members if trade not prohibited by US law or policy.

- Sabine Pass requests DOE/FE review application under same standard as FTA countries contending that US trade policy and obligations under WTO require “automatic export authorization process” for WTO countries.
Phase 2 – WTO Nations

- Section 3(a) of the NGA is the legal provision for applications to export LNG to any nation other than FTA countries.

- October 21, 2010 – DOE/FE finds request for review under section 3(c) “not supported by law or policy.” Denies Sabine Pass’s request for review under section 3(c) of the NGA and orders application to be reviewed under section 3(a) of the NGA.

- Section 3(a) of the NGA creates rebuttable presumption that proposed exports of natural gas are in the “public interest.”
In evaluating whether a proposed export is within the public interest, DOE/FE applies principles established by Policy Guidelines issued in 1984 and considers:

- The domestic need for the natural gas proposed to be exported;
- Whether there is a threat to the domestic security of supply; and
- Other factors to the extent they are shown to be relevant to a public interest determination.
Benefits of LNG Exports

- Economic benefits (jobs/ tax revenues).
- Lead to growth of natural gas production in US.
- Furthers National Export Initiative and reduce overall trade deficit.
- Promotes stability domestic natural gas pricing.
- Promotes liberalization of global gas market.
- Advances national security through diversification of global natural gas supplies.
Opposition to LNG Exports

Industrial Energy Consumers of America (IECA)

- Exports will increase demand and thus price, harming manufacturing sector and public.

- Many uncertainties that could reduce natural gas supplies over 20-year export approval period.

- Amount of exports is significant.
March 4, 2011 - American Public Gas Association (APGA) filed late Motion to Intervene:

- Export of large quantities of natural gas has adverse implications for domestic consumers of natural gas, U.S. energy supply, and national security.

- Export of natural gas is inconsistent with a policy of energy independence, especially if natural gas plays a larger role.

- Instead of exporting domestic natural gas, US should maximize its use domestically.
Kenai LNG

- DOE/FE Order No. 2500 grants two-year blanket authorization LNG export (up to 98.1 Bcf) to Japan after finding that not inconsistent with public interest because sufficient regional supply to satisfy local and export demand through authorization timeframe and exports benefit Alaskan economy and international trade.

- February 10, 2011 – Companies announce Kenai LNG will close – citing “market changes” that made exports not economically viable.

- Kenai terminal might be used to IMPORT LNG to meet local demand for natural gas.
Will DOE/FE Grant the Application?

- Has the opposition met its burden?
- What “public interest” factors will DOE/FE consider?
- What role does price play?
- Does US Energy Policy re: natural gas impact decision?
Susan L. Sakmar, Esq.
Adjunct Professor of Law
University of San Francisco School of Law
2130 Fulton Street
San Francisco, CA 94117
sakmar@usfca.edu
Subsidies, Mandates, and Other Interventions: Impact of State and Federal Policies on Electricity Competition
ENERGY BAR ASSOCIATION 65TH ANNUAL MEETING – MAY 5, 2011

“SUBSIDIES, MANDATES AND OTHER INTERVENTIONS: IMPACT OF STATE AND FEDERAL POLICIES ON ELECTRICITY COMPETITION”

JOHN E. SHELK
PRESIDENT & CEO, ELECTRIC POWER SUPPLY ASSOCIATION

I. Summary – “Rules of the Road” versus “Political Spoils”

II. Baseline: Wholesale Electricity Markets and Competition


B. Organized Wholesale Energy and Capacity Markets Have Been Found by Independent Market Monitors to be Competitive

C. “Bilateral Regions” Dominated By Vertically-Integrated Utilities Are Not As Competitive, Yet FERC Targets RTOs for Intervention When Both RTOs and Vertically-Integrated Firms Are Equally “Public Utilities” under the Federal Power Act

III. Federal Policy Case Study: Demand Response Compensation

A. Important Legal Issues at Stake

1. Does FERC have jurisdiction over DR compensation?

2. Even if FERC has jurisdiction, did it apply the Federal Power Act correctly in the DR compensation final rule?

3. Did Congress intend FERC to set neutral rules and adjudicate cases or to also be a plenary energy policymaking body?

B. Critical Economic Issues at Stake

1. What does “just and reasonable” mean – is more DR always better? Are lower short run prices always better for consumers and competition? What is the impact of excess demand response on electricity markets and the economy?

2. Equivalent or Comparable: Does a megawatt of DR really equal a megawatt of generation? What is the appropriate
3. compensation approach? If DR is equal or comparable to generation, what other market rules should apply to DR?

4. Why the “net benefits test” in the final rule is worse than the proposed rule and further skews economic incentives to the detriment of competition

IV. State Policy Case Studies: New Jersey and Maryland

A. Importance and Role of Capacity Markets

1. Purpose of Capacity Markets – Not Just New Build

2. Results from Recent Capacity Market Auctions

3. Making Revisions: Build Bridges or Toss Grenades (including options for states to pursue policy goals)

B. State Actions to Exercise Buyer Market Power

1. New Jersey Legislation: Passage and Implementation Evidence Clear Intent to Undermine Federally-Regulated Wholesale Markets to the Detriment of Competition

2. Maryland Public Service Commission Proposal: Better Packaging but Same Intent and Effect as New Jersey

3. FERC Decision on PJM’s Minimum Offer Price Rule Taken to Protect the Integrity of Wholesale Competitive Markets, Including How It Compares to Decision on the Forward Capacity Market in ISO-NE

V. Conclusions

1. Rule of Law versus “Law” of the Political Jungle: Sustainable Competition Requires Accurate Price Signals Free of Undue Political Interference

2. FERC Final Rule on Demand Response Compensation in Wholesale Energy Markets is Flawed Legally and Economically (Will Harm not Advance Competition)

3. Buyer Market Power is as Relevant to Address as Seller Market Power: New Jersey Crossed the Line and FERC’s Duty Under the Federal Power Act In This Regard is to Protect the Integrity of Wholesale Power Markets

Additional Background Materials Attached
INDEPENDENT MARKET MONITOR ONCE AGAIN FINDS PJM MARKETS COMPETITIVE

For the 12th consecutive year the PJM markets have been found to have produced competitive results for 51 million consumers in 13 states and the District of Columbia. The 774-page 2010 State of the Market Report, released on March 10 by the RTO’s independent Market Monitoring Unit (MMU), Monitoring Analytics, LLC, analyzed extensive market data to examine the PJM markets to ensure competitive outcomes for consumers. The report also listed a number of recommendations for improvements to the markets including enhancing the verification of demand response (DR) resources, requiring DR bidders to comply with the same obligations as suppliers and resolution of double counting of resources by DR providers in the capacity market. The MMU noted that adjustments to the capacity market, the reliability pricing model (RPM), are necessary to prevent offers at “less than competitive prices, including zero, which suppress the market clearing prices.” Proposed changes to RPM’s minimum offer price rule are currently pending at the Federal Energy Regulatory Commission.

Findings in the report include:

➤ “Market design was evaluated as effective because the analysis shows that the PJM Energy Market resulted in competitive market outcomes, with prices reflecting, on average, the marginal cost to produce energy. In aggregate, PJM’s Energy Market design provides incentives for competitive behavior and results in competitive outcomes. In local markets, where market power is an issue, the market design mitigates market power and causes the market to provide competitive market outcomes.” Volume I, P. 4

➤ “Participant behavior was evaluated as competitive because the analysis of markup shows that marginal units generally make offers at, or close to, their marginal costs in both Day-Ahead and Real-Time Energy Markets.” P. 4

➤ “Energy Market results for 2010 generally reflected supply-demand fundamentals. Higher prices in the Energy Market were the result of higher demand and higher fuel costs… In other words, if fuel costs in 2010 were the same as they had been in 2009, the 2010 load-weighted LMP would have been 3.4 percent lower, $46.70 per MWh, than the actual $48.35 per MWh, and 19.6 percent higher than the 2009 load-weighted average LMP. Higher loads and fuel costs contributed to upward pressure on LMP in 2010.” P. 29

➤ “RPM has resulted in new resources. New generation capacity resources (5,986.1 MW), reactivated generation capacity resources (849.7 MW), uprates to existing generation capacity resources (4,905.3 MW), and the net increase in capacity imports (4,126.1 MW) totaled 15,867.2 MW since the implementation of RPM.” P. 15

➤ “If capacity markets are to work to provide incentives for maintaining existing generation and building new generation, capacity market prices must reflect actual, local supply and demand conditions. For example, getting the price a little too low at the margin could result in undermining the incentives exactly where they need to be clear. If the prices are too low as a result of the market design, this would mean that the capacity market is a mechanism for transferring wealth rather than a functioning market providing market based incentives.” P. 55
• “There are significant issues with the current approach to measuring demand-side response MW, which is the basis on which program participants are paid. A substantial improvement in measurement and verification methods must be implemented in order to ensure the credibility of PJM demand-side programs. Recent changes to the settlement review process represent clear improvements, but do not go far enough.” P. 27

• “In addition, the limited definition of the DR product means that an inferior product is offered in the same auction as capacity and significantly affects the clearing prices. The DR product should be defined to require unlimited interruptions.” P. 35

• “At the end of 2010, 76,415 MW of capacity were in generation request queues for construction through 2018, compared to an average installed capacity of approximately 167,000 MW in 2010. Wind projects account for approximately 38,301 MW of capacity or 50.1 percent of the capacity in the queues and combined-cycle projects account for 16,541 MW of capacity or 21.6 percent of the capacity in the queues.” P. 14

• “While PJM has experienced price spikes, these have been limited in duration and, in general, prices in PJM have been well below the marginal cost of the highest cost unit installed on the system. The significant price spikes in PJM have been directly related to supply and demand fundamentals.” P. 28

* * *

EPSA is the national trade association representing competitive power suppliers, including generators and marketers. These suppliers, who account for nearly 40 percent of the installed generating capacity in the United States, provide reliable and competitively priced electricity from environmentally responsible facilities. EPSA seeks to bring the benefits of competition to all power customers. For more information, go to www.epsa.org.
Background Slides For Panel On “Subsidies, Mandates and Other Interventions: Impact of State and Federal Policies on Electricity Competition”

John E. Shelk
President & CEO

Energy Bar Association
May 5, 2011

www.epsa.org
The Interstate 95 Contagion: Started in Connecticut

"Because the annual new capacity requirement is small relative to the size of existing generation capacity, buyers may have the ability and incentive to exploit the market's price sensitivity by building or contracting for a large amount of new capacity bilaterally and then offering such capacity into the FCA at an uncompetitively low price. This could depress the capacity clearing price in the FCAs, depending on the size of the capacity addition. This is a concern because depressed prices, or even the prospect of depressed prices, could prevent the FCM from attracting or retaining competitive, market-based resources."

(ISO-NE Internal Market Monitoring Unit Report, June 8, 2009)
Litigation pending in U.S. District Court in New Jersey which asked on 4/12/1 to revise Minimum Offer Price Rule, a rule filed at FERC.

Put on fast track implementation by New Jersey BPU auctions that New Jersey has long fought (recently lost in court).

Grand bargain: consumers subsidize plants, but state gains jobs.

First, 1,500 MWs, then 1,000 MWs and ended up at 2,000 MWs started as a $2 billion „pilot project“ contract for different energy legislation.

New Jersey legislation...
Maryland Developments

State legislature rejected Governor’s attempts to re-regulate following rate increases after decades long retail price caps came off when natural gas prices high

Maryland Public Service Commission on-going proceedings including court actions against PJM RPM

Late December 2010 draft RFP for 1,800 MWs – like New Jersey, contract for differences requiring plants to clear in the RPM which means bid at zero – comments taken until late January 2011 - pending
Table 3 Impact on PJM of increasing supply in Pepco by 1,719.2 MW UCAP and in PSEG by 2,000.0 MW UCAP at $0 per MW-day: 2013/2014 RPM Base Residual Auction

<table>
<thead>
<tr>
<th>LDA</th>
<th>Clearing Prices ($ per MW-day)</th>
<th>Cleared UCAP (MW)</th>
<th>Revenue</th>
<th>Clearing Prices ($ per MW-day)</th>
<th>Cleared UCAP (MW)</th>
<th>Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pepco</td>
<td>$247.14</td>
<td>4,791.7</td>
<td>$432,240,569</td>
<td>$117.70</td>
<td>5,694.4</td>
<td>$244,634,271</td>
</tr>
<tr>
<td>EMAAC</td>
<td>$245.00</td>
<td>32,835.4</td>
<td>$2,936,305,645</td>
<td>$117.70</td>
<td>34,206.6</td>
<td>$1,469,532,639</td>
</tr>
<tr>
<td>Rest of MAAC</td>
<td>$226.15</td>
<td>30,012.8</td>
<td>$2,477,399,073</td>
<td>$117.70</td>
<td>29,252.9</td>
<td>$1,256,719,210</td>
</tr>
<tr>
<td>Rest of RTO</td>
<td>$27.73</td>
<td>85,103.4</td>
<td>$861,369,808</td>
<td>$21.97</td>
<td>83,589.4</td>
<td>$670,307,578</td>
</tr>
<tr>
<td>PJM Total</td>
<td></td>
<td>152,743.3</td>
<td>$6,707,315,095</td>
<td></td>
<td>152,743.3</td>
<td>$3,641,193,699</td>
</tr>
</tbody>
</table>

Source: PJM Independent Market Monitor
Table 4 Difference between PJM actual and analysis results of increasing supply in Pepco by 1,719.2 MW UCAP and in PSEG by 2,000.0 MW UCAP at $0 per MW-day: 2013/2014 RPM Base Residual Auction

<table>
<thead>
<tr>
<th>LDA</th>
<th>Difference Clearing Prices</th>
<th>Difference Cleared UCAP</th>
<th>Difference Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$ per MW-day</td>
<td>Percentage</td>
<td>MW</td>
</tr>
<tr>
<td>Pepco</td>
<td>($129.44)</td>
<td>(52.4%)</td>
<td>902.7</td>
</tr>
<tr>
<td>EMAAC</td>
<td>($127.30)</td>
<td>(52.0%)</td>
<td>1,371.2</td>
</tr>
<tr>
<td>Rest of MAAC</td>
<td>($108.45)</td>
<td>(48.0%)</td>
<td>(759.9)</td>
</tr>
<tr>
<td>Rest of RTO</td>
<td>($5.76)</td>
<td>(20.8%)</td>
<td>(1,514.0)</td>
</tr>
<tr>
<td>PJM Total</td>
<td>0.0</td>
<td>0.0%</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Source: PJM Independent Market Monitor
“... procuring capacity when it is not needed for reliability, requiring it to clear in the auction through an offer price below its costs and providing subsidies in the form of additional out of market revenue is not consistent with the PJM market design. The proposed RFP process appears to do exactly that. In addition, such an outcome would not be consistent with a competitive outcome.

The result of such a subsidy by Maryland ratepayers would be to artificially depress the RPM auction prices below the competitive level with the result that the revenues to generators both inside and outside of Maryland would be affected as would the incentives to customers to manage load and to invest in cost effective demand management technologies.”

Source: PJM Independent Market Monitor Comments to Maryland, 1/28/11
“This substantial reduction in revenue would affect the investment decisions of current owners of capacity and potential investors in capacity capacity both in and outside of Maryland. The likely result is less investment in capacity. Depressing the price in Maryland would also mean that the required direct subsidy by Maryland ratepayers would increase with perhaps significant unintended consequences for the business and residential customers who would have to pay the subsidy.”

Source: PJM Independent Market Monitor Comments to Maryland, 1/28/11
(Note: similar comments issued on New Jersey legislation, 1/6/11)
Exelon's View of Carbon Abatement Options – 2008

$175
$150
$125
$100
$75
$50
$25
$0
($25)
($50)
($75)

million metric tons of CO2 per year

Solar PV: >$700 / >$250 w tax incentives

Energy Efficiency  Nuclear Uprates  Retire Coal Plant  RECs / AECs  Clean Coal with CCS
New Natural Gas  Cogeneration  Coal-to-Gas Switch  New Nuclear  Biomass
Wind  White line represents price after including effects of tax incentives or loan guarantees
Exelon's View of Carbon Abatement Options – 2010

Clean Coal: $500 / $300 w incentives
Solar: $450 / $175 w incentives
Biomass: $195 / $170 w incentives

Projected Long-Run CO2 Price ($40)

- Energy Efficiency
- Nuclear Uprates
- New Natural Gas
- Retire Coal Plant
- Cogeneration
- New Nuclear
- RECs / AECs
- Coal-to-Gas Switch
- Wind
- Clean Coal with CCS
- Biomass

White line represents price after including effects of tax incentives or loan guarantees
Cost Per Avoided Ton of CO2 of Clean Energy Options in PJM

- Solar PV: $675 / $300 with incentives
- Clean Coal: $600 / $350 with incentives

Note: Assumes that EPA adopts a MACT standard to control emissions of hazardous air pollutants. Emissions reduction estimates for new generation capacity represent emissions reduced in the market as a result of the project less emissions introduced due to the project.

Technology cost assumptions (in 2016 $/kw):
- Combined-cycle gas turbine: $1,300 - $1,700
- Wind: $2,000 - $2,500
- Nuclear: $5,000 - $6,000
- Clean coal with CCS: $5,500 - $6,500
- Solar photovoltaic: $3,000 - $4,000

White line represents price after including effects of tax incentives or loan guarantees.
There are Cheap Ways and Costly Ways to Clean the Generation Fleet

Levelized Cost of Clean Energy Options in PJM

- Solar PV: $375 / $210 with incentives
- Coal Retirements
- Energy Efficiency
- Nuclear Upgrades
- Coal-to-Gas Switch
- Solar Photo voltaic
- New Natural Gas Plant
- Wind Power
- New Nuclear Plant
- Clean Coal with CCS
- White line represents price after including effects of tax incentives or loan guarantees
Subsidies, Mandates, and Other Interventions: The Impact of State and Federal Policies on Electricity Competition

Energy Bar Association's Sixty-Fifth Annual Meeting
Washington, D.C.
May 5, 2011

Doug Egan, CEO
Competitive Power Ventures
ENRON'S COLLAPSE: THE LAST RESORT; A Bankruptcy Filing Might Be Remaining Choice

By JONATHAN D. GLATER
Published November 29, 2001

Enron, facing the collapse of a deal with Dynegy that might have rescued it from disaster and a tidal wave of debt that now have little choice but to enter bankruptcy, lawyers and analysts said yesterday.

Filing for protection under Chapter 11 of the Federal Bankruptcy Code would give the company some much-needed creditors' claims, as well as afford any eventual buyer the advantage of a court's approval.

But bankruptcy would also be complicated by the fact that some of Enron's most valuable assets, including its Texas natural gas fields with California energy markets, are already pledged to lenders. The value of other assets credited with unique.

Still, Enron's creditors will not necessarily lose everything, said Robert J. Rosenberg, a lawyer at Latham & Watkins who represents some of the creditors in any Enron bankruptcy. "It depends on whether there is a good ongoing business in the future," he said.

Once they decide bankruptcy is unavoidable, lawyers said, one of the first critical issues Enron executives face is whether to file immediately or go for Chapter 11. Enron has its headquarters in Houston and receives significant attention from news media in Texas, but it is incorporated in Delaware, and filing there might lead some creditors to decide that participating in bankruptcy proceedings there would be too costly.

Delaware might be a preferred location. The courts there are very experienced in handling large bankruptcies and are known to be relatively friendly to debtors, said Jay Westbrook, a professor at the University of Texas School of Law in Austin. "On the other hand," he said, "I am told that recently Delaware has gotten so busy that they have been sending cases back where they should be."
We the People

Article 1.

Section 1. All legislative Powers herein granted shall be vested in a Congress of the United States.
Coal vs. Natural Gas Emissions Comparisons

<table>
<thead>
<tr>
<th>Emissions Type</th>
<th>Avg Existing Coal</th>
<th>Avg Existing Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO₂ Emissions</td>
<td>1,200 Tons/GWh</td>
<td>1,000 Tons/GWh</td>
</tr>
<tr>
<td>NOₓ Emissions</td>
<td>4,000 Pounds/GWh</td>
<td>3,500 Pounds/GWh</td>
</tr>
<tr>
<td>SO₂ Emissions</td>
<td>12,000 Pounds/GWh</td>
<td>10,000 Pounds/GWh</td>
</tr>
<tr>
<td>Mercury Emissions</td>
<td>0.20 Pounds/GWh</td>
<td>NA</td>
</tr>
<tr>
<td>Particulate Emissions</td>
<td>30,000 Pounds/GWh</td>
<td>25,000 Pounds/GWh</td>
</tr>
<tr>
<td>VOCs Emissions</td>
<td>40 Pounds/GWh</td>
<td>35 Pounds/GWh</td>
</tr>
</tbody>
</table>
Impact of State and Federal Policies on Electricity Competition

Sonny Popowsky
Pennsylvania Consumer Advocate

May 5, 2011
Energy Bar Association Annual Meeting
Washington, D.C.

PA Office of Consumer Advocate
555 Walnut Street
Forum Place, 5th Floor
Harrisburg, PA  17101-1923
(717) 783-5048 Telephone
spopowsky@paoca.org  www.oca.state.pa.us

Regulation and Competition

Alfred Kahn from The Economics of Regulation: Principles and Institutions (1988):

The “central, continuing responsibility of legislatures and regulatory commissions” is “finding the best possible mix of inevitably imperfect regulation and inevitably imperfect competition.”
The Role of Competition

• Electric competition is not an end in itself but is one means of achieving the goal of providing reliable electric service at just and reasonable rates.

• The question is where are competitive forces effective in meeting state and federal energy policy goals.

Are the PJM Markets Competitive?

• The PJM Independent Market Monitor has found that both the PJM energy market and capacity market produced competitive results in 2010, though in the case of the capacity market, these competitive outcomes only resulted after the application of market power mitigation rules.

What About Long Term Contracts and New Generation?

• Even assuming that the current PJM energy and capacity markets are competitive, what about the PJM market for long-term generation contracts?
• In particular, does PJM’s spot RPM capacity market provide the long-term revenue assurance needed to build new power plants?
• And, if not, what is the role of the states – both fully regulated and restructured – in ensuring long term generation adequacy and pursuing other public policy objectives?

FERC Recognizes the Importance of Long-Term Power Contracts

“Long-term power contracts are an important element in a functioning electric power market. Forward power contracting allows buyers and sellers to hedge against the risk that prices may fluctuate in the future. Long-term contracts also improve price stability, mitigate the risk of the abuse of market power, and provide a platform for investment in new generation and transmission.”

FERC’s Solution – Order 719: An Electronic Bulletin Board

“We will require each RTO and ISO to dedicate a portion of its web site for market participants to post offers to buy or sell power on a long-term basis.” Wholesale Competition in Regions with Organized Markets, Order No. 719, Paragraph 301.

In Order 719-A, on Rehearing, FERC rejected the argument of APPA et al that the Commission had not adequately addressed “failures in centralized markets” including “fewer and higher-priced long-term power supply options, the shifting of financial risks to customers, and impediments to construction of new generation resources.”

FERC Cannot Order Construction of New Generation

Under 16 U.S.C. Section 824(b)(1), the Commission generally “shall not have jurisdiction over facilities used for the generation of electric energy.”

See also the savings provision in the 2005 electric reliability amendments to the Federal Power Act, 16 U.S.C. Section 824o(i)(2), stating that this section “does not authorize the ERO [NERC] or the Commission [FERC] to order the construction of additional generation or transmission capacity.”
PJM Cannot Order Construction of New Generation

- PJM has stated that it “is not empowered to compel the siting, timing and location of new generation, the design, implementation and enforcement of DSM programs, and other ‘alternatives’ that can be used to alleviate the need for transmission reinforcements as a means to address identified reliability violations.”

Rebuttal Testimony of Steven R. Herling, Trans-Allegheny Interstate Line Co. (TrailCo), West Virginia PSC Case No. 07-0508-E-CN at 10 (Jan. 4, 2008).

What About the States?

- Even in some restructured states with retail competition for generation, the states have retained authority to maintain generation adequacy.
- As stated by Maryland PSC Chairman Douglas Nazarian in his Affidavit to FERC in the PJM MOPR Proceeding: “The Maryland PSC may require the IOUs to enter into long-term contracts with new generation resources or even construct, acquire, or lease and operate their own generating facilities.”

Nazarian Affidavit at page 28. See Maryland Public Utility Companies Article Section 7-510(c)(6).
Is RPM Relevant to Long-Term Generation Construction Decisions?

At least according to some independent generators, RPM does not provide the revenue assurance necessary to develop long-term generation resources.

**LS Power:** “RPM has not been successful at encouraging the construction of new baseload and mid-merit generating capacity, which require longer construction periods and greater up-front investments. The value of a power plant to investors depends greatly upon the present value of revenues it earns during the course of its operational life. As the RPM presently provides for only one year’s worth of capacity revenues, it provides limited value for purposes of raising the funds necessary to construct a facility.” LS Power Comments in PJM MOPR Proceeding at 10.
Is RPM Relevant to Long-Term Generation Construction Decisions?

- CPV Comments in PJM MOPR Proceeding at 2-3: “[T]he three-year forward price commitment in RPM’s New Entry Price Adjustment (“NEPA”) is utterly and irrefutably insufficient to support the financing of major capital investments in new baseload or intermediate peaking generation resources…. It is impossible to finance these large infrastructure investments on the basis of this three-year forward commitment.”

- “It is perfectly appropriate, then, and not at all surprising that in the absence of a means by which new baseload and intermediate peaking facilities can be built where needed, the NJBPU and the MPSC grudgingly have begun processes that will offer long-term contracts through open, transparent competitive solicitations to meet what these states have determined, and what they have a legal right to determine, to be their legitimate resource needs.”

By the End of 2010, the States Were Ready to Act -- Maryland

- On December 29, 2010, the Maryland Commission issued a Draft Request for Proposals for New Generating Facilities, MPSC Case No 9214, stating: “Because market forces have not produced new generation in our region, the Commission may need to invoke its authority under Section 7-510(c)(6) if, after an evidentiary hearing, the record in this case demonstrates that a projected capacity shortfall in the Delivery Year may affect Maryland and that ordering the construction, acquisition, lease or operation of additional capacity resources would satisfy the long-term anticipated demand in Maryland for Standard Offer Service or other electricity supply.”
By the End of 2010, the States Were Ready to Act -- New Jersey

- On January 28, 2011, New Jersey Governor Chris Christie signed into law a bill establishing a Long-term Capacity Agreement Pilot Program (“LCAPP”) to promote the construction of new generation facilities to meet the state’s energy needs.
- In implementing the LCAPP, the New Jersey Board of Public Utilities stated: “PJM’s current RPM mechanism has resulted in projected capacity deficiencies in New Jersey as well as other areas of the regional power grid... it has not resulted in the addition of adequate mid-merit or baseload generation resources in New Jersey or the region.” NJ BPU Order of Feb. 10, 2011 at Docket No. EO11010026.

Existing Generators Raise Concerns Regarding The State Initiatives

- The state initiatives would bring forth additional resources, which would lower RPM prices.
- Existing generators contended the initiatives represented attempts to exercise “buyer market power” and, through P3, filed a complaint at FERC.
- In response to the state actions and generators’ concerns, PJM filed proposed tariff changes to the RPM Minimum Offer Price Rule (MOPR).
In the Beginning, RPM Was About Ensuring Resource Adequacy If LSEs Did Not Self-Supply

Excerpt from the original FERC RPM Order, 115 FERC 61,079 (April 20, 2006):

“Thus, we conclude that, after LSEs have had an opportunity to procure capacity on their own, it is reasonable for PJM to procure capacity in an open auction at a time when further delay in procurement could jeopardize reliability. This, however, should be a last resort.” Para. 71. (Emphasis added)

The Original RPM Order Anticipated New LSE Capacity Would Bid Low

“Under RPM, LSEs may procure capacity in advance and outside of the four-year-ahead procurement auction. An LSE’s capacity that is procured in advance would be offered into the procurement auction at a price of $0, but it would receive the applicable market-clearing capacity price established in the auction. The LSE would be required to pay the capacity price as determined in the auction for the amount of capacity needed to meet its full capacity obligation. But the auction revenues received by the LSE for its capacity would be used to offset the LSE’s purchase payments, thereby reducing its net bill.”

FERC 2006 RPM Order at Para. 91 (Emphasis added).
The Original RPM Order Anticipated Long-Term Contracts Would Be Lower-Priced

“Under the RPM proposal as filed, LSEs may either (a) build their own needed capacity or create an incentive for the construction of new capacity by entering into long-term bilateral agreements, (b) refrain from entering into bilaterals and pay the (presumably higher) prices set by the demand curve, or (c) develop transmission or demand response solutions to capacity problems.”

FERC 2006 RPM Order at Para. 172 (Emphasis added).

Long-Term Goals vs. Short-Term Markets

- Forcing a new generating unit to bid at or near the administratively determined cost of new entry may prevent the unit from clearing in the RPM market, thus jeopardizing the long-term benefits of the unit to customers.
- Once a commitment is made to go forward with a project, such as through a long-term bilateral contract or a state procurement process, then it is entirely rational and appropriate for the developer to bid a low price in the RPM auction in order to receive a capacity payment.
Long-Term Goals vs. Short-Term Markets

- As stated by economist James Wilson in his Affidavit for the New Jersey Rate Counsel with respect to the PJM and P3 proposals in the PJM MOPR proceeding:
  “These proposals ... reflect the flawed presumption that whether or not a resource or its offer price is or is not ‘economic’ can be assessed based on comparison to a price benchmark for a single year; obviously, this indicator is likely to be volatile and inaccurate. Whether or not a new power plant is economic can only be assessed based on its longer-term economics.”
  Wilson Affidavit at Para. 15.

The Proposed RPM/MOPR Construct Does Not Support New Generation

As further stated by James Wilson in his Affidavit for the New Jersey Rate Counsel in the PJM MOPR proceeding:
  “The evidence of seven RPM base residual auctions is clear – new resources are typically offered at low, competitive offer prices with the intent to win a capacity supply obligation in the auction. New power plants, including combined cycle (“CC”) and combustion turbine (“CT”) plants, have consistently been offered into RPM at prices far below Net CONE.... This evidence shows that, according to PJM’s proposed screen, nearly all of the offers from new power plants into RPM to date would have been deemed ‘uneconomically low’ by a wide margin.”
The RPM Tail Now Wags the Long-Term Generation Dog

As stated by the National Rural Electric Cooperative Association (NRECA) in the PJM MOPR proceeding:

“The PJM and P3 proposals are like the tail wagging the dog: they prop up the short-term RPM market at the expense of undermining the longer-term ownership and bilateral transaction.”

NRECA Comments, Affidavit of Christensen Associates at 25.
FERC PJM MOPR Order: We Must “Protect the RPM”

- In its Order issued April 12, 2011, FERC approved in large part PJM’s proposed tariff changes. FERC stated:
  “Because below-cost entry suppresses capacity prices and because the Commission has exclusive jurisdiction over wholesale rates, the deterrence of uneconomic entry falls within the Commission’s jurisdiction, and we are statutorily mandated to protect the RPM against the effects of such entry.”
135 FERC 61,022, Order at Paragraph 143.

“True” Cost vs. Long-Term Benefit

- In response to LS Power’s contention that new entrants in recent RPM auctions would not have cleared the market under the new MOPR rule, FERC responds that “if a resource’s true cost of new entry is above the price at which the market clears, such a resource is not needed.” Order at paragraph 71.

- The flaw in this conclusion is that the question of whether a new resource is economic or uneconomic can only be judged from a long-term perspective, not by comparing to a single year outcome of a volatile administrative capacity pricing mechanism. The conclusion also fails to recognize the myriad of economic, reliability, and environmental reasons why a state or LSE would seek to add a new plant.
Impacts on Self-Supply and Regulated Generation

- The approved PJM Tariff change not only hinders the efforts of restructured states like New Jersey and Maryland to ensure generation adequacy, it also jeopardizes the ability of all load serving entities to build generation for self supply and even penalizes utilities in regulated states that build rate based generation.

- FERC rejects the argument of Dominion Resources that it should not penalize “legitimate price-taker participation by vertically-integrated utilities that are subject to state sanctioned planning and certification processes.” Order at paragraph 187, 194.

Impacts on Self-Supply and Regulated Generation

- If a generation unit that is being built by a muni or coop or by a regulated utility for self-supply does not clear in the RPM market, the customers will have to pay double. Once for the new unit and once for the capacity needed to replace the new unit when it does not clear in the RPM market.

- As argued by NRECA and others, “load serving entities will not only be required to bear the cost of a resource that they cannot use to meet their capacity obligations, but would also be required to pay to procure through RPM (at a higher clearing price) the volume of capacity equal to the rejected self-supply.” Order at Paragraph 190.
Conclusion

• The PJM short-term capacity market should be utilized to complement, not defeat, the ability of states and load-serving entities to meet the long-term generation needs of their customers.

• Or, as stated by NJBPU President Lee A. Solomon in response to FERC’s April 12 Order: “I do not believe that New Jersey forfeited its sovereignty when PJM became the regional transmission operator.”
## Description of the Project

- **Developer:** Pure Energy Resources  
- **Sponsors:** Hess Corporation and ArcLight Capital  
- **Capacity:** ~ 500 MW  
- **Technology:** Gas-fired simple-cycle  
- **Location:** Bayonne, New Jersey  
- **Power Market:** NYISO New York City “Zone J”  
- **Interconnect:** Dedicated 6.75-mile submarine transmission cable under New York harbor from Bayonne to ConEd’s Gowanus substation in Brooklyn
No contracts necessary *(of course!)* since

- NYC the biggest, most constrained capacity-short (not just low reserve margin) load pocket in the country
- both capacity *and* energy markets very robust and transparent
- the superior cost and operating characteristics of the Bayonne project itself – New Jersey-based costs selling into NYC-based market
To Contract or Not to Contract? – Lender Position

- Contracts *absolutely* necessary *(of course!)* since
  - recent NYC Astoria 1 and 2 new-build projects fully contracted
  - banks recently unpleasantly surprised by sharp drops in prices in the New England and PJM capacity markets after mistakenly assuming floor would be set close to peaker CONE
  - lender legacy aversion to merchant exposure, especially 100% merchant exposure

- Banks initially won out
  - all financing proposals included high levels of contracting over ten years – *but not 100%*
Negotiating Outcome

- Not binary, but hybrid
- ~80% contracted for ten years, which seems high BUT –
- The sponsors shared the offtake – and credit support – burdens each in line with its own appetite – and means
- Amount of LC support accepted implied some merchant revenue
- Debt/kW amounts at end of loan maturity and contracted period were relatively high in comparison with other markets
- Both sides got comfortable with – for sponsors, tighter and for lenders, looser – offtake terms because they were comfortable with underlying market dynamics
Capacity Market Analysis – Risk Factors

- CONE Reset – Based on consultant inputs
- Demand Forecast
- Regulatory / political influence?
- Volatility over longer time horizon
- Rules support existing, old, inefficient, fully depreciated assets, but not necessarily new-builds
- Mitigation rules
  - Could they apply to Bayonne?
  - Would they apply to other projects coming on line before Bayonne? How would Bayonne’s capacity revenues be affected?
### Zone J Capacity Market Model – 2011 Summer CCGT

#### 2011 NYC Summer Capacity Analysis CCGT

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Load Forecast (ICAP MW)</td>
<td>12,000</td>
<td>Current Forecast for 2011</td>
</tr>
<tr>
<td>(2) In-City Requirement (ICAP MW)</td>
<td>9,600.0</td>
<td>= 80% * (1)</td>
</tr>
<tr>
<td>(3) EFORD</td>
<td>10.00%</td>
<td>Current NYISO Summer Value</td>
</tr>
<tr>
<td>(4) In-City Requirement (UCAP MW)</td>
<td>8,640.0</td>
<td>= (2) * [1 - (3)]</td>
</tr>
<tr>
<td>(5) NYISO Net CONE (UCAP) ($/kw-mo)</td>
<td>$ 17.24</td>
<td>Current Forecast for 2011</td>
</tr>
<tr>
<td>(6) Zero Point on Demand Curve (UCAP MW)</td>
<td>10,195.2</td>
<td>= 118% * (4)</td>
</tr>
<tr>
<td>(7) Maximum Price ($/kw-mo)</td>
<td>$ 25.87</td>
<td>= 1.5 * (5)</td>
</tr>
<tr>
<td>(8) 75% Floor Price ($/kw-mo)</td>
<td>$ 12.93</td>
<td>= 75% * (5)</td>
</tr>
<tr>
<td>(9) Summer Demand Curve Slope ($/100 MW) ($/kW-mo)</td>
<td>$ (1.1088)</td>
<td>= (5) / [(4) - (6)] * 100</td>
</tr>
<tr>
<td>(10) Corresponding Summer UCAP at Floor Price (MW)</td>
<td>9,028.8</td>
<td>= (4) + [(8) - (5)] / (9) * 100</td>
</tr>
<tr>
<td>(11) Latest Zone J Capacity Auction Result</td>
<td>$ 15.50</td>
<td>Actual Result from 2010</td>
</tr>
<tr>
<td>(12) Corresponding Summer UCAP at Auction Result (MW)</td>
<td>8,738.0</td>
<td>Total UCAP offered in Summer 2010 auctions</td>
</tr>
<tr>
<td>(13) CCGT Capital Cost ($ million)</td>
<td>$ 1.30</td>
<td>Current projection</td>
</tr>
<tr>
<td>(14) Monthly Revenue Requirement ($ million)</td>
<td>$ 13.4</td>
<td>= PMT [8.87% WACC, 17 years, (13)] / 12</td>
</tr>
<tr>
<td>(15) Monthly Revenue Requirement Adjusted for Summer ($ million)</td>
<td>$ 17.3</td>
<td>= (14) * 1.33</td>
</tr>
<tr>
<td>(16) CCGT Summer (ICAP MW)</td>
<td>600.0</td>
<td>Current projection</td>
</tr>
<tr>
<td>(17) CCGT Summer Gross CONE ($/kW-mo)</td>
<td>$ 29.79</td>
<td>= (15) / (16) * 1000</td>
</tr>
<tr>
<td>(18) Summer Energy and Ancillary Services Revenue ($/kW-mo)</td>
<td>$ 9.00</td>
<td>Bank sensitivity</td>
</tr>
<tr>
<td>(19) CCGT Summer Net CONE, $/kW-mo</td>
<td>$ 20.79</td>
<td>= (17) - (18)</td>
</tr>
<tr>
<td>(20) CCGT Summer Availability</td>
<td>95.0%</td>
<td>Current projection</td>
</tr>
<tr>
<td>(21) CCGT Net CONE (UCAP $/kW-mo)</td>
<td>$ 21.79</td>
<td>= (19) / (20)</td>
</tr>
<tr>
<td>(22) CCGT Summer UCAP (MW)</td>
<td>570.0</td>
<td>= (16) * (20)</td>
</tr>
<tr>
<td>(23) Total Summer UCAP (MW)</td>
<td>9,308.0</td>
<td>= (12) + (22)</td>
</tr>
<tr>
<td>(24) Is CCGT Subject to Mitigation?</td>
<td>YES</td>
<td>IF[(23) &gt; (10), YES, NO]</td>
</tr>
<tr>
<td>(25) Is CCGT Economical?</td>
<td>NO</td>
<td>IF[(21) &lt; (8), YES, NO]</td>
</tr>
<tr>
<td>(26) % of CCGT Capacity Subject to Uneconomical Mitigation</td>
<td>49.0%</td>
<td>= IF([25] + YES, 0, IF([23] - (10) / (22) &gt; 0, (23) - (10) / (22), 0)]</td>
</tr>
<tr>
<td>(27) Forecast/Actual Capacity Auction Price (UCAP $/kW-mo)</td>
<td>$ 9.84</td>
<td>= Clearing Price on the Demand Curve – (5) + [(23) - (4)] / 100 * (9)]</td>
</tr>
<tr>
<td>(28) Corresponding Summer UCAP at CCGT Net CONE (MW)</td>
<td>8,230.5</td>
<td>= (4) + [(21) - (5)] / (9) * 100</td>
</tr>
<tr>
<td>(30) % of CCGT Capacity Subject to Economical Mitigation</td>
<td>0.0%</td>
<td>= IF([25] + YES, IF([28] = NO, (23) - (29)] / (22), 0), 0)</td>
</tr>
<tr>
<td>(31) % CCGT net CONE above / (below) Forecast Spot Price</td>
<td>121.5%</td>
<td>= (21) - (27) / (27)</td>
</tr>
<tr>
<td>(32) Weighted Average Price CCGT Receives for its Capacity ($/kW-mo)</td>
<td>$ 6.60</td>
<td>= IF([24] = NO, Auction Price, IF([25] = NO, (1 - (26)) * (8), IF([28] = NO, (1 - (30)) * (21), (27))]</td>
</tr>
<tr>
<td>(33) Forecast Annual Load Growth (MW)</td>
<td>5%</td>
<td>Consultant estimate</td>
</tr>
<tr>
<td>(34) Years Until Mitigated Capacity Receives Auction Payment (years)</td>
<td>5.6</td>
<td>= IF([26] &gt; 0, (26), IF([30] &gt; 0, (30), 0)) * (22) / (33)</td>
</tr>
<tr>
<td>(35) Total Summer UCAP Cleared</td>
<td>9,028.8</td>
<td></td>
</tr>
</tbody>
</table>
Zone J Capacity Market Model – 2011 Summer CCGT

- Current UCAP: 8,738 MW
- Load Forecast: 12,000 MW
- Net CONE Reference Point: $17.24/kw-mo
- Floor Price: $12.93/kw-mo
- CCGT Capital Cost: $1.3 billion
- CCGT Summer UCAP: 570 MW
- CCGT Energy Revenue: $9/kw-mo
- CCGT Net CONE (@ Point A): $20.70/kw-mo
- Auction Result (@ Floor): $12.93/kw-mo
- Hypothetical CCGT:
  - Uneconomical (@ Point A)
  - 49% Mitigated
- Total UCAP Cleared:
  - 9,028 MW = [8,738 + (51% × 570)]
Zone J Capacity Market Model – 2012 Summer Peaker 1

- Current UCAP: 9,028 MW
- Load Forecast: 12,050 MW
- Net CONE Reference Point: $17.66/kw-mo
- Floor Price: $13.24/kw-mo
- Peaker Capital Cost: $450 million
- Peaker Summer ICAP: 394 MW
- Peaker Energy Revenue: $8/kw-mo
- Peaker Net CONE: $6.82/kw-mo
- Auction Result (@ Point C): $9.21/kw-mo

Hypothetical Peaker:
- Economical (@ Point D)
- No Mitigation

Total UCAP Cleared:
- 9,423 MW = [9,028 + (100% × 394)]

Peaker Impact

<table>
<thead>
<tr>
<th>Zone J Auction Results</th>
<th>Peaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>$26.49</td>
<td></td>
</tr>
<tr>
<td>$25.00</td>
<td></td>
</tr>
<tr>
<td>$30.00</td>
<td></td>
</tr>
<tr>
<td>$35.00</td>
<td></td>
</tr>
</tbody>
</table>

Summer MW (UCAP)

- 7,500.0
- 8,000.0
- 8,500.0
- 9,000.0
- 9,500.0
- 10,000.0
- 10,500.0

$ / kW - Month

- $35.00
- $30.00
- $26.49
- $25.00
- $20.00
- $17.66
- $13.24
- $6.82
- $5.00
- $0.00
- $-
Zone J Capacity Market Model – 2012 Summer Peaker 2

- Current UCAP: 9,028 MW
- Load Forecast: 12,050 MW
- Net CONE Reference Point: $17.66/kw-mo
- Floor Price: $13.24/kw-mo
- Peaker Capital Cost: $600 million
- Peaker Summer ICAP: 394 MW
- Peaker Energy Revenue: $8/kw-mo
- Peaker Net CONE: $11.93/kw-mo
- Auction Result (@ Point B): $11.93/kw-mo

Hypothetical Peaker:
- Economical (@ Point D)
- 61% Mitigated

Total UCAP Cleared:
- 9,182 MW = [9,028 + (39% × 394)]
Zone J Capacity Market Model – 2012 Summer Peaker 3

- Current UCAP: 9,028 MW
- Load Forecast: 12,050 MW
- Net CONE Reference Point: $17.66/kw-mo
- Floor Price: $13.24/kw-mo
- Peaker Capital Cost: $750 million
- Peaker Summer ICAP: 394 MW
- Peaker Energy Revenue: $8/kw-mo
- Peaker Net CONE (@ Point A): $16.95/kw-mo
- Auction Result (@ Floor): $13.24/kw-mo
- Hypothetical Peaker:
  - Uneconomical (@ Point A)
  - 91% Mitigated
- Total UCAP Cleared:
  - 9,066 MW = [9,028 + (9% × 394)]
**Financial Outcome**

- $370m term loan, ~60% leverage
- $52m in ancillary debt facilities
- ~8-year door-to-door maturity
- DSCR metric *and* cash sweep used to size debt and achieve debt/kW targets
- **Successfully** syndicated
  - 7 banks in all
  - NOT oversubscribed, confirming broader reluctance in the market to take on merchant exposure, but enough banks willing to do so with the appropriate structure in the appropriate market – **supported by contracts**
Lessons for the Future

- Hard to imagine financings without some level of contractual support in any market.
- But also hard to generalize what may be required in any particular instance.
- Solutions are possible, but require tough negotiations with less-than-perfect, but tolerable outcomes for both sides.
- Despite the parties’ best efforts and intentions, capacity (and energy) markets may not allow financing of new-build power plants without contracts, although parties to contracts may be able to rely on markets to support the terms they agree to in the contracts.
NOTES
What’s Next for Pipeline Safety?
The Implications of New Agency Guidance and Pending Statutory and Regulatory Change
What’s Next for Pipeline Safety

Energy Bar Association

Jeff Wiese
Associate Administrator
Office of Pipeline Safety
May 5, 2011
Topics for Discussion

- Introductions – Some Recent Changes
- Current Challenges
- Reflections from 2010
- Impacts on Pipeline Safety
- Focus on Pipeline Safety
- Other Simmering Issues
- Upcoming Events
Current Challenges

• Rash of High Profile Accidents with Serious Consequences
• Differing Levels of “Acceptable Risk” with Different Audiences
  – Transparency is and will sharpen focus of debate
• Media has Discovered the Fear Factor with Pipelines
  – They have learned what questions to ask / angles to take
• Elephants have Waded into the Debate – Redefining It
• “We” are Target Rich, so “We” are Easy Fodder
  – It’s a big job, but our past “promises” have worked
  – We need to deliver on those “promises”
Pipeline Incidents w/Death or Major Injury (1986-2010)

Data: DOT/PHMSA Pipeline Incident Data (as of Jan. 19, 2011)

Long-term trend (average 10% decline every 3 years)
Liquid Pipeline Spills w/Environmental Consequences (2002-2010)

Calendar Year

Data: DOT/PHMSA Pipeline Incident Data (as of Jan. 19, 2011)
Recent High Profile Accidents

- Deepwater Horizon
- Marshal, Michigan (Federally Regulated)
  - Major Crude Oil Spill Dramatically Impacted Several Communities in Michigan
- San Bruno, California (State Regulated)
  - Major tragedy – Unimaginable Proportions
- Allentown, Pennsylvania (State Regulated)
  - Major tragedy – causes still being investigated
- Excavation Damage Fatalities (State Regulated)
  - Texas, North Dakota, Georgia – to name a few
- What Do These Have in Common?
Deepwater Horizon
Gulf of Mexico
April 2010
Marshall, MI
Summer 2010
The Impact of 2010

- Got the Attention of Everyone – White House, Secretary, Congress, media, oversight agencies, and the public – to name a few
- Expect to See More Media Attention to Pipeline Failures – It Plays!
- Expect to See DOJ and EPA Stepping Up Their Attention
- Delayed Reauthorization (more in a minute)
- Sharpened Awareness of Role of Rate Setting in Safety AND the Role of Safety in Rate Setting
  - Emergence of concerns of States – as a whole - being too close to industry and lacking the will to enforce
The Impact of 2010

- On Reauthorization of the Pipeline Safety Program
  - Quadrennial Congressional scrutiny of OUR performance
  - Had hopes of it going better than in 2002 or 2006 - alas
  - 7 hearings last year alone – more to come
  - Many don’t understand the recipe – or maybe significance
  - Will set the most of regulatory agenda for the next 4 years
  - Several reauthorization proposals on the table

- Overall Themes
  - Stronger enforcement (modified due process??)
  - More studies, and more prescription for certain items
    - Valves, valve spacing, data, leak detection
The Impact of 2010

• On Administration Posture and Direction
  – Administration commitment to tighten regulations
    • Led to Several New Rulemaking Documents:
      – Final: Acceleration of Control Room Mgmt implementation dates.
      – ANPRM: Questions to stakeholders about the adequacy of HL and NGT (soon) regulations.
      – Expect something similar for gathering systems.
    – Several Advisory Bulletins Issued as a Direct Result
      • Emergency Response Preparedness and Planning
      • Sufficiency of Records and Adequacy of Risk Assessment
    – Concerns about Special Permits and Incorporated Standards
Focus on Pipeline Safety

• Secretary LaHood and Administrator Quarterman while not ALARMED, are very CONCERNED

• Expect to hear a lot from DOT regarding the need to elevate attention at BOTH the STATE and FEDERAL levels on pipeline safety challenges
  – Legacy infrastructure: risk assessments, repair, rehabilitation, and replacement or requalification
  – Need to connect safety with rate setting and siting decisions made by other parties

• Secretary LaHood Hosted a National Pipeline Safety Forum at DOT on April 18, 2011
  – Report to American on Pipeline Safety – 6 months
Focus on Pipeline Safety (cont.)

- National Transportation Safety Board
  - 5 active investigations
- DOT Office of the Inspector General
  - Hazardous Liquid Integrity Management
  - State Pipeline Safety Program: Performance and Oversight
  - Ongoing Internal Review Ordered By Administrator
  - Control Room Management
- U.S. Government Accountability Office
  - Unregulated / non-jurisdictional pipeline risk
  - Requests to redefine NGT from 20% SMYS to 30% SMYS
Other Simmering Issues

- Damage Prevention – Adequacy of State Laws/Programs
- Population Encroachment: getting the PIPA word out
- New Construction
  - OQ & QMS: Role of Contractors in Determining Quality
  - Material Deficiencies
- Public Awareness Programs: Inspections and Effectiveness
- Repair Criteria and Response Times Outside HCA’s
- Anemic Research and Development Investment
- Transparency/Adequacy of Consensus Standards – IBR
Calendar of Upcoming Events

- DIMP Implementation Workshop – Fall 2011
  - the Rule - Recorded Webcasts – Summer 2011
  - State and Federal Oversight Approach - Summer
- Pipeline Seam Types and Susceptibilities – July 20, 2011
- Pipeline Operator Risk Assessment – July 21, 2011
  - Will be webcast
- Additional Meetings of Interest:
  - NARUC Regional and Summer Meetings
  - Technical Advisory Committees – Summer 2011
- DOT Report to American on Pipeline Safety – October 2011
Questions
San Bruno, California – September 9, 2010
Crestmoor Canyon Neighborhood, Shortly after 6:00 PM

http://www.youtube.com/watch?v=1d8l6nHehl0&feature=related
Aerial View – Evening of September 9
CPUC Remembers Jacqueline Greig

Jacqueline, a 20+ year employee of the CPUC, and her youngest daughter Janessa, perished in the San Bruno explosion on Sept. 9, 2010.

The many, many people who knew and loved Jackie grieve with her family.
PG&E Line 132 Statistics

- Steel pipe, 30 inches in diameter
- .375” wall thickness
- Operating pressure: 386 psig at time of rupture (MAOP = 400 psig)
- Milpitas Terminal to San Francisco (>50 miles)
Impact of Pipeline Failure

- 8 Deaths
- 65 Injuries
- 37 Homes destroyed or demolished
- 48 Homes damaged

View of ruptured section of pipeline with NTSB investigator cleaning a fracture surface
Regulatory Response

National Transportation Safety Board

U.S. Department of Transportation: Pipeline and Hazardous Materials Safety Administration (PHMSA)

California Public Utilities Commission
NTSB Findings and Recommendations to Date

- Ruptured segment installed in 1956
- Metallurgy report indicates longitudinal weld failure
  - No evidence of corrosion or dig-in damage
- PG&E records appeared to show pipe was seamless
- Slight pressure spike (from 375 to 386 psig) just prior to rupture, due to equipment failure upstream at Milpitas
- “Urgent safety recommendation” that PG&E diligently search for as-built drawings and other pipeline records
- Hearing on San Bruno accident conducted March 1-3, 2011; final NTSB investigation report anticipated August 2011
PHMSA Response

- DOT (PHMSA) is responsible for natural gas pipeline safety regulations codified at 49 C.F.R.
- “Pipeline safety forum” hosted by DOT Secretary Ray LaHood, Washington, D.C., April 18, 2011
- PHMSA relies on state agencies (such as CPUC) as partners to conduct inspections and enforce federal pipeline safety rules.
CPUC Response - Overview

- Immediate pressure reductions on specified PG&E pipelines
- Participation in NTSB’s ongoing “root cause” investigation
- Appointment of Independent Review Panel
- Enforcement against PG&E, alleging poor record-keeping
- Calibrating “maximum allowable operating pressure”
- Rulemaking for new, statewide pipeline safety rules
After the San Bruno rupture, CPUC immediately directed PG&E to lower pressure on Line 132 to 80% of its prior operating pressure, as a safety precaution.

After December NTSB metallurgy report, CPUC imposed pressure reductions on additional PG&E lines with weld characteristics similar to the ruptured segment of Line 132.

CPUC is holding open the prospect of additional pressure reductions for PG&E and other pipeline operators.
CPUC: Root Cause Investigation

- CPUC investigators participate as a “party” to NTSB investigation
- Consumer Protection and Safety Division employs pipeline engineers and inspectors
- Upon issuance of NTSB final report on accident, CPUC can initiate enforcement proceedings if it appears any safety violations occurred
- CPUC has broad enforcement powers over gas pipeline safety under federal and state law
October 2010: Five-member distinguished panel appointed to investigate San Bruno tragedy and make recommendations

Panel’s charter reflects a broad mission:
- Technical assessment of the events of September 9 and their root causes
- Recommendations to ensure such an accident is not repeated elsewhere.

“The recommendations may include changes to design, construction, operation, maintenance, and replacement of natural gas facilities, management practices at PG&E in the areas of pipeline integrity and public safety, regulatory changes by the Commission itself, statutory changes to be recommended by the Commission, and other recommendations deemed appropriate by the Panel.”

Panel report expected in May 2011

This enforcement order was issued in response to the NTSB’s “Urgent Safety Recommendations” of January 3, 2011, finding “discrepancies” in PG&E’s records for Line 132

OII alleges PG&E’s records were inadequate “to ... correctly identify major characteristics in the type of pipe that was buried in the ground and ruptured on September 9, 2010.”

Docket remains open and unresolved; hearing is pending.
In response to NTSB’s “Urgent Safety Recommendations” in January, CPUC embarked on extensive effort to have pipeline operators re-calibrate maximum allowable operating pressure (“MAOP”) for gas transmission pipelines in California.

Focus of this effort is on using “traceable, verifiable” records of pressure tests or other equivalent tests to ensure MAOPs are appropriately set, especially for older, pre-1970 pipes.

PG&E has been cited for failing to comply with this order in a March 15 submittal; proposed fine ($6 million, with $3 million suspended) and remedial measures are pending.
February 24, 2011: CPUC “Order Instituting Rulemaking,” to develop new rules for safe and reliable operation of gas pipelines in California (R.11-02-019)

Rulemaking order proposed certain immediate changes in California’s pipeline safety rules, while opening a public comment process soliciting ideas for other rule changes.

Focus includes enhanced ability to perform in-line inspections of pipelines, using so-called “smart pigs,” as well as testing and replacement of older pipeline segments.

Remote control or automatic valves for emergency shut-off.
Next Steps

- Continued prosecution of CPUC enforcement case against PG&E for alleged deficient records
- Independent Panel Report expected in May
- NTSB investigation report expected in August
- Possible future, additional CPUC enforcement action against PG&E, depending on what NTSB finds
- Continuing consideration of rule changes for all gas pipeline operators in California
Thank you.

For Additional Information:

www.cpuc.ca.gov/PUC/events/sanbruno.htm
FERC and DOT Coordination on Pipeline Safety

Energy Bar Association Annual Meeting

May 5, 2011
FERC & DOT—Close Relationship, Clear Roles

- **1985** – MOU Regarding LNG Facilities
- **1992** – MOU on Natural Gas Transportation Facilities
- **2002** – Interagency Agreement on Early Coordination of Environmental Reviews of Interstate Natural Gas Pipelines
- **2004** – Interagency Agreement for the Safety and Security Review of Import/Export LNG Facilities
- **2004** – MOU on Coordination of Environmental Reviews for Pipeline Repairs
FERC and Pipeline Safety

- Safety-related concerns are often raised by the public during the environmental review.
- Safety-related concerns are addressed directly and indirectly in NEPA documents.
  - Indirectly – e.g., analysis of alternative routes and alternative construction methods.
  - Directly – e.g., discussion of pipeline accidents, class location requirements, hydrostatic testing, requests for waivers from DOT.
- Mitigation required by FERC perceived as safety measures are really environmental measures.
**Coordination Procedures in Place**

- FERC staff routinely provides information to DOT’s CATS Coordinator:
  - notices for pending projects;
  - status of pending projects, monthly; and
  - monthly inspection schedules for projects under construction.

- Where pipeline safety issues arise on specific projects, FERC staff:
  - notifies DOT of the specific issues;
  - requests CATS participation at scoping meetings/site visits; and
  - requests DOT participation as a Cooperating Agency for NEPA review.
In the Future...

- Consider updating the 1992 MOU
- Look for greater participation by DOT in FERC’s environmental review process
- Consider joint construction inspections
Contact Information

Lauren H. O'Donnell, Director
Division of Gas—Environment & Engineering
202-502-8325
lauren.odonnell@ferc.gov
Reliability and New Energy Resources
Reliability and New Energy Resources

Energy Bar Association's
Sixty-Fifth Annual Meeting
Washington, D.C.

May 5, 2011
International regulatory authority for electric reliability in North America

- Develop & enforce reliability standards
- Analyze system outages and near-misses & recommend improved practices
- Assess current and future reliability
NERC Reliability Assessments

- Peak Demand Forecasts
- Resource Adequacy
- Transmission Adequacy
- Key Issues & Emerging Trends Impacting Reliability
- Regional Self-Assessment
- Ad-hoc Special Assessments
System: A Traditional View

- Demand
- Conventional & Hydro Generation
- Distribution
- Bulk Power System

reliability

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION
Over the past 60 years, we’ve divided the “grid” into two separate systems.
As new resources were added, bulk system reliability became more dependent on distribution-level assets.
The 21st century grid will become a single, interdependent system.
The "Smart Grid" will enable the visualization and control needed to maintain operational reliability.
Common Challenges

Plug-In Hybrid Electric Vehicles
Demand Response
Demand
Energy Efficiency
Rooftop Solar / Local Wind Development

Wind & Variable Generation
Conventional Generation & Storage
Nuclear

reliability
"smart grid"

cyber security
Building the 21st century grid requires a comprehensive and coordinated approach to policy and resource development.
The 21st Century Grid

- Plug-In Hybrid Electric Vehicles
- Demand Response
- Demand
- Energy Efficiency
- Rooftop Solar / Local Wind Development

“smart grid”

- Wind & Variable Generation
- Conventional Generation & Storage
- Nuclear
Sources of Flexibility

Conventional Generation

Energy Storage

Sub-Hourly Generation Scheduling

Electric Vehicles

variable Generation Integration

Effective

Variable Generation Power Management (Curtailment)

Balancing Area Options

Demand Response
Investigate impact on adequacy and operating reliability:

- The potential impacts of new and evolving electricity market practices,
- new or proposed regulatory procedures, and
- new or proposed legislation (e.g. environmental requirements)
Development Process

Members Representative Committee

Technical Committees (OC/CIPC)

NERC Board of Trustees

Other Industry Groups

NERC STAFF

RAS

PC
Emerging Issues & Scenarios

Year 1

NERC Staff

PC assigns RIS, RAS & TIS to develop list of emerging issues.

PC agrees to scenarios for the following year, based on risk assessment of emerging issues.

RAS assigns scenarios. Sends with LTRA Data Request.

Year 2

RAS Peer Review Scenario

Regions perform Scenario Reliability Assessment

Scenario study outline peer reviewed by RAS & PC

Regions develop Scenario Study Outline

LTRA Published
2009 Emerging Issue Risk Assessment

Emerging Issues Risk Evolution:

- Greenhouse Gas Regulations
- Energy Storage
- Transmission Siting
- Cyber Security
- Variable Generation Issues
- Reactive Power
- Smart Grid & AMI
- Workforce Issues
- Economy Issues

Likelihood:
- Higher
- Lower

Consequence:
- High
- Lower

6–10 Years

NERC
North American Electric Reliability Corporation
2010 Emerging & Standing Issues

- Impacts of Resource Mix Changes to System Stability and Frequency Response
- Changing Resource Mix
- Diminishing Frequency Response
- Transmission Operations with Vital Transmission Out-of-Service During Upgrades
- Uncertainty of Sustained Participation in Demand Response
- Consistent Modeling of Remote Resources

Likelihood: Low - High
Consequence: Low - High
Example SWOT Analysis – *Changing Resource Mix*

**STRENGTHS**
- Early identification of the problem
- Diversified resource portfolio

**WEAKNESSES**
- Resource mix will continue to change
- Ability to restore integrity of system following a disturbance event

**OPPORTUNITIES**
- Change resource mix without diminishing System Stability and Frequency Response
- Lessons-learned can be developed through experience
- Support NERC Frequency Response Initiative

**THREATS**
- Timing of Renewable Portfolio Standards and other emission reducing targets
- Incorrect modeling assumptions can lead to unexpected operating characteristics

Time Horizon: 5 to 10 Years
Emerging Issues and Scenario Assessments

- Technology Integration
  - Demand Response: *Demand Response Availability Data System*
  - Variable Resources: *Follow-on Work*
  - Smart Grid: *Follow-on Work*
  - Reliability Impacts of Climate Change Initiatives

- Scenarios
  - Swift Economic Recovery
  - Assessment of Four EPA Regulations

Upcoming Reliability Assessments

- High Impact, Low Frequency Event Risks
- Gas/Electric Interdependency
Question & Answer

Contact:
Mark Lauby
Vice President and Director of Reliability Assessments & Performance Analysis
mark.lauby@nerc.net
Integrating Renewables & Maintaining Reliability: Perspective from an ISO/RTO

Patrick Brown
Manager, NERC & Regional Coordination
PJM Interconnection
610-666-4597
brownp@pjm.com

Agenda

• PJM Overview
• Current Operations
• Regulatory Impact
• Integration of Renewables
• Future Operations
• Addressing the Challenges
PJМ as Part of the Eastern Interconnection

KEY STATISTICS

- PJМ member companies: 700
- Millions of people served: 54
- Peak load in megawatts: 144,844
- MWs of generating capacity: 167,000
- Miles of transmission lines: 56,350
- GWh of annual energy: 745,000
- Generation sources: 1,340
- Square miles of territory: 168,500
- Area served: 13 states + DC
- Internal/external tie lines: 247

- 23% of generation in Eastern Interconnection
- 25% of load in Eastern Interconnection
- 19% of transmission assets in Eastern Interconnection

20% of U.S. GDP produced in PJМ

As of 4/1/2011

PJМ in the World

- State Grid Corp. of China: 900,000 MW Installed Capacity, 44,169 miles transmission (330kV +)
- RAO UES of Russia: 211,000 MW Installed Capacity, 94,747 miles transmission (220kV +)
- Power Grid Corp. of India: 68,000 MW Installed Capacity, 1,000 Generating Units, 117,228 miles transmission (220kV+)
- PJМ: 165,000 MW Installed Capacity, 247 Interties, 1,271 Generating Units, 56,070 miles of transmission
- Midwest ISO: 159,000 MW Installed Capacity, 57,453 miles of transmission
- EDF (France): 83,000 MW Installed Capacity, 41 Interties, 600 Generating Units, 30,162 miles of transmission
- Tokyo Electric: 68,000 MW Installed Capacity, 147 Generating Units, 43,857 miles of transmission
- National Grid (England & Wales): 68,000 MW Installed Capacity, 2 Interties, 212 Generating Units, 14,552 miles of transmission

As of March 2011
• PJM Overview
• Current Operations
• Regulatory Impact
• Integration of Renewables
• Future Operations
• Addressing the Challenges
How does the model of Operational Balance change with the implementation of legislation and the integration of renewables?
• PJM Overview
• Current Operations
• Regulatory Impact
• Integration of Renewables
• Future Operations
• Addressing the Challenges

EPA Regulations

• Clean Water Act, Section 316(B)-Cooling Water Intake Structures Rule
• Clean Air Act, National Emission Standards for Hazardous Air Pollutants (NESHAP) or (MACT)
• Clean Air Transport Rule (CATR)
• Coal Combustion Residuals (CCR) Surface Impediments with High Hazard Potentials Rule
Renewable Portfolio Standards (RPS)

- WA: 15% x 2020*
- MT: 15% x 2015
- ND: 10% x 2015
- SD: 10% x 2015
- MN: 25% x 2025 (total: 35% x 2021)
- WI: Varies by utility; 10% x 2015 statewide
- MI: 10% & 1,100 MW x 2015*
- VT: (1) RE meets any increase in retail sales x 2012; (2) 20% RE & CHP x 2017
- ME: 30% x 2000
- NH: 23.8% x 2025
- MA: 22.1% x 2020
- RI: 16% x 2020
- CT: 23% x 2020
- PA: ~18% x 2021
- NJ: 22.5% x 2021
- MD: 20% x 2022
- DE: 25% x 2026*
- DC: 20% x 2025

- CA: 33% x 2020
- NV: 25% x 2025*
- AZ: 15% x 2025
- NM: 20% x 2020 (IOUs)
- 10% x 2020 (co-ops)
- HI: 40% x 2030
- TX: 5,880 MW x 2015
- UT: 20% by 2025*
- CO: 30% by 2020 (IOUs)
- 25% by 2015 (large utilities)
- KS: 20% x 2020
- MO: 15% x 2021
- IL: 25% x 2025
- NC: 12.5% x 2021 (IOUs)
- 10% x 2018 (co-ops & munis)
- WV: 25% x 2025*†
- VA: 15% x 2025*
- PR: 20% x 2035

Minimum solar or customer-sited requirement
Extra credit for solar or customer-sited renewables
Includes non-renewable alternative resources

Source: www.dsireusa.org / April 2011

- PJM Overview
- Current Operations
- Regulatory Impact
- Integration of Renewables
- Future Operations
- Addressing the Challenges
Proposed Generation (MW) – Renewables 36,376 / 59%

- Wind, 34,079
- Non-Renewable, 25,736
- Solar, 3,721
- Hydro, 382
- Biomass, 218
- Methane, 71
- Other Renewable, 243

As of January 4, 2011

www.pjm.com

Proposed Renewable Generation in PJM

As of February, 2011

www.pjm.com
Proposed Wind Generation in PJM

As of September 2009

The Greener Grid

This slide shows how many megawatt-hours of renewable energy were produced in 2010 and cumulatively since tracking began in 2005. It also shows the percent change between 2009 and 2010.
The fine print on renewables in PJM

• Variable output not a problem today
  – 4,700 installed MW, 1.3% of generation (2010)

• The wind blows at night
  – ~26% capacity factor, but only 13% peak coincidence

• Installed capacity will continue to grow rapidly
  – Storage is needed (CAES, Batteries, Flywheels, EVs, thermal storage)

• PJM Overview
• Current Operations
• Regulatory Impact
• Integration of Renewables
• Future Operations
• Addressing the Challenges
Managing Renewables

- Robust Transmission System
- Flexible Storage Solutions
- Demand Side Response
- Driven by Intelligent Systems (Smart Grid)

Transmission System Needs

20% Renewable Penetration = $80B in Transmission System Upgrades

Source: Joint Coordinated System Plan (JCSP)
### Grid-Scale Storage

- **Pumped Hydro**
- **Compressed Air**
- **Stationary Battery**
- **Flywheels**

### Distributed Storage Types

- **Thermal Storage**
- **Mobile Storage**
Demand Response and Energy Efficiency in PJM

Demand Response
- 9,282 MW or enough power for 5 million people or half the number of households in the state of Michigan.

Energy Efficiency
- 679 MWs or enough to power 115,000 households about the number of households in the city of Pittsburgh.

Offers of Demand-Side Resources as Capacity in PJM by Delivery Year

- Energy Efficiency
- RPM and FRR DR
- Interruptible Load for Reliability
- Active Load Management

Graph showing offers of demand-side resources as capacity in PJM by delivery year, with bars indicating the years 2005/2006 to 2013/2014.
• Installation of Advanced Metering Infrastructure (AMI) and implementation of dynamic retail rates will result in retail load becoming increasingly responsive to price in the near future.

• Lack of clear rules for incorporation of price responsive retail load at the wholesale level will result in operational uncertainty and inefficient dispatch and pricing.

• PRD whitepaper: www.pjm.com/documents/reports

• PJM Overview
• Current Operations
• Regulatory Impact
• Integration of Renewables
• Future Operations
• Addressing the Challenges
The Smart Grid is realized by merging data to achieve a total end-to-end systems view by integrating information technology and operational technology.

**Two-Way Communication and Control**

- ISO/RTO
- SCADA and Phasor Measurements
- Substation Automation
- Distribution
- Transmission & Sub-transmission
- Distribution Automation
- Energy Storage
- Generation
- Smart Metering, Demand Response, PHEV, Energy Conservation and Distributed Resources
- Customer
• PJM Overview
• Current Operations
• Regulatory Impact
• Integration of Renewables
• Future Operations
• Addressing the Challenges

How to Address the Challenges

• Incent investment in generation and backbone transmission
• Increase customer choice and market participation
• Provide forward price transparency
• Incent long-term supply contracts
• Provide environmental regulation certainty
• Provide market design certainty

Legislators + Regulators + Industry = RELIABILITY
Renewables Policy and System Operations
*A Case for Co-Evolution*

Energy Bar Association – Annual Meeting
May 5, 2011
Washington, D. C.

Sydney Berwager
Director, Strategy Integration
Bonneville Power Administration

About BPA

<table>
<thead>
<tr>
<th>Information</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPA established</td>
<td>1937</td>
</tr>
<tr>
<td>Service area (sq. miles)</td>
<td>300,000</td>
</tr>
<tr>
<td>Transmission circuit miles</td>
<td>15,937</td>
</tr>
<tr>
<td>BPA substations</td>
<td>284</td>
</tr>
</tbody>
</table>

2009 Balancing Authority (BA) Statistics

<table>
<thead>
<tr>
<th>Description</th>
<th>FCRPS</th>
<th>BA Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nameplate Rating (MW)</td>
<td>21,580</td>
<td></td>
</tr>
<tr>
<td>Peak Generation (MW)</td>
<td>15,900</td>
<td>20,023</td>
</tr>
<tr>
<td>Average Generation (aMW)</td>
<td>8,400</td>
<td>11,990</td>
</tr>
<tr>
<td>Peak Load (MW)</td>
<td>10,900</td>
<td></td>
</tr>
<tr>
<td>Average Load (aMW)</td>
<td>6,290</td>
<td></td>
</tr>
</tbody>
</table>

BPA is a Federal Power Marketing Administration in the U.S. Department of Energy
Introduction to BPA:

System Map

Revelstroke
Mica
Keenleyside
Duncan

BPA Service Area
Columbia Basin
Federal Dams
Canadian Dams

Non-Federal Dams
BPA Transmission Grid
Dept. Of Reclamation

Federal Columbia River Power System
Columbia River Basin & BPA Service Area

* Congress created the Bonneville Power Administration (BPA) in 1937 to market and transmit the power produced by Bonneville Dam. Today, BPA markets power and transmission services from 31 Federal dams, one non-federal nuclear plant, and 75% (15,000 miles) of the high-voltage lines in the Pacific Northwest.

* The dams and the electrical system are known as the Federal Columbia River Power System (FCRPS)

* BPA sells wholesale power to publicly owned and investor-owned utilities, as well as to some large industries. BPA also sells or exchanges power with utilities in Canada and other parts of the Western United States.

* BPA is a self-funded, not-for-profit federal agency within DOE.

BPA/Transmission Services

* BPA owns and operates 75% of the Pacific Northwest’s high voltage electrical transmission system.


* The system enables a peak loading of about 30,000 megawatts and generates more than $700 million a year in revenues from transmission services.

* BPA’s Transmission Services operates under an Open Access Transmission Tariff based on FERC’s pro forma tariff as a non-jurisdictional entity.
Drivers of NW Wind Development

- State renewable portfolio standards (WA, OR, CA)
- Federal and state financial incentives
- Proximity to existing 500 KV lines and interties to California
- Relatively short construction lead time and quick siting & permitting (although there is growing pushback in some areas)
- Rural economic benefits + green tinge = strong political support
- Least-cost renewable available in bulk quantity

BPA Enablers of NW Wind Development

- Relaxed imbalance penalties (2001)
- Storage and Shaping Services (2004)
- 2007 NW Wind Integration Action Plan – “Yes We Can”
- BPA Network Open Seasons (2008-2010)
  - New twist on open access queue management
  - More efficient transmission planning
  - Federal financing for new lines
- Relatively low-cost wind integration rates (2009-11)
- BPA has evolved its business practices to incorporate intra-hour scheduling, self-supply of generation imbalance, new wind forecasting systems, expanded dynamic transfer capacity.
The Result: Exponential Growth of Wind

![Wind Generation Capacity in the BPA Balancing Authority Area](image)

Forecasted Wind Generation Connected to BPA’s Transmission System

![Bar Chart: Forecasted Wind Generation](image)

**NOTES**

1. Projections beyond FY11 may be impacted or adjusted due to a need for Transmission system expansion.
2. Projections reflect the agreed-upon assumptions and projections for wind generation and are based on existing wind resources.
3. Generation shown is interconnected to BPA. Some BPA sales are not represented beyond the end of FY14.
Highly Concentrated Pattern of Wind Development

Volatile Ramping Behavior
Limited Capacity Value

BPA Balancing Authority Area Load & Total Wind Generation
Jan. 1-11, 2011

BPA Total Wind Generation
BPA Balancing Authority Area Load

Volatile BA Load/Wind Generation Ratio

BPA Balancing Authority Load & Total Wind, Hydro, and Thermal Generation, Last 7 days

Unintended Consequences

• The Federal Columbia River Power System is effectively tapped out. Additional balancing capacity will come from conventional power plants or new technologies.

• Huge ramping requirements may diminish ultimate carbon reductions because of spinning reserve requirements for thermal generation.

• Confluence of high wind and high spring runoff leading to conflicts with the Endangered Species Act.

• Reductions in power prices from increased wind penetration perhaps good for many regional ratepayers, but degrading the economics of the capacity resources needed to maintain reliability (like hydro).

The Case for Co-Evolution

• The nation’s utility system operators are rightly being asked to adapt their operational practices to integrate increased amounts of renewable generation.

• As we scale up the nation’s renewable energy fleet, public policies supporting renewables should better acknowledge the operational realities of the power grid and the legitimate needs of LSEs.

• RPS legislation should be matched with substantive, coordinated implementation plans for transmission utilization/expansion and the provision of integration services.
The Case for Co-Evolution (Cont’d)

- Important policy tools like Production Tax Credits (PTCs) and Renewable Energy Credits (RECs) are increasingly distorting markets and leading to unintended cost shifts. Is it time to take them off the margin and embed them in the capital base?
- Providers of reliability services need to be compensated through effective forward markets for balancing capacity.

Your Feedback is Welcome!

Syd Berwager
Director, Strategy Integration
Bonneville Power Administration
sdberwager@bpa.gov
503-230-5958
NOTES
Joint Ventures as a Means to Build the Energy Future
Joint Ventures as a Means to Build the Energy Future

Energy Bar Association
Annual Meeting
May 5, 2011

Corey C. Brown
Partner

Overview
- What is Joint Venture?
  - An entity formed by two or more strategic partners to pursue a specific business
  - Typically a limited liability company or corporation
- Why use a Joint Venture?
  - Limited nature of the proposed business (i.e., a specific asset, line of business or region)
  - Asset acquisition impractical or impossible
  - Need for Parents to retain an interest in the Joint Venture
  - Need for Parents to share capital commitments and risks
Joint Ventures as a Means to Build the Energy Future

- U.S. Domestic Joint Ventures: Three Categories
  - Start-ups (e.g., DDCE)
    - Difficult to segregate or value “assets” to be contributed
    - Capital requirements difficult to predetermine
    - Continued involvement of Parents essential
  - Large Projects (e.g., Midcontinent Express Pipeline)
    - Need to share costs and development risks
    - Reduce financing costs through Parent guarantees
  - Strategic Partnerships (e.g., Motiva)
    - Advances the particular strategic interests of each Parent
    - Continued involvement of Parents essential

Joint Ventures as a Means to Build the Energy Future

- Material Issues
  - Defining the Business of the Joint Venture
    - Business Opportunities: The Joint Venture must not impair the other businesses of each Parent
    - Expansion Opportunities
      - Define which opportunities are permitted or mandatory
      - Require capital contributions to fund mandatory opportunities
  - Financing
    - If financing needs are not relatively certain at formation, consider the mechanism to trigger mandatory capital contributions
    - Are Parent guarantees required and, if so, what are the implications/consequences of a default under a Parent guarantee?
Joint Ventures as a Means to Build the Energy Future

Governance

• Typically managed by a Board of Parent representatives with each member voting its Parent’s percentage interest
• Even for a 50/50 Joint Venture consider matters that would require “supermajority” approval (e.g., budgets, capital calls, changes in business, issuing securities/debt, liens, litigation, amendments to governing documents, IPO, M&A, JVs, dissolution, bankruptcy, material agreements, affiliate contracts, etc.)
• Consider an independent Board member to break deadlocks on “routine” matters
• Start-ups and Strategic Partnerships typically have full-time officers and employees
• Consider independence of officers and employees when populated from Parents
• Large Projects often managed by a Parent (or even third party) under a services contract
  – Consider removal of manager and process to select replacement
  – Consider enforcement mechanisms and cross default implications

How will Deadlock be addressed, if at all?

• Good faith efforts by upper-management, then mediation, then an exit or ?
• Binding mediation can be useful for specific, technical matters or when an exit/termination is not reasonably possible (e.g., during construction)

Exit/Termination

• Start-ups: What happens if the business fails to develop as planned?
• Large Projects: What happens if Parents cannot get along?
• Strategic Partnerships: What happens when interests diverge?
• DLLCA §18-802 “not reasonably practical to carry on”

Common Exit/Termination Triggers

• Achievement of a specific goal or date or failure to achieve a goal
• Material Default
• Deadlock
• Change in Control
Joint Ventures as a Means to Build the Energy Future

- Common Exit/Termination Provisions
  - Sale Rights, usually subject to a RoFR or RoFO
    - Confidentiality provisions should allow third party diligence
    - Does a sale-down trigger a change in Operator?
  - Put/Call Options
    - If neither party at fault, highest bidder wins
    - If triggered by default or change in control, can be punitive (e.g., non-defaulting party has exclusive right to buy or sell at its discretion, defaulting party paid a discount to FMV and/or payments over time)
  - Right of Partition
  - Liquidation
    - If triggered by default or change in control, can be punitive (e.g., non-defaulting party controls sale, defaulting party paid a discount to FMV)

Joint Ventures as a Means to Build the Energy Future

- Exit/Termination Issues
  - When forming a Joint Venture, the parties should always prepare for possible Exit/Termination
  - Parties must ensure that the Joint Venture can continue its business following an exit/termination
    - Required IP must be assigned or licensed
    - Distribution, supply, services, leasing arrangements must be in place
    - Officers/employees serving dual roles must be designated/replaced
    - Non-competition agreements should be in place
    - Regulatory matters addressed (HSR, CFIUS)
    - Change in control implications to Joint Venture - all JV contracts should permit an existing Parent to take control
Financing Joint Ventures

The Transaction

1. A Parent’s special purpose subsidiary owns a Project in need of cash.
2. A Financial Institution advances funds to the SPE.
3. The SPE uses some of the funds to expand the Project and distributes the rest of the funds to the Parent.
4. The Parent uses some or all of its distribution to pay down its senior debt.
5. The Financial Institution is repaid from Project revenues pursuant to a contractual “waterfall” after (a) operating expenses are paid and (b) reserves are filled, but ahead of (c) further distributions to the Parent.
6. Distributions by the SPE “flip” (with the Financial Institution receiving only a nominal residual payment) once the return on, and return of, its funds advanced equals an agreed internal rate of return.
7. The SPE’s obligation to pay the Financial Institution is secured by liens and security interests in the Project, evidenced by mortgages and financial statements filed in the appropriate county, state, and federal registries.
Financing Joint Ventures

What just happened?

- Did the Financial Institution make a project finance loan with a small “equity kicker” under a project finance “carve out” in the Parent’s senior credit facility?
- No, the Financial Institution is an investor in a “Financing Joint Venture” (that may or may not need a carve out from the Parent’s senior credit facility) as follows:
  1. The Parent (Sponsor) contributes assets to an SPE.
  2. The Financial Institution (Investor) purchases an interest in the SPE, forming a Joint Venture.
  3. The [majority of the] purchase price is distributed to the Sponsor.
  4. The Investor owns a Class A preferred interest, and the Sponsor owns a Class B subordinated interest, in the ongoing revenues of the JV, subject to the IRR flip.
Issues:
Recharacterization

Recharacterization of Transaction as a Loan

- Actions to recharacterize usually arise in bankruptcy proceedings, but can arise in other contexts
  - Claims by SPE of usury to avoid making distributions (older cases—unlikely, under our scenario)
  - Other creditors of Sponsor, outside bankruptcy, want access to the value of the Project and claim the "loan" violated the negative covenants of Sponsor’s senior credit facility
- In documenting the Transaction, must pay careful attention to contractual and organizational details to lead a court to conclude the transaction is a “true sale” and investment and not a "disguised" loan

Issues:
Substantive consolidation

Substantive consolidation of SPE into Sponsor in Sponsor’s bankruptcy (not financial consolidation)

- An "equitable" doctrine that allows the court to combine assets and liabilities of entities:
  - That have conducted their businesses as a single entity
  - That have misled creditors regarding the entity responsible for particular obligations, or
  - Whose operations are hopelessly intertwined and thus are time-consuming and costly to separate
- Substantive consolidation may be avoided by maintaining strict separateness between Sponsor and SPE
  - Observe organizational, financial, contractual, and public formalities as distinct entities
Issues: Organizational Provisions

• Sponsor is often both (a) the Managing Member (or appoints a majority of the Board) and (b) the principal contract counterparty with the SPE

• Such dual roles create a conflict of interest when the Investor wants the SPE to enforce rights against the Sponsor (as the contract counterparty)
  – Provide “Step-In” Rights for Investor, triggered by:
    • Default by Sponsor under any Project Contract
    • Other defined Conflicts of Interest
    • Priority distributions fall below the “Downside Case” in the Project’s financial model for [___] consecutive quarters

• Sponsor indemnity for all pre-JV liabilities (“My Watch – Your Watch”)

• Sponsor indemnity for on-going JV liabilities (“Passive” Investor wants to be treated like a “Lender”) [Creates an obvious tension with characterization as a sale/investment]

Issues: Organizational Provisions (continued)

• “Corporate Opportunity” issues
  • Expansions/Follow-On Investments
  • Restrict Sponsor from forming a new entity to “cut out” Investor
  • Even if Investor does not want to participate, might require expansion or new investment to be done in the JV, with non-consent and dilution provisions
  – Areas of Mutual Interest, or Dedicated Areas, in which a member is restricted from pursuing competing transactions

• Sale of Member Interests, Assets, or Project
  – Rights of first offer/refusal (consider impact of restrictions on sales to competitors of Sponsor)
  – Drag Alongs, Tag-Alongs
  – If IRR Target hit, Sponsor usually has more freedom to negotiate a sale of the assets or Project, but maybe not its Member Interest
  – Restrictions on Investor’s sale of its Interest are often more lenient (but see comment above re: sales to Sponsor’s competitors)
**Issues: Project Contracts**

- With Sponsor:
  - Shift appropriate liabilities to the Sponsor (as contract counterparty)
    - Relieves the tension of putting an indemnity in the JV Agreement
  - Structure the Project Contract with long-term fixed payments to give Investor comfort that a minimum level of cash flow will be achieved

- Third Party Contracts
  - Sponsor negotiates, Investor approves, “major” contracts
  - Terms may be “better” for third party counterparty than under similar Sponsor contracts
    - If applicable, consider effect of regulatory “non-discrimination” requirements

**Issues: Protective Liens**

- Seems counter-intuitive; want to avoid characterization as a loan, but granting liens to secure payments of distributions by SPE to Investor is a “loan-type” provision. Then, why do it?:
  - Creates a disincentive for creditors of Sponsor to seek recharacterization
  - Even if recharacterized, Investor would be senior secured creditor

- Liens to be “effective” when granted, but “enforceable” only if the sale/investment nature of the Transaction is sought to be recharacterized

- **Note:** filing a financing statement can serve not only as evidence of a security interest, but also as evidence of a sale of certain types of property
  - Mortgages do not serve such dual roles
Issues: Opinions

For Sponsor and SPE:

- “Housekeeping” opinions - due authorization, etc.

- Non-contravention with:
  - Organizational Documents, Debt Documents, and Material Contracts

- Enforceability, including validity, perfection and enforceability of protective liens

- Bankruptcy Remoteness
  - True sale
  - Non-consolidation

About the Speaker:
Mark Spradling, Partner, Vinson & Elkins

Mark’s international business practice emphasizes finance and project development. He has had extensive experience in a broad array of commercial transactions, including acquisitions, sales, construction, development, management, leasing, and project, structured, and commercial financings of pipelines, storage facilities, power plants, chemical facilities, and commercial real property; entity formations; loan restructurings; and workouts. His clients include project developers, commercial and investment banks, insurance companies, energy companies, utilities, and individuals. Mark has been repeatedly recognized as an outstanding project finance lawyer by The Best Lawyers in America®, Chambers USA and Euromoney’s Guide to the World’s Leading Lawyers.

Education and Professional Background

Stanford University, J.D., 1980 (Order of the Coif; Associate Editor, Stanford Law Review)

Dartmouth College, A.B., summa cum laude and with highest distinction (History), 1977 (Phi Beta Kappa)

Judicial clerk to The Honorable Robert A. Ainsworth, Jr., U.S. Court of Appeals for the Fifth Circuit, 1980 – 1981

mspradling@velaw.com

Vinson & Elkins
First City Tower
1001 Fannin St.
Suite 2500
Houston, TX 77002

Tel 713.758.2828
Office Locations

- Austin
- Houston
- Dallas
- Washington
- New York
- London
- Moscow
- Abu Dhabi
- Beijing
- Tokyo
- Shanghai
- Hong Kong
The Prairie State Project

- Prairie State Energy Campus is a 2-unit, 1600 megawatt, coal-fueled, mine-mouth, power plant and coal mine facility currently under construction in Washington County, Illinois ("Prairie State Project").
  - Unit 1 is expected to achieve commercial operation in the 4th Quarter of 2011, and Unit 2 is expected to achieve commercial operation in the 2nd Quarter of 2012.
  - Construction of the coal mine is complete. The mine will provide 6 million tons of coal per year from a dedicated coal reserve providing in excess of 30 years of coal for the Prairie State Project.
  - A coal combustion residue disposal facility dedicated to the Prairie State Project will be complete in the 2nd Quarter of 2011.
  - All ancillary road, railroad, water, gas and transmission infrastructure necessary to support the Prairie State Project is complete.
  - Project total cost is approximately $5 Billion.
The Prairie State Project
Prairie State - History

- Peabody Energy initiated the development of the Prairie State Project in 2002. Along the way, additional power companies joined the development of the Prairie State Project under a Joint Development Agreement, until 2007, when nine independent entities formally joined together to make the project a reality. Construction formally broke ground on September 28, 2007.

- Prairie State is comprised of the following nine owners:
  - Indiana Municipal Power Agency
  - Illinois Municipal Electric Agency
  - Northern Illinois Municipal Power Agency
  - Kentucky Municipal Power Agency
  - Missouri Joint Municipal Electric Utility Commission
  - AMP 368, LLC, an affiliate of American Municipal Power
  - Southern Illinois Power Cooperative
  - Prairie Power, Inc.
  - Lively Grove Energy Partners, LLC, an affiliate of Peabody Energy

---

Prairie State Energy Campus – Project Organization Structure

Tenancy In Common
- IMPA 12.64%
- IMEA 15.17%
- NIMPA 7.90%
- MJMUC 12.33%
- KMPA 7.92%
- SIPC 7.99%
- PPI 8.22%
- AMP 23.26%
- LOEP 5.06%

Prairie State Energy Campus Management, Inc.
- Acts through Management Committee - Each Participant appoints 1 Rep & 1 Alt to PSECM
- Mirror Image of TIC Management Committee
- Governed by PSECM Bylaws

Prairie State Generating Company, LLC
- Single Member LLC – PSECM is sole member
- Governed by Operating Agreement
- Operates Assets via Project Management Agreement with Participants

Tenancy in Common owns all Assets – Each Participant owns its undivided percentage interest in the Assets, and is entitled to its respective share of energy, capacity and attributes of the Assets.

All management authority delegated to Management Committee comprised of 1 Rep & 1 Alt, appointed by each Participant.

Participation Agreement governs actions of TIC Management Committee.
Prairie State Project Structure

- Key Project Structure Elements:
  - Illinois law recognizes tenancy in common ownership structures for electric generation facilities (765 ILCS 1010/1).
    - This allows for undivided fractional ownership of all of the property, both real and personal, necessary for the entire project (i.e. the coal reserve, real estate, buildings, generation equipment, etc.).
    - The law allows for the waiver of the right to partition the property.
  - The Participation Agreement is the key project agreement, and establishes the rights and responsibilities among Participants.
    - All rights to construct, operate, maintain and administer the project have been irrevocably assigned and delegated to the Management Committee.
    - Each Participant appoints a Representative and Alternate to the Management Committee.

The Management Committee

- Management Committee is empowered to make all decisions regarding construction, equipping, designing, operating, maintaining and administering the Prairie State Project. Decision-making authority includes:
  - Execution, modification and administration (including enforcement and termination) of and compliance with, all contracts that are part of or relate to the Prairie State Project.
  - The pursuit and defense of claims and causes of action of any kind relating to the Prairie State Project, including the filing or defense of suits, appeals thereof, and settlement of claims and suits subject to the right of any Participant to conduct its own action in any litigation in which it is a party.
  - Establish subcommittees, meeting schedules, voting procedures and such other procedures as necessary.
  - The approval of all Capital Expense Budgets and all Operating Budgets and any amendments or modifications.
- No Participant may exercise control or management powers over the Prairie State Project.
The Management Committee

➤ Except for certain Non-Delegable Powers, Management Committee may delegate authority to manage & operate the Prairie State Project to:
  ▪ Project Companies (i.e. Prairie State Generating Company).
  ▪ Sub-Committees formed by the Management Committee.
  ▪ 3rd Parties via Project Agreements approved by the Management Committee.

➤ The Participation Agreement restricts the delegation of certain Non-Delegable powers:
  ▪ Approve budgets or changes; make expenditures not in a budget.
  ▪ Execute, amend or exercise remedies under Project Agreements.
  ▪ Select, replace or terminate key Project Company management employees.
  ▪ Take any action that has a Disproportionate Effect on a Participant.
  ▪ Take any action requiring a Supermajority Vote of Management Committee or any action that would result in a breach of the Participation Agreement.

Management Committee

➤ The Management Committee functions under the Participation Agreement similar to a board of directors:
  ▪ Each Participant has a voice on the Management Committee via each Participant's Representative and Alternate.
  ▪ Regular monthly meetings with standard voting, notice, and quorum requirements; open and transparent access to information and reports; common dispute resolution provisions.
  ▪ Voting is weighted based upon percentage of ownership interest in the project. On certain key issues, the Participation Agreement requires Supermajority Vote of 75% of the Percentage Ownership interest in the Project.
  ▪ The Management Committee has created several sub-committees in key areas of the Project (i.e. finance, HR, environmental, engineering, etc.) to establish a transparent structure in which key people from Participants' organizations and Prairie State staff can thoroughly explore important issues and recommend solutions to the Management Committee.
Project Companies - PSECM

- Two key project companies have been created by the Management Committee to administer the Project.

- Prairie State Energy Campus Management, Inc., ("PSECM") is an Indiana not-for profit company created to overcome unique complications arising out of various state constitutions and statutes affecting the numerous public power entities participating in the Prairie State Project.
  
  - PSECM serves as the sole member of Prairie State Generating Company, LLC.
  
  - PSECM is governed by Bylaws that are consistent with the Participation Agreement, and acts through a Management Committee that is a mirror image of the Management Committee created under the Participation Agreement.

Project Companies - PSGC

- Prairie State Generating Company, LLC ("PSGC") is a Delaware limited liability company, whose sole member is PSECM, and operates under an operating agreement consistent with the PSECM Bylaws and the Participation Agreement.

- PSGC is the key operating company managing the day-to-day operations of the Prairie State Project. PSGC retains all of the contractors and employees to construct, operate and maintain the Project, and is expected to employ in excess of 500 employees during full operation.

- The key agreement governing the PSGC’s operation and management of the Prairie State Project on behalf of the Participants is the Project Management Agreement ("PMA").
Project Management Agreement

The PMA basically is another operating agreement, under which the Participants have retained PSGC to operate and manage the Prairie State Project; however, no Participant may direct PSGC under Project Management Agreement. That authority has been delegated to the Management Committee under the Participation Agreement. PSGC services include:

- Schedule, coordinate and direct construction work, implement change orders, procurement of major equipment
- Conduct monthly progress meetings and prepare monthly progress reports for the Management Committee
- Administer project agreements and construction contracts
- Operate and maintain the coal mine, power plant and CCR facility.

PSGC has other obligations, including to:

- Keep the Participants informed of all material factors that may affect the Project
- Administer the performance of all of the Participants’ obligation under all Project Agreements
- Enforce the rights under the Project Agreements

Key Implementation Policies - PSGC

Management Committee establishes and amends Policies or Programs that apply to the performance of services by PSGC under the PMA. Key policies include:

- Delegation of Authority and Project Agreement Protocol
  - Empowers named officers and employees of PSGC to sign contracts, checks, and other documents.
  - Project Agreement Protocol establishes the scope of PSGC’s authority to execute, administer and enforce Project Agreements.

- Transmission, Market Participant, and Environmental Compliance Protocols

Management Committee may amend Policies and Programs.
Certain Participation Agreement Requirements

Management Committee

- Management Committee is empowered to make all decisions regarding construction, equipping, designing, operating, maintaining and administering the Project (3.2.1(a))
- Decisions include those relating to:
  - Execution, modification and administration (including enforcement and termination) of all contracts that are part of the Project or relate to the Project
  - The pursuit and defense of claims and causes of action of any kind relating to the Project, including the filing or defense of suits, appeals thereof, and settlement of claims and suits subject to the right of any Participant to conduct its own action in any litigation in which it is a party
  - The approval of all Capital Expense Budgets and all Operating Budgets and any amendments or modifications thereto
- No Participant may exercise control or management powers over Project (3.2.2)

Delegable and Non-Delegable Powers

- Except for certain Non-Delegable Powers, Management Committee may delegate (3.2.2):
  - To Administrative Committee
  - By entering into Project Agreements
- Non-Delegable powers include (3.2.2):
  - Approve budgets or changes thereto
  - Make expenditures not in a budget
  - Aggregate delays in the construction schedule of 30 days or more
  - **Execute, amend or exercise remedies under Project Agreements**
  - Select, replace or terminate a project manager, plant manager, mine manager or any CEO of a Project Company to whom a manager reports
  - Take any action that is a MAE or has a Disproportionate Effect on a Participant
  - Take any action requiring a Supermajority Vote of Management Committee
  - Take any action that would result in a breach of the Participation Agreement

Management Committee Meetings

- Each Participant shall use reasonable efforts to cause its Representative or Alternate to attend each Management Committee meeting, and no Participant shall withhold the presence or participation of its Representative or Alternate to prevent, delay or forestall decisions on matters under consideration by the Management Committee (3.2.3(b))
- Meetings may be conducted in person, by telephone or video conference call, or by other means acceptable to the Majority of the Participants (3.2.3(b))
The Management Committee shall meet at least (i) once each Month, until the commencement of the third Fiscal Year following the Substantial Completion Date, (ii) quarterly thereafter and (iii) at special meetings called by the Chair of the Management Committee (3.2.3(c))

- Any Participant may request a meeting by notifying the Chair and the Chair shall honor any such reasonable request of a Participant
- Prior to the Substantial Completion Date, the monthly Management Committee meeting must take place on or about the twentieth (20th) Day of a Month
- The Chair of the Management Committee shall provide written notice to each Authorized Representative stating the place (or means if by telephone conference or other means), date and hour of each meeting of the Management Committee, together with an agenda for the meeting, not less than five (5) Days before the date of the meeting nor more than ninety (90) Days before the date of the meeting (unless such notice is waived by a Supermajority Vote either at the meeting or by written consent)
- At least five (5) Days before each meeting (or if the meeting is called on shorter notice, as far in advance as is practicable under the circumstances), detailed information on the matters to be considered by the Management Committee will be provided to each Representative and Alternate
- Attendance of the Representative or Alternate of a Participant at a meeting of the Management Committee shall constitute a waiver of notification of the meeting by such Participant, except where such Representative or Alternate of a Participant attends for the express purpose of objecting to (x) the transaction of any business on the ground that the meeting is not called or convened in accordance with the requirements of the Participation Agreement or (y) the consideration of matters required to be included in the notification of the meeting but not so included, and any such objection is expressly made at the meeting

- The Management Committee may act only if a quorum is present, whether in person or by telephone, video or other means, including written proxy (3.2.3(f))
  - A quorum shall consist of the number of Representatives or Alternates that represent or have proxies for at least two thirds of the total Ownership Interest
  - Each Participant is entitled to vote (through its Representative (or Alternate) or by written proxy) in shares equal to its Percentage
  - A Participant may give the Representative or Alternate of another Participant a written proxy to vote on behalf of such Participant at any meeting of the Management Committee

- Except as provided otherwise in the Participation Agreement or by the written agreement of Participants representing at least all of the Ownership Interests of the Participants, all actions taken by the Management Committee shall be by a Majority Vote (3.2.3(g))
  - Majority Vote means a vote (including proxies) of the Participants’ Representatives (or Alternates) on the Management Committee representing greater than fifty percent (50%) of the Ownership Interests of all of the Participants (other than Disqualified Participants)
- All Management Committee approvals relating to Non-Delegable Powers shall require a Supermajority Vote (3.2.3(g))
Supermajority Vote means a vote (including by proxy) of the Participants’ Representatives (or Alternates) on the Management Committee representing at least seventy five percent (75%) of the Ownership Interests of the Participants (other than the Disqualified Participants); provided, however, that if the Percentage of any single Participant exceeds 25% then the percentage for a Supermajority Vote shall be reduced to an amount equal to 100% minus the sum of 2% plus the largest Percentage held by any Participant.

- Any action which may be taken by the Management Committee may be taken without a meeting if each Participant is given prior notice in writing or by telephone or facsimile transmission and a copy of the proposed consent, and a consent setting forth the action taken is executed by Representatives or Alternates representing sufficient interests (directly or through proxy) to have approved the action by a Supermajority Vote (3.2.3(h)).

- The Management Committee and the Participants will not, nor will the Management Committee or the Participants permit any Project Company, Operating Entity or other agent to: (a) amend or modify, or consent to the amendment or modification of, any of the Project Agreements to which it is a party or waive any material provision thereof; (b) terminate, replace or assign any or all of its interests in any Project Agreement; or (c) exercise any rights it may have to consent to any termination, replacement or assignment of any of the Project Agreements by any party thereto in each case, unless: (x) approved by a Supermajority Vote of the Management Committee; or (y) such action does not constitute a Material Adverse Effect (15.3.6).

**Approvals and Consents; Standards of Review; Good Faith**

- Unless the Participation Agreement specifically provides that a Participant’s approval or consent rights may be exercised in its sole discretion (or a similar standard), such approval or consent rights shall be exercised in good faith, with due diligence, and in a commercially reasonable manner and will not be unreasonably withheld, conditioned or delayed (18.6).
  - Each Participant agrees to attempt in good faith to resolve expeditiously any Dispute or Controversy concerning the exercise of approval or consent rights hereunder, but if any such Dispute or Controversy is not resolved among the Participants, then such dispute shall be resolved in accordance with the provisions contained in Article 17.

- Unless expressly provided to the contrary in such term or provision, the interpretation and application of each term and provision of the Participation Agreement shall be subject to the requirement that each Participant act reasonably and in compliance with the standards of good faith, and fair dealing provided by Applicable Law (18.11).

**Dispute Resolution (Article 17)**

- In the event of a Dispute or Controversy under the Participation Agreement, the Participants shall first attempt in good faith to settle and resolve such Dispute or Controversy by mutual agreement.
In the event a Dispute or Controversy, the Participant shall notify the other Participants of the Dispute or Controversy and that it has elected to implement the procedures set forth in this Section

- Within 15 Days after delivery of any such notice, the Management Committee (with all Participants specifically requested to attend) shall meet at a mutually agreed time and place and attempt, with diligence and good faith, to resolve and settle such Dispute or Controversy
- Should a mutual resolution and settlement not be obtained at such meeting or should no such meeting take place within such 15 Day period, then any Participant may by notice to the other Participants, refer the Dispute or Controversy to senior management of the Participants for resolution
- Within 15 Days after delivery of any such notice by a Participant to the other Participants referring such Dispute or Controversy to senior management of the Participants for resolution, representatives of senior management of each of the Participants shall meet at a mutually agreed upon time and place to attempt, with diligence and good faith, to resolve and settle such Dispute or Controversy
- Should mutual resolution and settlement not be obtained at the meeting of representatives of senior management of each of the Participants called for such purposes or should no such meeting take place within such 15 Day period (unless extended by mutual agreement), then any Participant may commence an action in, the United States District Court for the Central District of Illinois, located in Springfield

Project Companies

- PSECM was formed as a Project Company and Management Committee may form additional Project Companies
- A Project Company may:
  - Employ personnel to perform obligations
  - Enter into Project Agreements as agent for all Participants, including:
    - construction contracts
    - equipment supply contracts
    - interconnection agreements
    - plant/mine O&M agreements
    - operating agreements
- Participants may enter into operating agreements with Project Companies which may:
  - Empower Project Company to act as agent of the Participants
  - Contain limitations on ability to act as agent
- Matters presented to a Project Company’s board of directors shall be decided by majority vote, except that any issue required to be decided by a Supermajority Vote of the Management Committee will require a corresponding vote of the board of directors of a Project Company

Governance of PSGC and PSECM

- PSGC and PSECM are Project Companies
• PSECM owns all of the membership interests in PSGC
  o All of the Participants (or individuals or committees designated by them) are members
• PSEGC, as sole owner, manages PSGC
• PSEGC is managed by a board that is controlled by the Participants in proportion to their Percentages
• PSEGC By-laws establish a PSECM Management Committee
  o exercises all of the powers of the board and members
  o consists of one representative (or alternate) appointed by each member
  o Structure, meeting and voting requirements are same as Management Committee created under the Participation Agreement
  o Elects officers but Chair is the same as Chair under the Participation Agreement
• Management Committees appointed officers of PSGC

  Project Management Agreement

• Project Management Agreement entered into among Participants, PSGC and PSECM on September 28, 2007
  o Project Management Agreement constitutes an operating agreement
  o Management Committee under the Participation Agreement retained PSGC
  o Management Committee (and no individual Participant or group of Participants) may act under Project Management Agreement
• PSGC retained to perform services which, during the construction phase, include:
  o Coordinate and direct construction work
  o Implement change orders
  o Expedite procurement of major equipment
  o Prepare weekly site schedules and hold site coordination meetings
  o Conduct monthly progress meetings for Participants
  o Coordinate technical matters with the CM
  o Monitor construction schedule and inform Management Committee of changes
  o Prepare monthly progress reports for the Management Committee
  o Approve monthly progress estimates
  o Provide appropriate documents to governmental authorities
  o Administer and enforce rights under the construction contracts
• PSGC has other obligations, including to:
  o Keep the Participants informed of all material factors that may affect the Project
  o Administer the performance of all of the Participants’ obligation under all Project Agreements
  o Enforce the rights under the Project Agreements
• Management Committee has the right to establish and change the Policies or Programs that apply to the performance of the services

  Delegation of Authority and Project Agreement Protocol

• Management Committees approved Delegation of Authority and Project Agreement Protocol in accordance with Project Management Agreement
- 6 -

- Empowers named officers and employees to sign contracts, checks and other documents as set forth in and limited by the delegation
- Most recent delegation is dated July 10, 2009

- Project Agreement Protocol intended to identify scope of PSGC’s authority to:
  - Execute Project Agreements in its own name
  - Administer and enforce Project Agreements
  - Amend, terminate or waive material rights under the Project Agreements
  - Settle claims arising under Project Agreements

- Management Committee may amend Project Agreement Protocol from time to time
Presentation of
Mary Lehner, Mergers III Division, Bureau of Competition
Federal Trade Commission

At

Energy Bar Association’s Sixty-Fifth Annual Meeting

May 5, 2011
# Table of Contents

1. Overview ..................................................................................................................................... 1

2. Evidence of Adverse Competitive Effects .................................................................................. 2
   2.1 Types of Evidence................................................................................................................. 3
       2.1.1 Actual Effects Observed in Consummated Mergers ....................................................... 3
       2.1.2 Direct Comparisons Based on Experience................................................................. 3
       2.1.3 Market Shares and Concentration in a Relevant Market ............................................. 3
       2.1.4 Substantial Head-to-Head Competition ..................................................................... 3
       2.1.5 Disruptive Role of a Merging Party ........................................................................... 3
   2.2 Sources of Evidence.............................................................................................................. 4
       2.2.1 Merging Parties .......................................................................................................... 4
       2.2.2 Customers ................................................................................................................... 5
       2.2.3 Other Industry Participants and Observers ............................................................... 5

3. Targeted Customers and Price Discrimination ........................................................................... 6

4. Market Definition ........................................................................................................................ 7
   4.1 Product Market Definition .................................................................................................... 8
       4.1.1 The Hypothetical Monopolist Test ........................................................................... 8
       4.1.2 Benchmark Prices and SSNIP Size ......................................................................... 10
       4.1.3 Implementing the Hypothetical Monopolist Test ..................................................... 11
       4.1.4 Product Market Definition with Targeted Customers .............................................. 12
   4.2 Geographic Market Definition ............................................................................................ 13
       4.2.1 Geographic Markets Based on the Locations of Suppliers ....................................... 13
       4.2.2 Geographic Markets Based on the Locations of Customers ..................................... 14

5. Market Participants, Market Shares, and Market Concentration .............................................. 15
   5.1 Market Participants ............................................................................................................. 15
   5.2 Market Shares ..................................................................................................................... 16
   5.3 Market Concentration ......................................................................................................... 18

6. Unilateral Effects ......................................................................................................................... 20
   6.1 Pricing of Differentiated Products .................................................................................... 20
   6.2 Bargaining and Auctions .................................................................................................... 22
   6.3 Capacity and Output for Homogeneous Products ............................................................ 22
   6.4 Innovation and Product Variety ......................................................................................... 23

7. Coordinated Effects .................................................................................................................... 24
   7.1 Impact of Merger on Coordinated Interaction .................................................................. 25
   7.2 Evidence a Market is Vulnerable to Coordinated Conduct ............................................ 25

8. Powerful Buyers........................................................................................................................ 27
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.</td>
<td>Entry</td>
<td>27</td>
</tr>
<tr>
<td>9.1</td>
<td>Timeliness</td>
<td>29</td>
</tr>
<tr>
<td>9.2</td>
<td>Likelihood</td>
<td>29</td>
</tr>
<tr>
<td>9.3</td>
<td>Sufficiency</td>
<td>29</td>
</tr>
<tr>
<td>10.</td>
<td>Efficiencies</td>
<td>29</td>
</tr>
<tr>
<td>11.</td>
<td>Failure andExiting Assets</td>
<td>32</td>
</tr>
<tr>
<td>12.</td>
<td>Mergers of Competing Buyers</td>
<td>32</td>
</tr>
<tr>
<td>13.</td>
<td>Partial Acquisitions</td>
<td>33</td>
</tr>
</tbody>
</table>
1. Overview

These Guidelines outline the principal analytical techniques, practices, and the enforcement policy of the Department of Justice and the Federal Trade Commission (the “Agencies”) with respect to mergers and acquisitions involving actual or potential competitors (“horizontal mergers”) under the federal antitrust laws. The relevant statutory provisions include Section 7 of the Clayton Act, 15 U.S.C. § 18, Sections 1 and 2 of the Sherman Act, 15 U.S.C. §§ 1, 2, and Section 5 of the Federal Trade Commission Act, 15 U.S.C. § 45. Most particularly, Section 7 of the Clayton Act prohibits mergers if “in any line of commerce or in any activity affecting commerce in any section of the country, the effect of such acquisition may be substantially to lessen competition, or to tend to create a monopoly.”

The Agencies seek to identify and challenge competitively harmful mergers while avoiding unnecessary interference with mergers that are either competitively beneficial or neutral. Most merger analysis is necessarily predictive, requiring an assessment of what will likely happen if a merger proceeds as compared to what will likely happen if it does not. Given this inherent need for prediction, these Guidelines reflect the congressional intent that merger enforcement should interdict competitive problems in their incipiency and that certainty about anticompetitive effect is seldom possible and not required for a merger to be illegal.

These Guidelines describe the principal analytical techniques and the main types of evidence on which the Agencies usually rely to predict whether a horizontal merger may substantially lessen competition. They are not intended to describe how the Agencies analyze cases other than horizontal mergers. These Guidelines are intended to assist the business community and antitrust practitioners by increasing the transparency of the analytical process underlying the Agencies’ enforcement decisions. They may also assist the courts in developing an appropriate framework for interpreting and applying the antitrust laws in the horizontal merger context.

These Guidelines should be read with the awareness that merger analysis does not consist of uniform application of a single methodology. Rather, it is a fact-specific process through which the Agencies, guided by their extensive experience, apply a range of analytical tools to the reasonably available and reliable evidence to evaluate competitive concerns in a limited period of time. Where these Guidelines provide examples, they are illustrative and do not exhaust the applications of the relevant principle.

---

1 These Guidelines replace the Horizontal Merger Guidelines issued in 1992, revised in 1997. They reflect the ongoing accumulation of experience at the Agencies. The Commentary on the Horizontal Merger Guidelines issued by the Agencies in 2006 remains a valuable supplement to these Guidelines. These Guidelines may be revised from time to time as necessary to reflect significant changes in enforcement policy, to clarify existing policy, or to reflect new learning. These Guidelines do not cover vertical or other types of non-horizontal acquisitions.

2 These Guidelines are not intended to describe how the Agencies will conduct the litigation of cases they decide to bring. Although relevant in that context, these Guidelines neither dictate nor exhaust the range of evidence the Agencies may introduce in litigation.
The unifying theme of these Guidelines is that mergers should not be permitted to create, enhance, or entrench market power or to facilitate its exercise. For simplicity of exposition, these Guidelines generally refer to all of these effects as enhancing market power. A merger enhances market power if it is likely to encourage one or more firms to raise price, reduce output, diminish innovation, or otherwise harm customers as a result of diminished competitive constraints or incentives. In evaluating how a merger will likely change a firm’s behavior, the Agencies focus primarily on how the merger affects conduct that would be most profitable for the firm.

A merger can enhance market power simply by eliminating competition between the merging parties. This effect can arise even if the merger causes no changes in the way other firms behave. Adverse competitive effects arising in this manner are referred to as “unilateral effects.” A merger also can enhance market power by increasing the risk of coordinated, accommodating, or interdependent behavior among rivals. Adverse competitive effects arising in this manner are referred to as “coordinated effects.” In any given case, either or both types of effects may be present, and the distinction between them may be blurred.

These Guidelines principally describe how the Agencies analyze mergers between rival suppliers that may enhance their market power as sellers. Enhancement of market power by sellers often elevates the prices charged to customers. For simplicity of exposition, these Guidelines generally discuss the analysis in terms of such price effects. Enhanced market power can also be manifested in non-price terms and conditions that adversely affect customers, including reduced product quality, reduced product variety, reduced service, or diminished innovation. Such non-price effects may coexist with price effects, or can arise in their absence. When the Agencies investigate whether a merger may lead to a substantial lessening of non-price competition, they employ an approach analogous to that used to evaluate price competition. Enhanced market power may also make it more likely that the merged entity can profitably and effectively engage in exclusionary conduct. Regardless of how enhanced market power likely would be manifested, the Agencies normally evaluate mergers based on their impact on customers. The Agencies examine effects on either or both of the direct customers and the final consumers. The Agencies presume, absent convincing evidence to the contrary, that adverse effects on direct customers also cause adverse effects on final consumers.

Enhancement of market power by buyers, sometimes called “monopsony power,” has adverse effects comparable to enhancement of market power by sellers. The Agencies employ an analogous framework to analyze mergers between rival purchasers that may enhance their market power as buyers. See Section 12.

2. **Evidence of Adverse Competitive Effects**

The Agencies consider any reasonably available and reliable evidence to address the central question of whether a merger may substantially lessen competition. This section discusses several categories and sources of evidence that the Agencies, in their experience, have found most informative in predicting the likely competitive effects of mergers. The list provided here is not exhaustive. In any given case, reliable evidence may be available in only some categories or from some sources. For each category of evidence, the Agencies consider evidence indicating that the merger may enhance competition as well as evidence indicating that it may lessen competition.
2.1 Types of Evidence

2.1.1 Actual Effects Observed in Consummated Mergers

When evaluating a consummated merger, the ultimate issue is not only whether adverse competitive effects have already resulted from the merger, but also whether such effects are likely to arise in the future. Evidence of observed post-merger price increases or other changes adverse to customers is given substantial weight. The Agencies evaluate whether such changes are anticompetitive effects resulting from the merger, in which case they can be dispositive. However, a consummated merger may be anticompetitive even if such effects have not yet been observed, perhaps because the merged firm may be aware of the possibility of post-merger antitrust review and moderating its conduct. Consequently, the Agencies also consider the same types of evidence they consider when evaluating unconsummated mergers.

2.1.2 Direct Comparisons Based on Experience

The Agencies look for historical events, or “natural experiments,” that are informative regarding the competitive effects of the merger. For example, the Agencies may examine the impact of recent mergers, entry, expansion, or exit in the relevant market. Effects of analogous events in similar markets may also be informative.

The Agencies also look for reliable evidence based on variations among similar markets. For example, if the merging firms compete in some locales but not others, comparisons of prices charged in regions where they do and do not compete may be informative regarding post-merger prices. In some cases, however, prices are set on such a broad geographic basis that such comparisons are not informative. The Agencies also may examine how prices in similar markets vary with the number of significant competitors in those markets.

2.1.3 Market Shares and Concentration in a Relevant Market

The Agencies give weight to the merging parties’ market shares in a relevant market, the level of concentration, and the change in concentration caused by the merger. See Sections 4 and 5. Mergers that cause a significant increase in concentration and result in highly concentrated markets are presumed to be likely to enhance market power, but this presumption can be rebutted by persuasive evidence showing that the merger is unlikely to enhance market power.

2.1.4 Substantial Head-to-Head Competition

The Agencies consider whether the merging firms have been, or likely will become absent the merger, substantial head-to-head competitors. Such evidence can be especially relevant for evaluating adverse unilateral effects, which result directly from the loss of that competition. See Section 6. This evidence can also inform market definition. See Section 4.

2.1.5 Disruptive Role of a Merging Party

The Agencies consider whether a merger may lessen competition by eliminating a “maverick” firm, i.e., a firm that plays a disruptive role in the market to the benefit of customers. For example, if one of the merging firms has a strong incumbency position and the other merging firm threatens to
disrupt market conditions with a new technology or business model, their merger can involve the loss of actual or potential competition. Likewise, one of the merging firms may have the incentive to take the lead in price cutting or other competitive conduct or to resist increases in industry prices. A firm that may discipline prices based on its ability and incentive to expand production rapidly using available capacity also can be a maverick, as can a firm that has often resisted otherwise prevailing industry norms to cooperate on price setting or other terms of competition.

### 2.2 Sources of Evidence

The Agencies consider many sources of evidence in their merger analysis. The most common sources of reasonably available and reliable evidence are the merging parties, customers, other industry participants, and industry observers.

#### 2.2.1 Merging Parties

The Agencies typically obtain substantial information from the merging parties. This information can take the form of documents, testimony, or data, and can consist of descriptions of competitively relevant conditions or reflect actual business conduct and decisions. Documents created in the normal course are more probative than documents created as advocacy materials in merger review. Documents describing industry conditions can be informative regarding the operation of the market and how a firm identifies and assesses its rivals, particularly when business decisions are made in reliance on the accuracy of those descriptions. The business decisions taken by the merging firms also can be informative about industry conditions. For example, if a firm sets price well above incremental cost, that normally indicates either that the firm believes its customers are not highly sensitive to price (not in itself of antitrust concern, see Section 4.1.3\(^3\)) or that the firm and its rivals are engaged in coordinated interaction (see Section 7). Incremental cost depends on the relevant increment in output as well as on the time period involved, and in the case of large increments and sustained changes in output it may include some costs that would be fixed for smaller increments of output or shorter time periods.

Explicit or implicit evidence that the merging parties intend to raise prices, reduce output or capacity, reduce product quality or variety, withdraw products or delay their introduction, or curtail research and development efforts after the merger, or explicit or implicit evidence that the ability to engage in such conduct motivated the merger, can be highly informative in evaluating the likely effects of a merger. Likewise, the Agencies look for reliable evidence that the merger is likely to result in efficiencies. The Agencies give careful consideration to the views of individuals whose responsibilities, expertise, and experience relating to the issues in question provide particular indicia of reliability. The financial terms of the transaction may also be informative regarding competitive effects. For example, a purchase price in excess of the acquired firm’s stand-alone market value may indicate that the acquiring firm is paying a premium because it expects to be able to reduce competition or to achieve efficiencies.

---

\(^3\) High margins commonly arise for products that are significantly differentiated. Products involving substantial fixed costs typically will be developed only if suppliers expect there to be enough differentiation to support margins sufficient to cover those fixed costs. High margins can be consistent with incumbent firms earning competitive returns.
2.2.2 Customers

Customers can provide a variety of information to the Agencies, ranging from information about their own purchasing behavior and choices to their views about the effects of the merger itself.

Information from customers about how they would likely respond to a price increase, and the relative attractiveness of different products or suppliers, may be highly relevant, especially when corroborated by other evidence such as historical purchasing patterns and practices. Customers also can provide valuable information about the impact of historical events such as entry by a new supplier.

The conclusions of well-informed and sophisticated customers on the likely impact of the merger itself can also help the Agencies investigate competitive effects, because customers typically feel the consequences of both competitively beneficial and competitively harmful mergers. In evaluating such evidence, the Agencies are mindful that customers may oppose, or favor, a merger for reasons unrelated to the antitrust issues raised by that merger.

When some customers express concerns about the competitive effects of a merger while others view the merger as beneficial or neutral, the Agencies take account of this divergence in using the information provided by customers and consider the likely reasons for such divergence of views. For example, if for regulatory reasons some customers cannot buy imported products, while others can, a merger between domestic suppliers may harm the former customers even if it leaves the more flexible customers unharmed. See Section 3.

When direct customers of the merging firms compete against one another in a downstream market, their interests may not be aligned with the interests of final consumers, especially if the direct customers expect to pass on any anticompetitive price increase. A customer that is protected from adverse competitive effects by a long-term contract, or otherwise relatively immune from the merger’s harmful effects, may even welcome an anticompetitive merger that provides that customer with a competitive advantage over its downstream rivals.

Example 1: As a result of the merger, Customer C will experience a price increase for an input used in producing its final product, raising its costs. Customer C’s rivals use this input more intensively than Customer C, and the same price increase applied to them will raise their costs more than it raises Customer C’s costs. On balance, Customer C may benefit from the merger even though the merger involves a substantial lessening of competition.

2.2.3 Other Industry Participants and Observers

Suppliers, indirect customers, distributors, other industry participants, and industry analysts can also provide information helpful to a merger inquiry. The interests of firms selling products complementary to those offered by the merging firms often are well aligned with those of customers, making their informed views valuable.

Information from firms that are rivals to the merging parties can help illuminate how the market operates. The interests of rival firms often diverge from the interests of customers, since customers normally lose, but rival firms gain, if the merged entity raises its prices. For that reason, the Agencies do not routinely rely on the overall views of rival firms regarding the competitive effects of the
merger. However, rival firms may provide relevant facts, and even their overall views may be instructive, especially in cases where the Agencies are concerned that the merged entity may engage in exclusionary conduct.

*Example 2:* Merging Firms A and B operate in a market in which network effects are significant, implying that any firm’s product is significantly more valuable if it commands a large market share or if it is interconnected with others that in aggregate command such a share. Prior to the merger, they and their rivals voluntarily interconnect with one another. The merger would create an entity with a large enough share that a strategy of ending voluntary interconnection would have a dangerous probability of creating monopoly power in this market. The interests of rivals and of consumers would be broadly aligned in preventing such a merger.

### 3. Targeted Customers and Price Discrimination

When examining possible adverse competitive effects from a merger, the Agencies consider whether those effects vary significantly for different customers purchasing the same or similar products. Such differential impacts are possible when sellers can discriminate, e.g., by profitably raising price to certain targeted customers but not to others. The possibility of price discrimination influences market definition (see Section 4), the measurement of market shares (see Section 5), and the evaluation of competitive effects (see Sections 6 and 7).

When price discrimination is feasible, adverse competitive effects on targeted customers can arise, even if such effects will not arise for other customers. A price increase for targeted customers may be profitable even if a price increase for all customers would not be profitable because too many other customers would substitute away. When discrimination is reasonably likely, the Agencies may evaluate competitive effects separately by type of customer. The Agencies may have access to information unavailable to customers that is relevant to evaluating whether discrimination is reasonably likely.

For price discrimination to be feasible, two conditions typically must be met: differential pricing and limited arbitrage.

First, the suppliers engaging in price discrimination must be able to price differently to targeted customers than to other customers. This may involve identification of individual customers to which different prices are offered or offering different prices to different types of customers based on observable characteristics.

*Example 3:* Suppliers can distinguish large buyers from small buyers. Large buyers are more likely than small buyers to self-supply in response to a significant price increase. The merger may lead to price discrimination against small buyers, harming them, even if large buyers are not harmed. Such discrimination can occur even if there is no discrete gap in size between the classes of large and small buyers.

In other cases, suppliers may be unable to distinguish among different types of customers but can offer multiple products that sort customers based on their purchase decisions.

Second, the targeted customers must not be able to defeat the price increase of concern by arbitrage, e.g., by purchasing indirectly from or through other customers. Arbitrage may be difficult if it would void warranties or make service more difficult or costly for customers. Arbitrage is inherently impossible for many services. Arbitrage between customers at different geographic locations may be
impractical due to transportation costs. Arbitrage on a modest scale may be possible but sufficiently costly or limited that it would not deter or defeat a discriminatory pricing strategy.

4. Market Definition

When the Agencies identify a potential competitive concern with a horizontal merger, market definition plays two roles. First, market definition helps specify the line of commerce and section of the country in which the competitive concern arises. In any merger enforcement action, the Agencies will normally identify one or more relevant markets in which the merger may substantially lessen competition. Second, market definition allows the Agencies to identify market participants and measure market shares and market concentration. See Section 5. The measurement of market shares and market concentration is not an end in itself, but is useful to the extent it illuminates the merger’s likely competitive effects.

The Agencies’ analysis need not start with market definition. Some of the analytical tools used by the Agencies to assess competitive effects do not rely on market definition, although evaluation of competitive alternatives available to customers is always necessary at some point in the analysis.

Evidence of competitive effects can inform market definition, just as market definition can be informative regarding competitive effects. For example, evidence that a reduction in the number of significant rivals offering a group of products causes prices for those products to rise significantly can itself establish that those products form a relevant market. Such evidence also may more directly predict the competitive effects of a merger, reducing the role of inferences from market definition and market shares.

Where analysis suggests alternative and reasonably plausible candidate markets, and where the resulting market shares lead to very different inferences regarding competitive effects, it is particularly valuable to examine more direct forms of evidence concerning those effects.

Market definition focuses solely on demand substitution factors, i.e., on customers’ ability and willingness to substitute away from one product to another in response to a price increase or a corresponding non-price change such as a reduction in product quality or service. The responsive actions of suppliers are also important in competitive analysis. They are considered in these Guidelines in the sections addressing the identification of market participants, the measurement of market shares, the analysis of competitive effects, and entry.

Customers often confront a range of possible substitutes for the products of the merging firms. Some substitutes may be closer, and others more distant, either geographically or in terms of product attributes and perceptions. Additionally, customers may assess the proximity of different products differently. When products or suppliers in different geographic areas are substitutes for one another to varying degrees, defining a market to include some substitutes and exclude others is inevitably a simplification that cannot capture the full variation in the extent to which different products compete against each other. The principles of market definition outlined below seek to make this inevitable simplification as useful and informative as is practically possible. Relevant markets need not have precise metes and bounds.
Defining a market broadly to include relatively distant product or geographic substitutes can lead to misleading market shares. This is because the competitive significance of distant substitutes is unlikely to be commensurate with their shares in a broad market. Although excluding more distant substitutes from the market inevitably understates their competitive significance to some degree, doing so often provides a more accurate indicator of the competitive effects of the merger than would the alternative of including them and overstating their competitive significance as proportional to their shares in an expanded market.

Example 4: Firms A and B, sellers of two leading brands of motorcycles, propose to merge. If Brand A motorcycle prices were to rise, some buyers would substitute to Brand B, and some others would substitute to cars. However, motorcycle buyers see Brand B motorcycles as much more similar to Brand A motorcycles than are cars. Far more cars are sold than motorcycles. Evaluating shares in a market that includes cars would greatly underestimate the competitive significance of Brand B motorcycles in constraining Brand A’s prices and greatly overestimate the significance of cars.

Market shares of different products in narrowly defined markets are more likely to capture the relative competitive significance of these products, and often more accurately reflect competition between close substitutes. As a result, properly defined antitrust markets often exclude some substitutes to which some customers might turn in the face of a price increase even if such substitutes provide alternatives for those customers. However, a group of products is too narrow to constitute a relevant market if competition from products outside that group is so ample that even the complete elimination of competition within the group would not significantly harm either direct customers or downstream consumers. The hypothetical monopolist test (see Section 4.1.1) is designed to ensure that candidate markets are not overly narrow in this respect.

The Agencies implement these principles of market definition flexibly when evaluating different possible candidate markets. Relevant antitrust markets defined according to the hypothetical monopolist test are not always intuitive and may not align with how industry members use the term “market.”

Section 4.1 describes the principles that apply to product market definition, and gives guidance on how the Agencies most often apply those principles. Section 4.2 describes how the same principles apply to geographic market definition. Although discussed separately for simplicity of exposition, the principles described in Sections 4.1 and 4.2 are combined to define a relevant market, which has both a product and a geographic dimension. In particular, the hypothetical monopolist test is applied to a group of products together with a geographic region to determine a relevant market.

4.1 Product Market Definition

When a product sold by one merging firm (Product A) competes against one or more products sold by the other merging firm, the Agencies define a relevant product market around Product A to evaluate the importance of that competition. Such a relevant product market consists of a group of substitute products including Product A. Multiple relevant product markets may thus be identified.

4.1.1 The Hypothetical Monopolist Test

The Agencies employ the hypothetical monopolist test to evaluate whether groups of products in candidate markets are sufficiently broad to constitute relevant antitrust markets. The Agencies use the
hypothetical monopolist test to identify a set of products that are reasonably interchangeable with a product sold by one of the merging firms.

The hypothetical monopolist test requires that a product market contain enough substitute products so that it could be subject to post-merger exercise of market power significantly exceeding that existing absent the merger. Specifically, the test requires that a hypothetical profit-maximizing firm, not subject to price regulation, that was the only present and future seller of those products (“hypothetical monopolist”) likely would impose at least a small but significant and non-transitory increase in price (“SSNIP”) on at least one product in the market, including at least one product sold by one of the merging firms. For the purpose of analyzing this issue, the terms of sale of products outside the candidate market are held constant. The SSNIP is employed solely as a methodological tool for performing the hypothetical monopolist test; it is not a tolerance level for price increases resulting from a merger.

Groups of products may satisfy the hypothetical monopolist test without including the full range of substitutes from which customers choose. The hypothetical monopolist test may identify a group of products as a relevant market even if customers would substitute significantly to products outside that group in response to a price increase.

Example 5: Products A and B are being tested as a candidate market. Each sells for $100, has an incremental cost of $60, and sells 1200 units. For every dollar increase in the price of Product A, for any given price of Product B, Product A loses twenty units of sales to products outside the candidate market and ten units of sales to Product B, and likewise for Product B. Under these conditions, economic analysis shows that a hypothetical profit-maximizing monopolist controlling Products A and B would raise both of their prices by ten percent, to $110. Therefore, Products A and B satisfy the hypothetical monopolist test using a five percent SSNIP, and indeed for any SSNIP size up to ten percent. This is true even though two-thirds of the sales lost by one product when it raises its price are diverted to products outside the relevant market.

When applying the hypothetical monopolist test to define a market around a product offered by one of the merging firms, if the market includes a second product, the Agencies will normally also include a third product if that third product is a closer substitute for the first product than is the second product. The third product is a closer substitute if, in response to a SSNIP on the first product, greater revenues are diverted to the third product than to the second product.

Example 6: In Example 5, suppose that half of the unit sales lost by Product A when it raises its price are diverted to Product C, which also has a price of $100, while one-third are diverted to Product B. Product C is a closer substitute for Product A than is Product B. Thus Product C will normally be included in the relevant market, even though Products A and B together satisfy the hypothetical monopolist test.

The hypothetical monopolist test ensures that markets are not defined too narrowly, but it does not lead to a single relevant market. The Agencies may evaluate a merger in any relevant market

---

4 If the pricing incentives of the firms supplying the products in the candidate market differ substantially from those of the hypothetical monopolist, for reasons other than the latter’s control over a larger group of substitutes, the Agencies may instead employ the concept of a hypothetical profit-maximizing cartel comprised of the firms (with all their products) that sell the products in the candidate market. This approach is most likely to be appropriate if the merging firms sell products outside the candidate market that significantly affect their pricing incentives for products in the candidate market. This could occur, for example, if the candidate market is one for durable equipment and the firms selling that equipment derive substantial net revenues from selling spare parts and service for that equipment.
satisfying the test, guided by the overarching principle that the purpose of defining the market and measuring market shares is to illuminate the evaluation of competitive effects. Because the relative competitive significance of more distant substitutes is apt to be overstated by their share of sales, when the Agencies rely on market shares and concentration, they usually do so in the smallest relevant market satisfying the hypothetical monopolist test.

Example 7: In Example 4, including cars in the market will lead to misleadingly small market shares for motorcycle producers. Unless motorcycles fail the hypothetical monopolist test, the Agencies would not include cars in the market in analyzing this motorcycle merger.

4.1.2 Benchmark Prices and SSNIP Size

The Agencies apply the SSNIP starting from prices that would likely prevail absent the merger. If prices are not likely to change absent the merger, these benchmark prices can reasonably be taken to be the prices prevailing prior to the merger. If prices are likely to change absent the merger, e.g., because of innovation or entry, the Agencies may use anticipated future prices as the benchmark for the test. If prices might fall absent the merger due to the breakdown of pre-merger coordination, the Agencies may use those lower prices as the benchmark for the test. In some cases, the techniques employed by the Agencies to implement the hypothetical monopolist test focus on the difference in incentives between pre-merger firms and the hypothetical monopolist and do not require specifying the benchmark prices.

The SSNIP is intended to represent a “small but significant” increase in the prices charged by firms in the candidate market for the value they contribute to the products or services used by customers. This properly directs attention to the effects of price changes commensurate with those that might result from a significant lessening of competition caused by the merger. This methodology is used because normally it is possible to quantify “small but significant” adverse price effects on customers and analyze their likely reactions, not because price effects are more important than non-price effects.

The Agencies most often use a SSNIP of five percent of the price paid by customers for the products or services to which the merging firms contribute value. However, what constitutes a “small but significant” increase in price, commensurate with a significant loss of competition caused by the merger, depends upon the nature of the industry and the merging firms’ positions in it, and the Agencies may accordingly use a price increase that is larger or smaller than five percent. Where explicit or implicit prices for the firms’ specific contribution to value can be identified with reasonable clarity, the Agencies may base the SSNIP on those prices.

Example 8: In a merger between two oil pipelines, the SSNIP would be based on the price charged for transporting the oil, not on the price of the oil itself. If pipelines buy the oil at one end and sell it at the other, the price charged for transporting the oil is implicit, equal to the difference between the price paid for oil at the input end and the price charged for oil at the output end. The relevant product sold by the pipelines is better described as “pipeline transportation of oil from point A to point B” than as “oil at point B.”

---

5 Market definition for the evaluation of non-merger antitrust concerns such as monopolization or facilitating practices will differ in this respect if the effects resulting from the conduct of concern are already occurring at the time of evaluation.
Example 9: In a merger between two firms that install computers purchased from third parties, the SSNIP would be based on their fees, not on the price of installed computers. If these firms purchase the computers and charge their customers one package price, the implicit installation fee is equal to the package charge to customers less the price of the computers.

Example 10: In Example 9, suppose that the prices paid by the merging firms to purchase computers are opaque, but account for at least ninety-five percent of the prices they charge for installed computers, with profits or implicit fees making up five percent of those prices at most. A five percent SSNIP on the total price paid by customers would at least double those fees or profits. Even if that would be unprofitable for a hypothetical monopolist, a significant increase in fees might well be profitable. If the SSNIP is based on the total price paid by customers, a lower percentage will be used.

4.1.3 Implementing the Hypothetical Monopolist Test

The hypothetical monopolist’s incentive to raise prices depends both on the extent to which customers would likely substitute away from the products in the candidate market in response to such a price increase and on the profit margins earned on those products. The profit margin on incremental units is the difference between price and incremental cost on those units. The Agencies often estimate incremental costs, for example using merging parties’ documents or data the merging parties use to make business decisions. Incremental cost is measured over the change in output that would be caused by the price increase under consideration.

In considering customers’ likely responses to higher prices, the Agencies take into account any reasonably available and reliable evidence, including, but not limited to:

- how customers have shifted purchases in the past in response to relative changes in price or other terms and conditions;
- information from buyers, including surveys, concerning how they would respond to price changes;
- the conduct of industry participants, notably:
  - sellers’ business decisions or business documents indicating sellers’ informed beliefs concerning how customers would substitute among products in response to relative changes in price;
  - industry participants’ behavior in tracking and responding to price changes by some or all rivals;
- objective information about product characteristics and the costs and delays of switching products, especially switching from products in the candidate market to products outside the candidate market;
- the percentage of sales lost by one product in the candidate market, when its price alone rises, that is recaptured by other products in the candidate market, with a higher recapture percentage making a price increase more profitable for the hypothetical monopolist;
- evidence from other industry participants, such as sellers of complementary products;
• legal or regulatory requirements; and

• the influence of downstream competition faced by customers in their output markets.

When the necessary data are available, the Agencies also may consider a “critical loss analysis” to assess the extent to which it corroborates inferences drawn from the evidence noted above. Critical loss analysis asks whether imposing at least a SSNIP on one or more products in a candidate market would raise or lower the hypothetical monopolist’s profits. While this “breakeven” analysis differs from the profit-maximizing analysis called for by the hypothetical monopolist test in Section 4.1.1, merging parties sometimes present this type of analysis to the Agencies. A price increase raises profits on sales made at the higher price, but this will be offset to the extent customers substitute away from products in the candidate market. Critical loss analysis compares the magnitude of these two offsetting effects resulting from the price increase. The “critical loss” is defined as the number of lost unit sales that would leave profits unchanged. The “predicted loss” is defined as the number of unit sales that the hypothetical monopolist is predicted to lose due to the price increase. The price increase raises the hypothetical monopolist’s profits if the predicted loss is less than the critical loss.

The Agencies consider all of the evidence of customer substitution noted above in assessing the predicted loss. The Agencies require that estimates of the predicted loss be consistent with that evidence, including the pre-merger margins of products in the candidate market used to calculate the critical loss. Unless the firms are engaging in coordinated interaction (see Section 7), high pre-merger margins normally indicate that each firm’s product individually faces demand that is not highly sensitive to price. Higher pre-merger margins thus indicate a smaller predicted loss as well as a smaller critical loss. The higher the pre-merger margin, the smaller the recapture percentage necessary for the candidate market to satisfy the hypothetical monopolist test.

Even when the evidence necessary to perform the hypothetical monopolist test quantitatively is not available, the conceptual framework of the test provides a useful methodological tool for gathering and analyzing evidence pertinent to customer substitution and to market definition. The Agencies follow the hypothetical monopolist test to the extent possible given the available evidence, bearing in mind that the ultimate goal of market definition is to help determine whether the merger may substantially lessen competition.

4.1.4 Product Market Definition with Targeted Customers

If a hypothetical monopolist could profitably target a subset of customers for price increases, the Agencies may identify relevant markets defined around those targeted customers, to whom a hypothetical monopolist would profitably and separately impose at least a SSNIP. Markets to serve targeted customers are also known as price discrimination markets. In practice, the Agencies identify price discrimination markets only where they believe there is a realistic prospect of an adverse competitive effect on a group of targeted customers.

Example 11: Glass containers have many uses. In response to a price increase for glass containers, some users would substitute substantially to plastic or metal containers, but baby food manufacturers would not. If a

---

6 While margins are important for implementing the hypothetical monopolist test, high margins are not in themselves of antitrust concern.
The Agencies also often consider markets for targeted customers when prices are individually negotiated and suppliers have information about customers that would allow a hypothetical monopolist to identify customers that are likely to pay a higher price for the relevant product. If prices are negotiated individually with customers, the hypothetical monopolist test may suggest relevant markets that are as narrow as individual customers (see also Section 6.2 on bargaining and auctions). Nonetheless, the Agencies often define markets for groups of targeted customers, i.e., by type of customer, rather than by individual customer. By so doing, the Agencies are able to rely on aggregated market shares that can be more helpful in predicting the competitive effects of the merger.

4.2 Geographic Market Definition

The arena of competition affected by the merger may be geographically bounded if geography limits some customers’ willingness or ability to substitute to some products, or some suppliers’ willingness or ability to serve some customers. Both supplier and customer locations can affect this. The Agencies apply the principles of market definition described here and in Section 4.1 to define a relevant market with a geographic dimension as well as a product dimension.

The scope of geographic markets often depends on transportation costs. Other factors such as language, regulation, tariff and non-tariff trade barriers, custom and familiarity, reputation, and service availability may impede long-distance or international transactions. The competitive significance of foreign firms may be assessed at various exchange rates, especially if exchange rates have fluctuated in the recent past.

In the absence of price discrimination based on customer location, the Agencies normally define geographic markets based on the locations of suppliers, as explained in subsection 4.2.1. In other cases, notably if price discrimination based on customer location is feasible as is often the case when delivered pricing is commonly used in the industry, the Agencies may define geographic markets based on the locations of customers, as explained in subsection 4.2.2.

4.2.1 Geographic Markets Based on the Locations of Suppliers

Geographic markets based on the locations of suppliers encompass the region from which sales are made. Geographic markets of this type often apply when customers receive goods or services at suppliers’ locations. Competitors in the market are firms with relevant production, sales, or service facilities in that region. Some customers who buy from these firms may be located outside the boundaries of the geographic market.

The hypothetical monopolist test requires that a hypothetical profit-maximizing firm that was the only present or future producer of the relevant product(s) located in the region would impose at least a SSNIP from at least one location, including at least one location of one of the merging firms. In this exercise the terms of sale for all products produced elsewhere are held constant. A single firm may operate in a number of different geographic markets, even for a single product.
Example 12: The merging parties both have manufacturing plants in City X. The relevant product is expensive to transport and suppliers price their products for pickup at their locations. Rival plants are some distance away in City Y. A hypothetical monopolist controlling all plants in City X could profitably impose a SSNIP at these plants. Competition from more distant plants would not defeat the price increase because supplies coming from more distant plants require expensive transportation. The relevant geographic market is defined around the plants in City X.

When the geographic market is defined based on supplier locations, sales made by suppliers located in the geographic market are counted, regardless of the location of the customer making the purchase.

In considering likely reactions of customers to price increases for the relevant product(s) imposed in a candidate geographic market, the Agencies consider any reasonably available and reliable evidence, including:

- how customers have shifted purchases in the past between different geographic locations in response to relative changes in price or other terms and conditions;
- the cost and difficulty of transporting the product (or the cost and difficulty of a customer traveling to a seller’s location), in relation to its price;
- whether suppliers need a presence near customers to provide service or support;
- evidence on whether sellers base business decisions on the prospect of customers switching between geographic locations in response to relative changes in price or other competitive variables;
- the costs and delays of switching from suppliers in the candidate geographic market to suppliers outside the candidate geographic market; and
- the influence of downstream competition faced by customers in their output markets.

4.2.2 Geographic Markets Based on the Locations of Customers

When the hypothetical monopolist could discriminate based on customer location, the Agencies may define geographic markets based on the locations of targeted customers. Geographic markets of this type often apply when suppliers deliver their products or services to customers’ locations. Geographic markets of this type encompass the region into which sales are made. Competitors in the market are firms that sell to customers in the specified region. Some suppliers that sell into the relevant market may be located outside the boundaries of the geographic market.

The hypothetical monopolist test requires that a hypothetical profit-maximizing firm that was the only present or future seller of the relevant product(s) to customers in the region would impose at least a SSNIP on some customers in that region. A region forms a relevant geographic market if this price increase would not be defeated by substitution away from the relevant product or by arbitrage.

---

7 For customers operating in multiple locations, only those customer locations within the targeted zone are included in the market.
e.g., customers in the region travelling outside it to purchase the relevant product. In this exercise, the terms of sale for products sold to all customers outside the region are held constant.

*Example 13:* Customers require local sales and support. Suppliers have sales and service operations in many geographic areas and can discriminate based on customer location. The geographic market can be defined around the locations of customers.

*Example 14:* Each merging firm has a single manufacturing plant and delivers the relevant product to customers in City X and in City Y. The relevant product is expensive to transport. The merging firms’ plants are by far the closest to City X, but no closer to City Y than are numerous rival plants. This fact pattern suggests that customers in City X may be harmed by the merger even if customers in City Y are not. For that reason, the Agencies consider a relevant geographic market defined around customers in City X. Such a market could be defined even if the region around the merging firms’ plants would not be a relevant geographic market defined based on the location of sellers because a hypothetical monopolist controlling all plants in that region would find a SSNIP imposed on all of its customers unprofitable due to the loss of sales to customers in City Y.

When the geographic market is defined based on customer locations, sales made to those customers are counted, regardless of the location of the supplier making those sales.

*Example 15:* Customers in the United States must use products approved by U.S. regulators. Foreign customers use products not approved by U.S. regulators. The relevant product market consists of products approved by U.S. regulators. The geographic market is defined around U.S. customers. Any sales made to U.S. customers by foreign suppliers are included in the market, and those foreign suppliers are participants in the U.S. market even though located outside it.

5. **Market Participants, Market Shares, and Market Concentration**

The Agencies normally consider measures of market shares and market concentration as part of their evaluation of competitive effects. The Agencies evaluate market shares and concentration in conjunction with other reasonably available and reliable evidence for the ultimate purpose of determining whether a merger may substantially lessen competition.

Market shares can directly influence firms’ competitive incentives. For example, if a price reduction to gain new customers would also apply to a firm’s existing customers, a firm with a large market share may be more reluctant to implement a price reduction than one with a small share. Likewise, a firm with a large market share may not feel pressure to reduce price even if a smaller rival does.

Market shares also can reflect firms’ capabilities. For example, a firm with a large market share may be able to expand output rapidly by a larger absolute amount than can a small firm. Similarly, a large market share tends to indicate low costs, an attractive product, or both.

5.1 **Market Participants**

All firms that currently earn revenues in the relevant market are considered market participants. Vertically integrated firms are also included to the extent that their inclusion accurately reflects their competitive significance. Firms not currently earning revenues in the relevant market, but that have committed to entering the market in the near future, are also considered market participants.

Firms that are not current producers in a relevant market, but that would very likely provide rapid supply responses with direct competitive impact in the event of a SSNIP, without incurring
significant sunk costs, are also considered market participants. These firms are termed “rapid entrants.” Sunk costs are entry or exit costs that cannot be recovered outside the relevant market. Entry that would take place more slowly in response to adverse competitive effects, or that requires firms to incur significant sunk costs, is considered in Section 9.

Firms that produce the relevant product but do not sell it in the relevant geographic market may be rapid entrants. Other things equal, such firms are most likely to be rapid entrants if they are close to the geographic market.

Example 16: Farm A grows tomatoes halfway between Cities X and Y. Currently, it ships its tomatoes to City X because prices there are two percent higher. Previously it has varied the destination of its shipments in response to small price variations. Farm A would likely be a rapid entrant participant in a market for tomatoes in City Y.

Example 17: Firm B has bid multiple times to supply milk to School District S, and actually supplies milk to schools in some adjacent areas. It has never won a bid in School District S, but is well qualified to serve that district and has often nearly won. Firm B would be counted as a rapid entrant in a market for school milk in School District S.

More generally, if the relevant market is defined around targeted customers, firms that produce relevant products but do not sell them to those customers may be rapid entrants if they can easily and rapidly begin selling to the targeted customers.

Firms that clearly possess the necessary assets to supply into the relevant market rapidly may also be rapid entrants. In markets for relatively homogeneous goods where a supplier’s ability to compete depends predominantly on its costs and its capacity, and not on other factors such as experience or reputation in the relevant market, a supplier with efficient idle capacity, or readily available “swing” capacity currently used in adjacent markets that can easily and profitably be shifted to serve the relevant market, may be a rapid entrant. However, idle capacity may be inefficient, and capacity used in adjacent markets may not be available, so a firm’s possession of idle or swing capacity alone does not make that firm a rapid entrant.

5.2 Market Shares

The Agencies normally calculate market shares for all firms that currently produce products in the relevant market, subject to the availability of data. The Agencies also calculate market shares for other market participants if this can be done to reliably reflect their competitive significance.

Market concentration and market share data are normally based on historical evidence. However, recent or ongoing changes in market conditions may indicate that the current market share of a particular firm either understates or overstates the firm’s future competitive significance. The Agencies consider reasonably predictable effects of recent or ongoing changes in market conditions when calculating and interpreting market share data. For example, if a new technology that is important to long-term competitive viability is available to other firms in the market, but is not available to a particular firm, the Agencies may conclude that that firm’s historical market share

---

8 If this type of supply side substitution is nearly universal among the firms selling one or more of a group of products, the Agencies may use an aggregate description of markets for those products as a matter of convenience.
overstates its future competitive significance. The Agencies may project historical market shares into the foreseeable future when this can be done reliably.

The Agencies measure market shares based on the best available indicator of firms’ future competitive significance in the relevant market. This may depend upon the type of competitive effect being considered, and on the availability of data. Typically, annual data are used, but where individual transactions are large and infrequent so annual data may be unrepresentative, the Agencies may measure market shares over a longer period of time.

In most contexts, the Agencies measure each firm’s market share based on its actual or projected revenues in the relevant market. Revenues in the relevant market tend to be the best measure of attractiveness to customers, since they reflect the real-world ability of firms to surmount all of the obstacles necessary to offer products on terms and conditions that are attractive to customers. In cases where one unit of a low-priced product can substitute for one unit of a higher-priced product, unit sales may measure competitive significance better than revenues. For example, a new, much less expensive product may have great competitive significance if it substantially erodes the revenues earned by older, higher-priced products, even if it earns relatively few revenues. In cases where customers sign long-term contracts, face switching costs, or tend to re-evaluate their suppliers only occasionally, revenues earned from recently acquired customers may better reflect the competitive significance of suppliers than do total revenues.

In markets for homogeneous products, a firm’s competitive significance may derive principally from its ability and incentive to rapidly expand production in the relevant market in response to a price increase or output reduction by others in that market. As a result, a firm’s competitive significance may depend upon its level of readily available capacity to serve the relevant market if that capacity is efficient enough to make such expansion profitable. In such markets, capacities or reserves may better reflect the future competitive significance of suppliers than revenues, and the Agencies may calculate market shares using those measures. Market participants that are not current producers may then be assigned positive market shares, but only if a measure of their competitive significance properly comparable to that of current producers is available. When market shares are measured based on firms’ readily available capacities, the Agencies do not include capacity that is committed or so profitably employed outside the relevant market, or so high-cost, that it would not likely be used to respond to a SSNIP in the relevant market.

Example 18: The geographic market is defined around customers in the United States. Firm X produces the relevant product outside the United States, and most of its sales are made to customers outside the United States. In most contexts, Firm X’s market share will be based on its sales to U.S. customers, not its total sales or total capacity. However, if the relevant product is homogeneous, and if Firm X would significantly expand sales to U.S. customers rapidly and without incurring significant sunk costs in response to a SSNIP, the Agencies may base Firm X’s market share on its readily available capacity to serve U.S. customers.

When the Agencies define markets serving targeted customers, these same principles are used to measure market shares, as they apply to those customers. In most contexts, each firm’s market share is based on its actual or projected revenues from the targeted customers. However, the Agencies may instead measure market shares based on revenues from a broader group of customers if doing so would more accurately reflect the competitive significance of different suppliers in the relevant market. Revenues earned from a broader group of customers may also be used when better data are thereby available.
5.3 Market Concentration

Market concentration is often one useful indicator of likely competitive effects of a merger. In evaluating market concentration, the Agencies consider both the post-merger level of market concentration and the change in concentration resulting from a merger. Market shares may not fully reflect the competitive significance of firms in the market or the impact of a merger. They are used in conjunction with other evidence of competitive effects. See Sections 6 and 7.

In analyzing mergers between an incumbent and a recent or potential entrant, to the extent the Agencies use the change in concentration to evaluate competitive effects, they will do so using projected market shares. A merger between an incumbent and a potential entrant can raise significant competitive concerns. The lessening of competition resulting from such a merger is more likely to be substantial, the larger is the market share of the incumbent, the greater is the competitive significance of the potential entrant, and the greater is the competitive threat posed by this potential entrant relative to others.

The Agencies give more weight to market concentration when market shares have been stable over time, especially in the face of historical changes in relative prices or costs. If a firm has retained its market share even after its price has increased relative to those of its rivals, that firm already faces limited competitive constraints, making it less likely that its remaining rivals will replace the competition lost if one of that firm’s important rivals is eliminated due to a merger. By contrast, even a highly concentrated market can be very competitive if market shares fluctuate substantially over short periods of time in response to changes in competitive offerings. However, if competition by one of the merging firms has significantly contributed to these fluctuations, perhaps because it has acted as a maverick, the Agencies will consider whether the merger will enhance market power by combining that firm with one of its significant rivals.

The Agencies may measure market concentration using the number of significant competitors in the market. This measure is most useful when there is a gap in market share between significant competitors and smaller rivals or when it is difficult to measure revenues in the relevant market. The Agencies also may consider the combined market share of the merging firms as an indicator of the extent to which others in the market may not be able readily to replace competition between the merging firms that is lost through the merger.

The Agencies often calculate the Herfindahl-Hirschman Index (“HHI”) of market concentration. The HHI is calculated by summing the squares of the individual firms’ market shares, and thus gives proportionately greater weight to the larger market shares. When using the HHI, the Agencies

---

9 For example, a market consisting of four firms with market shares of thirty percent, thirty percent, twenty percent, and twenty percent has an HHI of 2600 (30^2 + 30^2 + 20^2 + 20^2 = 2600). The HHI ranges from 10,000 (in the case of a pure monopoly) to a number approaching zero (in the case of an atomistic market). Although it is desirable to include all firms in the calculation, lack of information about firms with small shares is not critical because such firms do not affect the HHI significantly.
consider both the post-merger level of the HHI and the increase in the HHI resulting from the merger. The increase in the HHI is equal to twice the product of the market shares of the merging firms.\textsuperscript{10}

Based on their experience, the Agencies generally classify markets into three types:

- Unconcentrated Markets: HHI below 1500
- Moderately Concentrated Markets: HHI between 1500 and 2500
- Highly Concentrated Markets: HHI above 2500

The Agencies employ the following general standards for the relevant markets they have defined:

- \textit{Small Change in Concentration}: Mergers involving an increase in the HHI of less than 100 points are unlikely to have adverse competitive effects and ordinarily require no further analysis.

- \textit{Unconcentrated Markets}: Mergers resulting in unconcentrated markets are unlikely to have adverse competitive effects and ordinarily require no further analysis.

- \textit{Moderately Concentrated Markets}: Mergers resulting in moderately concentrated markets that involve an increase in the HHI of more than 100 points potentially raise significant competitive concerns and often warrant scrutiny.

- \textit{Highly Concentrated Markets}: Mergers resulting in highly concentrated markets that involve an increase in the HHI of between 100 points and 200 points potentially raise significant competitive concerns and often warrant scrutiny. Mergers resulting in highly concentrated markets that involve an increase in the HHI of more than 200 points will be presumed to be likely to enhance market power. The presumption may be rebutted by persuasive evidence showing that the merger is unlikely to enhance market power.

The purpose of these thresholds is not to provide a rigid screen to separate competitively benign mergers from anticompetitive ones, although high levels of concentration do raise concerns. Rather, they provide one way to identify some mergers unlikely to raise competitive concerns and some others for which it is particularly important to examine whether other competitive factors confirm, reinforce, or counteract the potentially harmful effects of increased concentration. The higher the post-merger HHI and the increase in the HHI, the greater are the Agencies’ potential competitive concerns and the greater is the likelihood that the Agencies will request additional information to conduct their analysis.

\footnote{For example, the merger of firms with shares of five percent and ten percent of the market would increase the HHI by 100 (5 \times 10 \times 2 = 100).}
6. Unilateral Effects

The elimination of competition between two firms that results from their merger may alone constitute a substantial lessening of competition. Such unilateral effects are most apparent in a merger to monopoly in a relevant market, but are by no means limited to that case. Whether cognizable efficiencies resulting from the merger are likely to reduce or reverse adverse unilateral effects is addressed in Section 10.

Several common types of unilateral effects are discussed in this section. Section 6.1 discusses unilateral price effects in markets with differentiated products. Section 6.2 discusses unilateral effects in markets where sellers negotiate with buyers or prices are determined through auctions. Section 6.3 discusses unilateral effects relating to reductions in output or capacity in markets for relatively homogeneous products. Section 6.4 discusses unilateral effects arising from diminished innovation or reduced product variety. These effects do not exhaust the types of possible unilateral effects; for example, exclusionary unilateral effects also can arise.

A merger may result in different unilateral effects along different dimensions of competition. For example, a merger may increase prices in the short term but not raise longer-term concerns about innovation, either because rivals will provide sufficient innovation competition or because the merger will generate cognizable research and development efficiencies. See Section 10.

6.1 Pricing of Differentiated Products

In differentiated product industries, some products can be very close substitutes and compete strongly with each other, while other products are more distant substitutes and compete less strongly. For example, one high-end product may compete much more directly with another high-end product than with any low-end product.

A merger between firms selling differentiated products may diminish competition by enabling the merged firm to profit by unilaterally raising the price of one or both products above the pre-merger level. Some of the sales lost due to the price rise will merely be diverted to the product of the merger partner and, depending on relative margins, capturing such sales loss through merger may make the price increase profitable even though it would not have been profitable prior to the merger.

The extent of direct competition between the products sold by the merging parties is central to the evaluation of unilateral price effects. Unilateral price effects are greater, the more the buyers of products sold by one merging firm consider products sold by the other merging firm to be their next choice. The Agencies consider any reasonably available and reliable information to evaluate the extent of direct competition between the products sold by the merging firms. This includes documentary and testimonial evidence, win/loss reports and evidence from discount approval processes, customer switching patterns, and customer surveys. The types of evidence relied on often overlap substantially with the types of evidence of customer substitution relevant to the hypothetical monopolist test. See Section 4.1.1.

Substantial unilateral price elevation post-merger for a product formerly sold by one of the merging firms normally requires that a significant fraction of the customers purchasing that product view
products formerly sold by the other merging firm as their next-best choice. However, unless pre-merger margins between price and incremental cost are low, that significant fraction need not approach a majority. For this purpose, incremental cost is measured over the change in output that would be caused by the price change considered. A merger may produce significant unilateral effects for a given product even though many more sales are diverted to products sold by non-merging firms than to products previously sold by the merger partner.

*Example 19:* In Example 5, the merged entity controlling Products A and B would raise prices ten percent, given the product offerings and prices of other firms. In that example, one-third of the sales lost by Product A when its price alone is raised are diverted to Product B. Further analysis is required to account for repositioning, entry, and efficiencies.

In some cases, the Agencies may seek to quantify the extent of direct competition between a product sold by one merging firm and a second product sold by the other merging firm by estimating the diversion ratio from the first product to the second product. The diversion ratio is the fraction of unit sales lost by the first product due to an increase in its price that would be diverted to the second product. Diversion ratios between products sold by one merging firm and products sold by the other merging firm can be very informative for assessing unilateral price effects, with higher diversion ratios indicating a greater likelihood of such effects. Diversion ratios between products sold by merging firms and those sold by non-merging firms have at most secondary predictive value.

Adverse unilateral price effects can arise when the merger gives the merged entity an incentive to raise the price of a product previously sold by one merging firm and thereby divert sales to products previously sold by the other merging firm, boosting the profits on the latter products. Taking as given other prices and product offerings, that boost to profits is equal to the value to the merged firm of the sales diverted to those products. The value of sales diverted to a product is equal to the number of units diverted to that product multiplied by the margin between price and incremental cost on that product. In some cases, where sufficient information is available, the Agencies assess the value of diverted sales, which can serve as an indicator of the upward pricing pressure on the first product resulting from the merger. Diagnosing unilateral price effects based on the value of diverted sales need not rely on market definition or the calculation of market shares and concentration. The Agencies rely much more on the value of diverted sales than on the level of the HHI for diagnosing unilateral price effects in markets with differentiated products. If the value of diverted sales is proportionately small, significant unilateral price effects are unlikely.  

Where sufficient data are available, the Agencies may construct economic models designed to quantify the unilateral price effects resulting from the merger. These models often include independent price responses by non-merging firms. They also can incorporate merger-specific efficiencies. These merger simulation methods need not rely on market definition. The Agencies do not treat merger simulation evidence as conclusive in itself, and they place more weight on whether their merger simulations consistently predict substantial price increases than on the precise prediction of any single simulation.

---

11 For this purpose, the value of diverted sales is measured in proportion to the lost revenues attributable to the reduction in unit sales resulting from the price increase. Those lost revenues equal the reduction in the number of units sold of that product multiplied by that product’s price.
A merger is unlikely to generate substantial unilateral price increases if non-merging parties offer very close substitutes for the products offered by the merging firms. In some cases, non-merging firms may be able to reposition their products to offer close substitutes for the products offered by the merging firms. Repositioning is a supply-side response that is evaluated much like entry, with consideration given to timeliness, likelihood, and sufficiency. See Section 9. The Agencies consider whether repositioning would be sufficient to deter or counteract what otherwise would be significant anticompetitive unilateral effects from a differentiated products merger.

6.2 Bargaining and Auctions

In many industries, especially those involving intermediate goods and services, buyers and sellers negotiate to determine prices and other terms of trade. In that process, buyers commonly negotiate with more than one seller, and may play sellers off against one another. Some highly structured forms of such competition are known as auctions. Negotiations often combine aspects of an auction with aspects of one-on-one negotiation, although pure auctions are sometimes used in government procurement and elsewhere.

A merger between two competing sellers prevents buyers from playing those sellers off against each other in negotiations. This alone can significantly enhance the ability and incentive of the merged entity to obtain a result more favorable to it, and less favorable to the buyer, than the merging firms would have offered separately absent the merger. The Agencies analyze unilateral effects of this type using similar approaches to those described in Section 6.1.

Anticompetitive unilateral effects in these settings are likely in proportion to the frequency or probability with which, prior to the merger, one of the merging sellers had been the runner-up when the other won the business. These effects also are likely to be greater, the greater advantage the runner-up merging firm has over other suppliers in meeting customers’ needs. These effects also tend to be greater, the more profitable were the pre-merger winning bids. All of these factors are likely to be small if there are many equally placed bidders.

The mechanisms of these anticompetitive unilateral effects, and the indicia of their likelihood, differ somewhat according to the bargaining practices used, the auction format, and the sellers’ information about one another’s costs and about buyers’ preferences. For example, when the merging sellers are likely to know which buyers they are best and second best placed to serve, any anticompetitive unilateral effects are apt to be targeted at those buyers; when sellers are less well informed, such effects are more apt to be spread over a broader class of buyers.

6.3 Capacity and Output for Homogeneous Products

In markets involving relatively undifferentiated products, the Agencies may evaluate whether the merged firm will find it profitable unilaterally to suppress output and elevate the market price. A firm may leave capacity idle, refrain from building or obtaining capacity that would have been obtained absent the merger, or eliminate pre-existing production capabilities. A firm may also divert the use of capacity away from one relevant market and into another so as to raise the price in the former market. The competitive analyses of these alternative modes of output suppression may differ.
A unilateral output suppression strategy is more likely to be profitable when (1) the merged firm’s market share is relatively high; (2) the share of the merged firm’s output already committed for sale at prices unaffected by the output suppression is relatively low; (3) the margin on the suppressed output is relatively low; (4) the supply responses of rivals are relatively small; and (5) the market elasticity of demand is relatively low.

A merger may provide the merged firm a larger base of sales on which to benefit from the resulting price rise, or it may eliminate a competitor that otherwise could have expanded its output in response to the price rise.

Example 20: Firms A and B both produce an industrial commodity and propose to merge. The demand for this commodity is insensitive to price. Firm A is the market leader. Firm B produces substantial output, but its operating margins are low because it operates high-cost plants. The other suppliers are operating very near capacity. The merged firm has an incentive to reduce output at the high-cost plants, perhaps shutting down some of that capacity, thus driving up the price it receives on the remainder of its output. The merger harms customers, notwithstanding that the merged firm shifts some output from high-cost plants to low-cost plants.

In some cases, a merger between a firm with a substantial share of the sales in the market and a firm with significant excess capacity to serve that market can make an output suppression strategy profitable.12 This can occur even if the firm with the excess capacity has a relatively small share of sales, if that firm’s ability to expand, and thus keep price from rising, has been making an output suppression strategy unprofitable for the firm with the larger market share.

### 6.4 Innovation and Product Variety

Competition often spurs firms to innovate. The Agencies may consider whether a merger is likely to diminish innovation competition by encouraging the merged firm to curtail its innovative efforts below the level that would prevail in the absence of the merger. That curtailment of innovation could take the form of reduced incentive to continue with an existing product-development effort or reduced incentive to initiate development of new products.

The first of these effects is most likely to occur if at least one of the merging firms is engaging in efforts to introduce new products that would capture substantial revenues from the other merging firm. The second, longer-run effect is most likely to occur if at least one of the merging firms has capabilities that are likely to lead it to develop new products in the future that would capture substantial revenues from the other merging firm. The Agencies therefore also consider whether a merger will diminish innovation competition by combining two of a very small number of firms with the strongest capabilities to successfully innovate in a specific direction.

The Agencies evaluate the extent to which successful innovation by one merging firm is likely to take sales from the other, and the extent to which post-merger incentives for future innovation will be lower than those that would prevail in the absence of the merger. The Agencies also consider whether the merger is likely to enable innovation that would not otherwise take place, by bringing together

---

12 Such a merger also can cause adverse coordinated effects, especially if the acquired firm with excess capacity was disrupting effective coordination.
complementary capabilities that cannot be otherwise combined or for some other merger-specific reason. See Section 10.

The Agencies also consider whether a merger is likely to give the merged firm an incentive to cease offering one of the relevant products sold by the merging parties. Reductions in variety following a merger may or may not be anticompetitive. Mergers can lead to the efficient consolidation of products when variety offers little in value to customers. In other cases, a merger may increase variety by encouraging the merged firm to reposition its products to be more differentiated from one another.

If the merged firm would withdraw a product that a significant number of customers strongly prefer to those products that would remain available, this can constitute a harm to customers over and above any effects on the price or quality of any given product. If there is evidence of such an effect, the Agencies may inquire whether the reduction in variety is largely due to a loss of competitive incentives attributable to the merger. An anticompetitive incentive to eliminate a product as a result of the merger is greater and more likely, the larger is the share of profits from that product coming at the expense of profits from products sold by the merger partner. Where a merger substantially reduces competition by bringing two close substitute products under common ownership, and one of those products is eliminated, the merger will often also lead to a price increase on the remaining product, but that is not a necessary condition for anticompetitive effect.

Example 21: Firm A sells a high-end product at a premium price. Firm B sells a mid-range product at a lower price, serving customers who are more price sensitive. Several other firms have low-end products. Firms A and B together have a large share of the relevant market. Firm A proposes to acquire Firm B and discontinue Firm B’s product. Firm A expects to retain most of Firm B’s customers. Firm A may not find it profitable to raise the price of its high-end product after the merger, because doing so would reduce its ability to retain Firm B’s more price-sensitive customers. The Agencies may conclude that the withdrawal of Firm B’s product results from a loss of competition and materially harms customers.

7. Coordinated Effects

A merger may diminish competition by enabling or encouraging post-merger coordinated interaction among firms in the relevant market that harms customers. Coordinated interaction involves conduct by multiple firms that is profitable for each of them only as a result of the accommodating reactions of the others. These reactions can blunt a firm’s incentive to offer customers better deals by undercutting the extent to which such a move would win business away from rivals. They also can enhance a firm’s incentive to raise prices, by assuaging the fear that such a move would lose customers to rivals.

Coordinated interaction includes a range of conduct. Coordinated interaction can involve the explicit negotiation of a common understanding of how firms will compete or refrain from competing. Such conduct typically would itself violate the antitrust laws. Coordinated interaction also can involve a similar common understanding that is not explicitly negotiated but would be enforced by the detection and punishment of deviations that would undermine the coordinated interaction. Coordinated interaction alternatively can involve parallel accommodating conduct not pursuant to a prior understanding. Parallel accommodating conduct includes situations in which each rival’s response to competitive moves made by others is individually rational, and not motivated by
retaliation or deterrence nor intended to sustain an agreed-upon market outcome, but nevertheless emboldens price increases and weakens competitive incentives to reduce prices or offer customers better terms. Coordinated interaction includes conduct not otherwise condemned by the antitrust laws.

The ability of rival firms to engage in coordinated conduct depends on the strength and predictability of rivals’ responses to a price change or other competitive initiative. Under some circumstances, a merger can result in market concentration sufficient to strengthen such responses or enable multiple firms in the market to predict them more confidently, thereby affecting the competitive incentives of multiple firms in the market, not just the merged firm.

7.1 Impact of Merger on Coordinated Interaction

The Agencies examine whether a merger is likely to change the manner in which market participants interact, inducing substantially more coordinated interaction. The Agencies seek to identify how a merger might significantly weaken competitive incentives through an increase in the strength, extent, or likelihood of coordinated conduct. There are, however, numerous forms of coordination, and the risk that a merger will induce adverse coordinated effects may not be susceptible to quantification or detailed proof. Therefore, the Agencies evaluate the risk of coordinated effects using measures of market concentration (see Section 5) in conjunction with an assessment of whether a market is vulnerable to coordinated conduct. See Section 7.2. The analysis in Section 7.2 applies to moderately and highly concentrated markets, as unconcentrated markets are unlikely to be vulnerable to coordinated conduct.

Pursuant to the Clayton Act’s incipiency standard, the Agencies may challenge mergers that in their judgment pose a real danger of harm through coordinated effects, even without specific evidence showing precisely how the coordination likely would take place. The Agencies are likely to challenge a merger if the following three conditions are all met: (1) the merger would significantly increase concentration and lead to a moderately or highly concentrated market; (2) that market shows signs of vulnerability to coordinated conduct (see Section 7.2); and (3) the Agencies have a credible basis on which to conclude that the merger may enhance that vulnerability. An acquisition eliminating a maverick firm (see Section 2.1.5) in a market vulnerable to coordinated conduct is likely to cause adverse coordinated effects.

7.2 Evidence a Market is Vulnerable to Coordinated Conduct

The Agencies presume that market conditions are conducive to coordinated interaction if firms representing a substantial share in the relevant market appear to have previously engaged in express collusion affecting the relevant market, unless competitive conditions in the market have since changed significantly. Previous express collusion in another geographic market will have the same weight if the salient characteristics of that other market at the time of the collusion are comparable to those in the relevant market. Failed previous attempts at collusion in the relevant market suggest that successful collusion was difficult pre-merger but not so difficult as to deter attempts, and a merger may tend to make success more likely. Previous collusion or attempted collusion in another product market may also be given substantial weight if the salient characteristics of that other market at the time of the collusion are closely comparable to those in the relevant market.
A market typically is more vulnerable to coordinated conduct if each competitively important firm’s significant competitive initiatives can be promptly and confidently observed by that firm’s rivals. This is more likely to be the case if the terms offered to customers are relatively transparent. Price transparency can be greater for relatively homogeneous products. Even if terms of dealing are not transparent, transparency regarding the identities of the firms serving particular customers can give rise to coordination, e.g., through customer or territorial allocation. Regular monitoring by suppliers of one another’s prices or customers can indicate that the terms offered to customers are relatively transparent.

A market typically is more vulnerable to coordinated conduct if a firm’s prospective competitive reward from attracting customers away from its rivals will be significantly diminished by likely responses of those rivals. This is more likely to be the case, the stronger and faster are the responses the firm anticipates from its rivals. The firm is more likely to anticipate strong responses if there are few significant competitors, if products in the relevant market are relatively homogeneous, if customers find it relatively easy to switch between suppliers, or if suppliers use meeting-competition clauses.

A firm is more likely to be deterred from making competitive initiatives by whatever responses occur if sales are small and frequent rather than via occasional large and long-term contracts or if relatively few customers will switch to it before rivals are able to respond. A firm is less likely to be deterred by whatever responses occur if the firm has little stake in the status quo. For example, a firm with a small market share that can quickly and dramatically expand, constrained neither by limits on production nor by customer reluctance to switch providers or to entrust business to a historically small provider, is unlikely to be deterred. Firms are also less likely to be deterred by whatever responses occur if competition in the relevant market is marked by leapfrogging technological innovation, so that responses by competitors leave the gains from successful innovation largely intact.

A market is more apt to be vulnerable to coordinated conduct if the firm initiating a price increase will lose relatively few customers after rivals respond to the increase. Similarly, a market is more apt to be vulnerable to coordinated conduct if a firm that first offers a lower price or improved product to customers will retain relatively few customers thus attracted away from its rivals after those rivals respond.

The Agencies regard coordinated interaction as more likely, the more the participants stand to gain from successful coordination. Coordination generally is more profitable, the lower is the market elasticity of demand.

Coordinated conduct can harm customers even if not all firms in the relevant market engage in the coordination, but significant harm normally is likely only if a substantial part of the market is subject to such conduct. The prospect of harm depends on the collective market power, in the relevant market, of firms whose incentives to compete are substantially weakened by coordinated conduct. This collective market power is greater, the lower is the market elasticity of demand. This collective market power is diminished by the presence of other market participants with small market shares and little stake in the outcome resulting from the coordinated conduct, if these firms can rapidly expand their sales in the relevant market.
Buyer characteristics and the nature of the procurement process can affect coordination. For example, sellers may have the incentive to bid aggressively for a large contract even if they expect strong responses by rivals. This is especially the case for sellers with small market shares, if they can realistically win such large contracts. In some cases, a large buyer may be able to strategically undermine coordinated conduct, at least as it pertains to that buyer’s needs, by choosing to put up for bid a few large contracts rather than many smaller ones, and by making its procurement decisions opaque to suppliers.

8. Powerful Buyers

Powerful buyers are often able to negotiate favorable terms with their suppliers. Such terms may reflect the lower costs of serving these buyers, but they also can reflect price discrimination in their favor.

The Agencies consider the possibility that powerful buyers may constrain the ability of the merging parties to raise prices. This can occur, for example, if powerful buyers have the ability and incentive to vertically integrate upstream or sponsor entry, or if the conduct or presence of large buyers undermines coordinated effects. However, the Agencies do not presume that the presence of powerful buyers alone forestalls adverse competitive effects flowing from the merger. Even buyers that can negotiate favorable terms may be harmed by an increase in market power. The Agencies examine the choices available to powerful buyers and how those choices likely would change due to the merger. Normally, a merger that eliminates a supplier whose presence contributed significantly to a buyer’s negotiating leverage will harm that buyer.

Example 22: Customer C has been able to negotiate lower pre-merger prices than other customers by threatening to shift its large volume of purchases from one merging firm to the other. No other suppliers are as well placed to meet Customer C’s needs for volume and reliability. The merger is likely to harm Customer C. In this situation, the Agencies could identify a price discrimination market consisting of Customer C and similarly placed customers. The merger threatens to end previous price discrimination in their favor.

Furthermore, even if some powerful buyers could protect themselves, the Agencies also consider whether market power can be exercised against other buyers.

Example 23: In Example 22, if Customer C instead obtained the lower pre-merger prices based on a credible threat to supply its own needs, or to sponsor new entry, Customer C might not be harmed. However, even in this case, other customers may still be harmed.

9. Entry

The analysis of competitive effects in Sections 6 and 7 focuses on current participants in the relevant market. That analysis may also include some forms of entry. Firms that would rapidly and easily enter the market in response to a SSNIP are market participants and may be assigned market shares. See Sections 5.1 and 5.2. Firms that have, prior to the merger, committed to entering the market also will normally be treated as market participants. See Section 5.1. This section concerns entry or adjustments to pre-existing entry plans that are induced by the merger.
As part of their full assessment of competitive effects, the Agencies consider entry into the relevant market. The prospect of entry into the relevant market will alleviate concerns about adverse competitive effects only if such entry will deter or counteract any competitive effects of concern so the merger will not substantially harm customers.

The Agencies consider the actual history of entry into the relevant market and give substantial weight to this evidence. Lack of successful and effective entry in the face of non-transitory increases in the margins earned on products in the relevant market tends to suggest that successful entry is slow or difficult. Market values of incumbent firms greatly exceeding the replacement costs of their tangible assets may indicate that these firms have valuable intangible assets, which may be difficult or time consuming for an entrant to replicate.

A merger is not likely to enhance market power if entry into the market is so easy that the merged firm and its remaining rivals in the market, either unilaterally or collectively, could not profitably raise price or otherwise reduce competition compared to the level that would prevail in the absence of the merger. Entry is that easy if entry would be timely, likely, and sufficient in its magnitude, character, and scope to deter or counteract the competitive effects of concern.

The Agencies examine the timeliness, likelihood, and sufficiency of the entry efforts an entrant might practically employ. An entry effort is defined by the actions the firm must undertake to produce and sell in the market. Various elements of the entry effort will be considered. These elements can include: planning, design, and management; permitting, licensing, or other approvals; construction, debugging, and operation of production facilities; and promotion (including necessary introductory discounts), marketing, distribution, and satisfaction of customer testing and qualification requirements. Recent examples of entry, whether successful or unsuccessful, generally provide the starting point for identifying the elements of practical entry efforts. They also can be informative regarding the scale necessary for an entrant to be successful, the presence or absence of entry barriers, the factors that influence the timing of entry, the costs and risk associated with entry, and the sales opportunities realistically available to entrants.

If the assets necessary for an effective and profitable entry effort are widely available, the Agencies will not necessarily attempt to identify which firms might enter. Where an identifiable set of firms appears to have necessary assets that others lack, or to have particularly strong incentives to enter, the Agencies focus their entry analysis on those firms. Firms operating in adjacent or complementary markets, or large customers themselves, may be best placed to enter. However, the Agencies will not presume that a powerful firm in an adjacent market or a large customer will enter the relevant market unless there is reliable evidence supporting that conclusion.

In assessing whether entry will be timely, likely, and sufficient, the Agencies recognize that precise and detailed information may be difficult or impossible to obtain. The Agencies consider reasonably available and reliable evidence bearing on whether entry will satisfy the conditions of timeliness, likelihood, and sufficiency.
9.1 Timeliness

In order to deter the competitive effects of concern, entry must be rapid enough to make unprofitable overall the actions causing those effects and thus leading to entry, even though those actions would be profitable until entry takes effect.

Even if the prospect of entry does not deter the competitive effects of concern, post-merger entry may counteract them. This requires that the impact of entrants in the relevant market be rapid enough that customers are not significantly harmed by the merger, despite any anticompetitive harm that occurs prior to the entry.

The Agencies will not presume that an entrant can have a significant impact on prices before that entrant is ready to provide the relevant product to customers unless there is reliable evidence that anticipated future entry would have such an effect on prices.

9.2 Likelihood

Entry is likely if it would be profitable, accounting for the assets, capabilities, and capital needed and the risks involved, including the need for the entrant to incur costs that would not be recovered if the entrant later exits. Profitability depends upon (a) the output level the entrant is likely to obtain, accounting for the obstacles facing new entrants; (b) the price the entrant would likely obtain in the post-merger market, accounting for the impact of that entry itself on prices; and (c) the cost per unit the entrant would likely incur, which may depend upon the scale at which the entrant would operate.

9.3 Sufficiency

Even where timely and likely, entry may not be sufficient to deter or counteract the competitive effects of concern. For example, in a differentiated product industry, entry may be insufficient because the products offered by entrants are not close enough substitutes to the products offered by the merged firm to render a price increase by the merged firm unprofitable. Entry may also be insufficient due to constraints that limit entrants’ competitive effectiveness, such as limitations on the capabilities of the firms best placed to enter or reputational barriers to rapid expansion by new entrants. Entry by a single firm that will replicate at least the scale and strength of one of the merging firms is sufficient. Entry by one or more firms operating at a smaller scale may be sufficient if such firms are not at a significant competitive disadvantage.

10. Efficiencies

Competition usually spurs firms to achieve efficiencies internally. Nevertheless, a primary benefit of mergers to the economy is their potential to generate significant efficiencies and thus enhance the merged firm’s ability and incentive to compete, which may result in lower prices, improved quality, enhanced service, or new products. For example, merger-generated efficiencies may enhance competition by permitting two ineffective competitors to form a more effective competitor, e.g., by combining complementary assets. In a unilateral effects context, incremental cost reductions may reduce or reverse any increases in the merged firm’s incentive to elevate price. Efficiencies also may lead to new or improved products, even if they do not immediately and directly affect price. In a
coordinated effects context, incremental cost reductions may make coordination less likely or
effective by enhancing the incentive of a maverick to lower price or by creating a new maverick firm.
Even when efficiencies generated through a merger enhance a firm’s ability to compete, however, a
merger may have other effects that may lessen competition and make the merger anticompetitive.

The Agencies credit only those efficiencies likely to be accomplished with the proposed merger and
unlikely to be accomplished in the absence of either the proposed merger or another means having
comparable anticompetitive effects. These are termed merger-specific efficiencies.13 Only
alternatives that are practical in the business situation faced by the merging firms are considered in
making this determination. The Agencies do not insist upon a less restrictive alternative that is merely
theoretical.

Efficiencies are difficult to verify and quantify, in part because much of the information relating to
efficiencies is uniquely in the possession of the merging firms. Moreover, efficiencies projected
reasonably and in good faith by the merging firms may not be realized. Therefore, it is incumbent
upon the merging firms to substantiate efficiency claims so that the Agencies can verify by
reasonable means the likelihood and magnitude of each asserted efficiency, how and when each
would be achieved (and any costs of doing so), how each would enhance the merged firm’s ability
and incentive to compete, and why each would be merger-specific.

Efficiency claims will not be considered if they are vague, speculative, or otherwise cannot be
verified by reasonable means. Projections of efficiencies may be viewed with skepticism, particularly
when generated outside of the usual business planning process. By contrast, efficiency claims
substantiated by analogous past experience are those most likely to be credited.

Cognizable efficiencies are merger-specific efficiencies that have been verified and do not arise from
anticompetitive reductions in output or service. Cognizable efficiencies are assessed net of costs
produced by the merger or incurred in achieving those efficiencies.

The Agencies will not challenge a merger if cognizable efficiencies are of a character and magnitude
such that the merger is not likely to be anticompetitive in any relevant market.14 To make the requisite
determination, the Agencies consider whether cognizable efficiencies likely would be sufficient to
reverse the merger’s potential to harm customers in the relevant market, e.g., by preventing price

13 The Agencies will not deem efficiencies to be merger-specific if they could be attained by practical alternatives that
mitigate competitive concerns, such as divestiture or licensing. If a merger affects not whether but only when an
efficiency would be achieved, only the timing advantage is a merger-specific efficiency.

14 The Agencies normally assess competition in each relevant market affected by a merger independently and normally
will challenge the merger if it is likely to be anticompetitive in any relevant market. In some cases, however, the
Agencies in their prosecutorial discretion will consider efficiencies not strictly in the relevant market, but so
inextricably linked with it that a partial divestiture or other remedy could not feasibly eliminate the anticompetitive
effect in the relevant market without sacrificing the efficiencies in the other market(s). Inextricably linked
efficiencies are most likely to make a difference when they are great and the likely anticompetitive effect in the
relevant market(s) is small so the merger is likely to benefit customers overall.
increases in that market. In conducting this analysis, the Agencies will not simply compare the magnitude of the cognizable efficiencies with the magnitude of the likely harm to competition absent the efficiencies. The greater the potential adverse competitive effect of a merger, the greater must be the cognizable efficiencies, and the more they must be passed through to customers, for the Agencies to conclude that the merger will not have an anticompetitive effect in the relevant market. When the potential adverse competitive effect of a merger is likely to be particularly substantial, extraordinarily great cognizable efficiencies would be necessary to prevent the merger from being anticompetitive. In adhering to this approach, the Agencies are mindful that the antitrust laws give competition, not internal operational efficiency, primacy in protecting customers.

In the Agencies’ experience, efficiencies are most likely to make a difference in merger analysis when the likely adverse competitive effects, absent the efficiencies, are not great. Efficiencies almost never justify a merger to monopoly or near-monopoly. Just as adverse competitive effects can arise along multiple dimensions of conduct, such as pricing and new product development, so too can efficiencies operate along multiple dimensions. Similarly, purported efficiency claims based on lower prices can be undermined if they rest on reductions in product quality or variety that customers value.

The Agencies have found that certain types of efficiencies are more likely to be cognizable and substantial than others. For example, efficiencies resulting from shifting production among facilities formerly owned separately, which enable the merging firms to reduce the incremental cost of production, are more likely to be susceptible to verification and are less likely to result from anticompetitive reductions in output. Other efficiencies, such as those relating to research and development, are potentially substantial but are generally less susceptible to verification and may be the result of anticompetitive output reductions. Yet others, such as those relating to procurement, management, or capital cost, are less likely to be merger-specific or substantial, or may not be cognizable for other reasons.

When evaluating the effects of a merger on innovation, the Agencies consider the ability of the merged firm to conduct research or development more effectively. Such efficiencies may spur innovation but not affect short-term pricing. The Agencies also consider the ability of the merged firm to appropriate a greater fraction of the benefits resulting from its innovations. Licensing and intellectual property conditions may be important to this enquiry, as they affect the ability of a firm to appropriate the benefits of its innovation. Research and development cost savings may be substantial and yet not be cognizable efficiencies because they are difficult to verify or result from anticompetitive reductions in innovative activities.

The Agencies normally give the most weight to the results of this analysis over the short term. The Agencies also may consider the effects of cognizable efficiencies with no short-term, direct effect on prices in the relevant market. Delayed benefits from efficiencies (due to delay in the achievement of, or the realization of customer benefits from, the efficiencies) will be given less weight because they are less proximate and more difficult to predict. Efficiencies relating to costs that are fixed in the short term are unlikely to benefit customers in the short term, but can benefit customers in the longer run, e.g., if they make new product introduction less expensive.
11. Failure and Exiting Assets

Notwithstanding the analysis above, a merger is not likely to enhance market power if imminent failure, as defined below, of one of the merging firms would cause the assets of that firm to exit the relevant market. This is an extreme instance of the more general circumstance in which the competitive significance of one of the merging firms is declining: the projected market share and significance of the exiting firm is zero. If the relevant assets would otherwise exit the market, customers are not worse off after the merger than they would have been had the merger been enjoined.

The Agencies do not normally credit claims that the assets of the failing firm would exit the relevant market unless all of the following circumstances are met: (1) the allegedly failing firm would be unable to meet its financial obligations in the near future; (2) it would not be able to reorganize successfully under Chapter 11 of the Bankruptcy Act; and (3) it has made unsuccessful good-faith efforts to elicit reasonable alternative offers that would keep its tangible and intangible assets in the relevant market and pose a less severe danger to competition than does the proposed merger.¹⁶

Similarly, a merger is unlikely to cause competitive harm if the risks to competition arise from the acquisition of a failing division. The Agencies do not normally credit claims that the assets of a division would exit the relevant market unless both of the following conditions are met: (1) applying cost allocation rules that reflect true economic costs, the division has a persistently negative cash flow on an operating basis, and such negative cash flow is not economically justified for the firm by benefits such as added sales in complementary markets or enhanced customer goodwill;¹⁷ and (2) the owner of the failing division has made unsuccessful good-faith efforts to elicit reasonable alternative offers that would keep its tangible and intangible assets in the relevant market and pose a less severe danger to competition than does the proposed acquisition.

12. Mergers of Competing Buyers

Mergers of competing buyers can enhance market power on the buying side of the market, just as mergers of competing sellers can enhance market power on the selling side of the market. Buyer market power is sometimes called “monopsony power.”

To evaluate whether a merger is likely to enhance market power on the buying side of the market, the Agencies employ essentially the framework described above for evaluating whether a merger is likely to enhance market power on the selling side of the market. In defining relevant markets, the Agencies

¹⁶ Any offer to purchase the assets of the failing firm for a price above the liquidation value of those assets will be regarded as a reasonable alternative offer. Liquidation value is the highest value the assets could command for use outside the relevant market.

¹⁷ Because the parent firm can allocate costs, revenues, and intra-company transactions among itself and its subsidiaries and divisions, the Agencies require evidence on these two points that is not solely based on management plans that could have been prepared for the purpose of demonstrating negative cash flow or the prospect of exit from the relevant market.
focus on the alternatives available to sellers in the face of a decrease in the price paid by a hypothetical monopsonist.

Market power on the buying side of the market is not a significant concern if suppliers have numerous attractive outlets for their goods or services. However, when that is not the case, the Agencies may conclude that the merger of competing buyers is likely to lessen competition in a manner harmful to sellers.

The Agencies distinguish between effects on sellers arising from a lessening of competition and effects arising in other ways. A merger that does not enhance market power on the buying side of the market can nevertheless lead to a reduction in prices paid by the merged firm, for example, by reducing transactions costs or allowing the merged firm to take advantage of volume-based discounts. Reduction in prices paid by the merging firms not arising from the enhancement of market power can be significant in the evaluation of efficiencies from a merger, as discussed in Section 10.

The Agencies do not view a short-run reduction in the quantity purchased as the only, or best, indicator of whether a merger enhances buyer market power. Nor do the Agencies evaluate the competitive effects of mergers between competing buyers strictly, or even primarily, on the basis of effects in the downstream markets in which the merging firms sell.

Example 24: Merging Firms A and B are the only two buyers in the relevant geographic market for an agricultural product. Their merger will enhance buyer power and depress the price paid to farmers for this product, causing a transfer of wealth from farmers to the merged firm and inefficiently reducing supply. These effects can arise even if the merger will not lead to any increase in the price charged by the merged firm for its output.

13. Partial Acquisitions

In most horizontal mergers, two competitors come under common ownership and control, completely and permanently eliminating competition between them. This elimination of competition is a basic element of merger analysis. However, the statutory provisions referenced in Section 1 also apply to one firm’s partial acquisition of a competitor. The Agencies therefore also review acquisitions of minority positions involving competing firms, even if such minority positions do not necessarily or completely eliminate competition between the parties to the transaction.

When the Agencies determine that a partial acquisition results in effective control of the target firm, or involves substantially all of the relevant assets of the target firm, they analyze the transaction much as they do a merger. Partial acquisitions that do not result in effective control may nevertheless present significant competitive concerns and may require a somewhat distinct analysis from that applied to full mergers or to acquisitions involving effective control. The details of the post-acquisition relationship between the parties, and how those details are likely to affect competition, can be important. While the Agencies will consider any way in which a partial acquisition may affect competition, they generally focus on three principal effects.

First, a partial acquisition can lessen competition by giving the acquiring firm the ability to influence the competitive conduct of the target firm. A voting interest in the target firm or specific governance rights, such as the right to appoint members to the board of directors, can permit such influence. Such
influence can lessen competition because the acquiring firm can use its influence to induce the target firm to compete less aggressively or to coordinate its conduct with that of the acquiring firm.

Second, a partial acquisition can lessen competition by reducing the incentive of the acquiring firm to compete. Acquiring a minority position in a rival might significantly blunt the incentive of the acquiring firm to compete aggressively because it shares in the losses thereby inflicted on that rival. This reduction in the incentive of the acquiring firm to compete arises even if cannot influence the conduct of the target firm. As compared with the unilateral competitive effect of a full merger, this effect is likely attenuated by the fact that the ownership is only partial.

Third, a partial acquisition can lessen competition by giving the acquiring firm access to non-public, competitively sensitive information from the target firm. Even absent any ability to influence the conduct of the target firm, access to competitively sensitive information can lead to adverse unilateral or coordinated effects. For example, it can enhance the ability of the two firms to coordinate their behavior, and make other accommodating responses faster and more targeted. The risk of coordinated effects is greater if the transaction also facilitates the flow of competitively sensitive information from the acquiring firm to the target firm.

Partial acquisitions, like mergers, vary greatly in their potential for anticompetitive effects. Accordingly, the specific facts of each case must be examined to assess the likelihood of harm to competition. While partial acquisitions usually do not enable many of the types of efficiencies associated with mergers, the Agencies consider whether a partial acquisition is likely to create cognizable efficiencies.
Antitrust Guidelines for Collaborations Among Competitors

Issued by the Federal Trade Commission and the U.S. Department of Justice

April 2000
# ANTITRUST GUIDELINES FOR COLLABORATIONS AMONG COMPETITORS

## TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PREAMBLE</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>SECTION 1: PURPOSE, DEFINITIONS, AND OVERVIEW</strong></td>
<td>2</td>
</tr>
<tr>
<td>1.1 Purpose and Definitions</td>
<td>2</td>
</tr>
<tr>
<td>1.2 Overview of Analytical Framework</td>
<td>3</td>
</tr>
<tr>
<td>1.3 Competitor Collaborations Distinguished from Mergers</td>
<td>5</td>
</tr>
<tr>
<td><strong>SECTION 2: GENERAL PRINCIPLES FOR EVALUATING AGREEMENTS AMONG COMPETITORS</strong></td>
<td>6</td>
</tr>
<tr>
<td>2.1 Potential Procompetitive Benefits</td>
<td>6</td>
</tr>
<tr>
<td>2.2 Potential Anticompetitive Harms</td>
<td>6</td>
</tr>
<tr>
<td>2.3 Analysis of the Overall Collaboration and the Agreements of Which It Consists</td>
<td>7</td>
</tr>
<tr>
<td>2.4 Competitive Effects Are Assessed as of the Time of Possible Harm to Competition</td>
<td>7</td>
</tr>
<tr>
<td><strong>SECTION 3: ANALYTICAL FRAMEWORK FOR EVALUATING</strong></td>
<td></td>
</tr>
</tbody>
</table>
AGREEMENTS AMONG COMPETITORS.................................7

3.1 Introduction ......................................................................................................................7

3.2 Agreements Challenged as Per Se Illegal ........................................................................8

3.3 Agreements Analyzed under the Rule of Reason ..........................................................10

3.31 Nature of the Relevant Agreement: Business Purpose, Operation in the Marketplace and Possible Competitive Concerns .................................................................12

3.31(a) Relevant Agreements that Limit Independent Decision Making or Combine Control or Financial Interests .............................................................13

3.31(b) Relevant Agreements that May Facilitate Collusion ..............................................15

3.32 Relevant Markets Affected by the Collaboration .........................................................16

3.32(a) Goods Markets .................................................................................................16

3.32(b) Technology Markets .........................................................................................16

3.32(c) Research and Development: Innovation Markets ..............................................17

3.33 Market Shares and Market Concentration .................................................................17

3.34 Factors Relevant to the Ability and Incentive of the Participants and the Collaboration to Compete ......................................................................................18

3.34(a) Exclusivity .............................................................................................................19

3.34(b) Control over Assets ..............................................................................................19

3.34(c) Financial Interests in the Collaboration or in Other Participants .............................................................20

3.34(d) Control of the Collaboration’s Competitively Significant Decision Making ..........................................................20

3.34(e) Likelihood of Anticompetitive Information Sharing ...........................................21
3.34(f) Duration of the Collaboration .................................................. 21

3.35 Entry .............................................................................................. 22

3.36 Identifying Procompetitive Benefits of the Collaboration ................. 23

3.36(a) Cognizable Efficiencies Must Be Verifiable and Potentially Procompetitive ................................................................. 24

3.36(b) Reasonable Necessity and Less Restrictive Alternatives ...... 24

3.37 Overall Competitive Effect ................................................................. 25

SECTION 4: ANTITRUST SAFETY ZONES .................................................. 25

4.1 Overview ............................................................................................. 25

4.2 Safety Zone for Competitor Collaborations in General ..................... 26

4.3 Safety Zone for Research and Development Competition
   Analyzed in Terms of Innovation Markets ........................................... 27
PREAMBLE

In order to compete in modern markets, competitors sometimes need to collaborate. Competitive forces are driving firms toward complex collaborations to achieve goals such as expanding into foreign markets, funding expensive innovation efforts, and lowering production and other costs.

Such collaborations often are not only benign but procompetitive. Indeed, in the last two decades, the federal antitrust agencies have brought relatively few civil cases against competitor collaborations. Nevertheless, a perception that antitrust laws are skeptical about agreements among actual or potential competitors may deter the development of procompetitive collaborations.¹

To provide guidance to business people, the Federal Trade Commission (“FTC”) and the U.S. Department of Justice (“DOJ”) (collectively, “the Agencies”) previously issued guidelines addressing several special circumstances in which antitrust issues related to competitor collaborations may arise.² But none of these Guidelines represents a general statement of the Agencies’ analytical approach to competitor collaborations. The increasing varieties and use of competitor collaborations have yielded requests for improved clarity regarding their treatment under the antitrust laws.

The new Antitrust Guidelines for Collaborations among Competitors (“Competitor Collaboration Guidelines”) are intended to explain how the Agencies analyze certain antitrust issues raised by collaborations among competitors. Competitor collaborations and the market circumstances in which they operate vary widely. No set of guidelines can provide specific


These Guidelines neither describe how the Agencies litigate cases nor assign burdens of proof or production. The analytical framework set forth in these Guidelines is consistent with the analytical frameworks in the Health Care Statements and the Intellectual Property Guidelines, which remain in effect to address issues in their special contexts. These Guidelines take into account neither the possible effects of competitor collaborations in foreclosing or limiting competition by rivals not participating in a collaboration nor the possible anticompetitive effects of standard setting in the context of competitor collaborations. Nevertheless, these effects may be of concern to the Agencies and may prompt enforcement actions.

SECTION 1: PURPOSE, DEFINITIONS, AND OVERVIEW

1.1 Purpose and Definitions

These Guidelines state the antitrust enforcement policy of the Agencies with respect to competitor collaborations. By stating their general policy, the Agencies hope to assist businesses in assessing whether the Agencies will challenge a competitor collaboration or any of the agreements of which it is comprised. However, these Guidelines cannot remove judgment and discretion in antitrust law enforcement. The Agencies evaluate each case in light of its own facts and apply the analytical framework set forth in these Guidelines reasonably and flexibly.

A “competitor collaboration” comprises a set of one or more agreements, other than merger agreements, between or among competitors to engage in economic activity, and the economic activity resulting therefrom. “Competitors” encompasses both actual and potential competitors. Competitor collaborations involve one or more business activities, such as research and development (“R&D”), production, marketing, distribution, sales or purchasing. Information sharing and various trade association activities also may take place through competitor collaborations.

3 These Guidelines neither describe how the Agencies litigate cases nor assign burdens of proof or production.

4 The analytical framework set forth in these Guidelines is consistent with the analytical frameworks in the Health Care Statements and the Intellectual Property Guidelines, which remain in effect to address issues in their special contexts.

5 These Guidelines take into account neither the possible effects of competitor collaborations in foreclosing or limiting competition by rivals not participating in a collaboration nor the possible anticompetitive effects of standard setting in the context of competitor collaborations. Nevertheless, these effects may be of concern to the Agencies and may prompt enforcement actions.

6 Firms also may be in a buyer-seller or other relationship, but that does not eliminate the need to examine the competitor relationship, if present. A firm is treated as a potential competitor if there is evidence that entry by that firm is reasonably probable in the absence of the relevant agreement, or that competitively significant decisions by actual competitors are constrained by concerns that anticompetitive conduct likely would induce the firm to enter.
collaborations.

These Guidelines use the terms “anticompetitive harm,” “procompetitive benefit,” and “overall competitive effect” in analyzing the competitive effects of agreements among competitors. All of these terms include actual and likely competitive effects. The Guidelines use the term “anticompetitive harm” to refer to an agreement’s adverse competitive consequences, without taking account of offsetting procompetitive benefits. Conversely, the term “procompetitive benefit” refers to an agreement’s favorable competitive consequences, without taking account of its anticompetitive harm. The terms “overall competitive effect” or “competitive effect” are used in discussing the combination of an agreement’s anticompetitive harm and procompetitive benefit.

1.2 Overview of Analytical Framework

Two types of analysis are used by the Supreme Court to determine the lawfulness of an agreement among competitors: per se and rule of reason.7 Certain types of agreements are so likely to harm competition and to have no significant procompetitive benefit that they do not warrant the time and expense required for particularized inquiry into their effects. Once identified, such agreements are challenged as per se unlawful.8 All other agreements are evaluated under the rule of reason, which involves a factual inquiry into an agreement’s overall competitive effect. As the Supreme Court has explained, rule of reason analysis entails a flexible inquiry and varies in focus and detail depending on the nature of the agreement and market circumstances.9

This overview briefly sets forth questions and factors that the Agencies assess in analyzing an agreement among competitors. The rest of the Guidelines should be consulted for the detailed definitions and discussion that underlie this analysis.

Agreements Challenged as Per Se Illegal. Agreements of a type that always or almost always tends to raise price or to reduce output are per se illegal. The Agencies challenge such agreements, once identified, as per se illegal. Types of agreements that have been held per se illegal include agreements among competitors to fix prices or output, rig bids, or share or divide markets by allocating customers, suppliers, territories, or lines of commerce. The courts conclusively presume such agreements, once identified, to be illegal, without inquiring into their claimed business purposes, anticompetitive harms, procompetitive benefits, or overall competitive effects. The Department of Justice prosecutes participants in hard-core cartel agreements criminally.


**Agreements Analyzed under the Rule of Reason.** Agreements not challenged as per se illegal are analyzed under the rule of reason to determine their overall competitive effect. These include agreements of a type that otherwise might be considered per se illegal, provided they are reasonably related to, and reasonably necessary to achieve procompetitive benefits from, an efficiency-enhancing integration of economic activity.

Rule of reason analysis focuses on the state of competition with, as compared to without, the relevant agreement. The central question is whether the relevant agreement likely harms competition by increasing the ability or incentive profitably to raise price above or reduce output, quality, service, or innovation below what likely would prevail in the absence of the relevant agreement.

Rule of reason analysis entails a flexible inquiry and varies in focus and detail depending on the nature of the agreement and market circumstances. The Agencies focus on only those factors, and undertake only that factual inquiry, necessary to make a sound determination of the overall competitive effect of the relevant agreement. Ordinarily, however, no one factor is dispositive in the analysis.

The Agencies’ analysis begins with an examination of the nature of the relevant agreement. As part of this examination, the Agencies ask about the business purpose of the agreement and examine whether the agreement, if already in operation, has caused anticompetitive harm. In some cases, the nature of the agreement and the absence of market power together may demonstrate the absence of anticompetitive harm. In such cases, the Agencies do not challenge the agreement. Alternatively, where the likelihood of anticompetitive harm is evident from the nature of the agreement, or anticompetitive harm has resulted from an agreement already in operation, then, absent overriding benefits that could offset the anticompetitive harm, the Agencies challenge such agreements without a detailed market analysis.

If the initial examination of the nature of the agreement indicates possible competitive concerns, but the agreement is not one that would be challenged without a detailed market analysis, the Agencies analyze the agreement in greater depth. The Agencies typically define relevant markets and calculate market shares and concentration as an initial step in assessing whether the agreement may create or increase market power or facilitate its exercise. The Agencies examine the extent to which the participants and the collaboration have the ability and incentive to compete independently. The Agencies also evaluate other market circumstances, e.g. entry, that may foster or prevent anticompetitive harms.

If the examination of these factors indicates no potential for anticompetitive harm, the Agencies end the investigation without considering procompetitive benefits. If investigation indicates anticompetitive harm, the Agencies examine whether the relevant agreement is reasonably necessary to achieve procompetitive benefits that likely would offset anticompetitive harms.

### 1.3 Competitor Collaborations Distinguished from Mergers
The competitive effects from competitor collaborations may differ from those of mergers due to a number of factors. Most mergers completely end competition between the merging parties in the relevant market(s). By contrast, most competitor collaborations preserve some form of competition among the participants. This remaining competition may reduce competitive concerns, but also may raise questions about whether participants have agreed to anticompetitive restraints on the remaining competition.

Mergers are designed to be permanent, while competitor collaborations are more typically of limited duration. Thus, participants in a collaboration typically remain potential competitors, even if they are not actual competitors for certain purposes (e.g., R&D) during the collaboration. The potential for future competition between participants in a collaboration requires antitrust scrutiny different from that required for mergers.

Nonetheless, in some cases, competitor collaborations have competitive effects identical to those that would arise if the participants merged in whole or in part. The Agencies treat a competitor collaboration as a horizontal merger in a relevant market and analyze the collaboration pursuant to the *Horizontal Merger Guidelines* if appropriate, which ordinarily is when: (a) the participants are competitors in that relevant market; (b) the formation of the collaboration involves an efficiency-enhancing integration of economic activity in the relevant market; (c) the integration eliminates all competition among the participants in the relevant market; and (d) the collaboration does not terminate within a sufficiently limited period\(^\text{10}\) by its own specific and express terms.\(^\text{11}\) Effects of the collaboration on competition in other markets are analyzed as appropriate under these Guidelines or other applicable precedent. *See Example 1.*\(^\text{12}\)

**SECTION 2: GENERAL PRINCIPLES FOR EVALUATING AGREEMENTS AMONG COMPETITORS**

2.1 Potential Procompetitive Benefits

\(^{10}\) In general, the Agencies use ten years as a term indicating sufficient permanence to justify treatment of a competitor collaboration as analogous to a merger. The length of this term may vary, however, depending on industry-specific circumstances, such as technology life cycles.

\(^{11}\) This definition, however, does not determine obligations arising under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, 15 U.S.C. § 18a.

\(^{12}\) Examples illustrating this and other points set forth in these Guidelines are included in the Appendix.
The Agencies recognize that consumers may benefit from competitor collaborations in a variety of ways. For example, a competitor collaboration may enable participants to offer goods or services that are cheaper, more valuable to consumers, or brought to market faster than would be possible absent the collaboration. A collaboration may allow its participants to better use existing assets, or may provide incentives for them to make output-enhancing investments that would not occur absent the collaboration. The potential efficiencies from competitor collaborations may be achieved through a variety of contractual arrangements including joint ventures, trade or professional associations, licensing arrangements, or strategic alliances.

Efficiency gains from competitor collaborations often stem from combinations of different capabilities or resources. For example, one participant may have special technical expertise that usefully complements another participant’s manufacturing process, allowing the latter participant to lower its production cost or improve the quality of its product. In other instances, a collaboration may facilitate the attainment of scale or scope economies beyond the reach of any single participant. For example, two firms may be able to combine their research or marketing activities to lower their cost of bringing their products to market, or reduce the time needed to develop and begin commercial sales of new products. Consumers may benefit from these collaborations as the participants are able to lower prices, improve quality, or bring new products to market faster.

2.2 Potential Anticompetitive Harms

Competitor collaborations may harm competition and consumers by increasing the ability or incentive profitably to raise price above or reduce output, quality, service, or innovation below what likely would prevail in the absence of the relevant agreement. Such effects may arise through a variety of mechanisms. Among other things, agreements may limit independent decision making or combine the control of or financial interests in production, key assets, or decisions regarding price, output, or other competitively sensitive variables, or may otherwise reduce the participants’ ability or incentive to compete independently.

Competitor collaborations also may facilitate explicit or tacit collusion through facilitating practices such as the exchange or disclosure of competitively sensitive information or through increased market concentration. Such collusion may involve the relevant market in which the collaboration operates or another market in which the participants in the collaboration are actual or potential competitors.

2.3 Analysis of the Overall Collaboration and the Agreements of Which It Consists

A competitor collaboration comprises a set of one or more agreements, other than merger agreements, between or among competitors to engage in economic activity, and the economic activity resulting therefrom. In general, the Agencies assess the competitive effects of the overall
collaboration and any individual agreement or set of agreements within the collaboration that may harm competition. For purposes of these Guidelines, the phrase “relevant agreement” refers to whichever of these three – the overall collaboration, an individual agreement, or a set of agreements – the evaluating Agency is assessing. Two or more agreements are assessed together if their procompetitive benefits or anticompetitive harms are so intertwined that they cannot meaningfully be isolated and attributed to any individual agreement. See Example 2.

2.4 Competitive Effects Are Assessed as of the Time of Possible Harm to Competition

The competitive effects of a relevant agreement may change over time, depending on changes in circumstances such as internal reorganization, adoption of new agreements as part of the collaboration, addition or departure of participants, new market conditions, or changes in market share. The Agencies assess the competitive effects of a relevant agreement as of the time of possible harm to competition, whether at formation of the collaboration or at a later time, as appropriate. See Example 3. However, an assessment after a collaboration has been formed is sensitive to the reasonable expectations of participants whose significant sunk cost investments in reliance on the relevant agreement were made before it became anticompetitive.

SECTION 3: ANALYTICAL FRAMEWORK FOR EVALUATING AGREEMENTS AMONG COMPETITORS

3.1 Introduction

Section 3 sets forth the analytical framework that the Agencies use to evaluate the competitive effects of a competitor collaboration and the agreements of which it consists. Certain types of agreements are so likely to be harmful to competition and to have no significant benefits that they do not warrant the time and expense required for particularized inquiry into their effects. See Continental TV, Inc. v. GTE Sylvania Inc., 433 U.S. 36, 50 n.16 (1977). Once identified, such agreements are challenged as per se illegal. Agreements not challenged as per se illegal are analyzed under the rule of reason. Rule of reason analysis focuses on the state of competition with, as compared to without, the relevant agreement. Under the rule of reason, the central question is whether the relevant agreement likely harms competition by increasing the ability or incentive profitably to raise price above or reduce output, quality, service, or innovation below what likely would prevail in the absence of the relevant agreement. Given the great variety of competitor collaborations, rule of reason analysis entails a flexible inquiry and varies in focus and detail depending on the nature of the agreement and market circumstances. Rule of reason analysis focuses on only those factors, and undertakes only the degree of factual inquiry, necessary to assess accurately the overall competitive effect of the


14 See Superior Court Trial Lawyers Ass’n, 493 U.S. at 432-36.
relevant agreement.\textsuperscript{15}

### 3.2 Agreements Challenged as Per Se Illegal

Agreements of a type that always or almost always tends to raise price or reduce output are per se illegal.\textsuperscript{16} The Agencies challenge such agreements, once identified, as per se illegal. Typically these are agreements not to compete on price or output. Types of agreements that have been held per se illegal include agreements among competitors to fix prices or output, rig bids, or share or divide markets by allocating customers, suppliers, territories or lines of commerce.\textsuperscript{17} The courts conclusively presume such agreements, once identified, to be illegal, without inquiring into their claimed business purposes, anticompetitive harms, procompetitive benefits, or overall competitive effects. The Department of Justice prosecutes participants in hard-core cartel agreements criminally.

If, however, participants in an efficiency-enhancing integration of economic activity enter into an agreement that is reasonably related to the integration and reasonably necessary to achieve its procompetitive benefits, the Agencies analyze the agreement under the rule of reason, even if it is of a type that might otherwise be considered per se illegal.\textsuperscript{18} See Example 4. In an efficiency-enhancing integration, participants collaborate to perform or cause to be performed (by a joint venture entity created by the collaboration or by one or more participants or by a third party acting on behalf of other participants) one or more business functions, such as production, distribution, marketing, purchasing or R&D, and thereby benefit, or potentially benefit, consumers by expanding output, reducing price, or enhancing quality, service, or innovation. Participants in an efficiency-enhancing integration typically combine, by contract or otherwise, significant capital, technology, or other complementary assets to achieve procompetitive benefits that the participants could not achieve separately. The mere coordination of decisions on price, output, customers, territories, and the like is not integration, and cost savings without integration are not a basis for avoiding per se condemnation. The integration must be of a type that plausibly would generate procompetitive benefits cognizable under the efficiencies analysis set forth in Section 3.3.6 below. Such procompetitive benefits may enhance the participants’ ability or incentives to compete and thus may offset an agreement’s anticompetitive tendencies. See Examples 5 through 7.


An agreement may be “reasonably necessary” without being essential. However, if the participants could achieve an equivalent or comparable efficiency-enhancing integration through practical, significantly less restrictive means, then the Agencies conclude that the agreement is not reasonably necessary. In making this assessment, except in unusual circumstances, the Agencies consider whether practical, significantly less restrictive means were reasonably available when the agreement was entered into, but do not search for a theoretically less restrictive alternative that was not practical given the business realities.

Before accepting a claim that an agreement is reasonably necessary to achieve procompetitive benefits from an integration of economic activity, the Agencies undertake a limited factual inquiry to evaluate the claim. Such an inquiry may reveal that efficiencies from an agreement that are possible in theory are not plausible in the context of the particular collaboration. Some claims – such as those premised on the notion that competition itself is unreasonable – are insufficient as a matter of law, and others may be implausible on their face. In any case, labeling an arrangement a “joint venture” will not protect what is merely a device to raise price or restrict output; the nature of the conduct, not its designation, is determinative.

---

19 See id. at 352-53 (observing that even if a maximum fee schedule for physicians’ services were desirable, it was not necessary that the schedule be established by physicians rather than by insurers); Broadcast Music, 441 U.S. at 20-21 (setting of price “necessary” for the blanket license).

20 See Maricopa, 457 U.S. at 352-53, 356-57 (scrutinizing the defendant medical foundations for indicia of integration and evaluating the record evidence regarding less restrictive alternatives).

21 See Indiana Fed’n of Dentists, 476 U.S. at 463-64; NCAA, 468 U.S. at 116-17; Prof’l. Eng’rs, 435 U.S. at 693-96. Other claims, such as an absence of market power, are no defense to per se illegality. See Superior Court Trial Lawyers Ass’n, 493 U.S. at 434-36; United States v. Socony-Vacuum Oil Co., 310 U.S. 150, 224-26 & n.59 (1940).

3.3 Agreements Analyzed under the Rule of Reason

Agreements not challenged as per se illegal are analyzed under the rule of reason to determine their overall competitive effect. Rule of reason analysis focuses on the state of competition with, as compared to without, the relevant agreement. The central question is whether the relevant agreement likely harms competition by increasing the ability or incentive profitably to raise price above or reduce output, quality, service, or innovation below what likely would prevail in the absence of the relevant agreement.\(^{23}\)

Rule of reason analysis entails a flexible inquiry and varies in focus and detail depending on the nature of the agreement and market circumstances.\(^{24}\) The Agencies focus on only those factors, and undertake only that factual inquiry, necessary to make a sound determination of the overall competitive effect of the relevant agreement. Ordinarily, however, no one factor is dispositive in the analysis.

Under the rule of reason, the Agencies’ analysis begins with an examination of the nature of the relevant agreement, since the nature of the agreement determines the types of anticompetitive harms that may be of concern. As part of this examination, the Agencies ask about the business purpose of the agreement and examine whether the agreement, if already in operation, has caused anticompetitive harm.\(^{25}\) If the nature of the agreement and the absence of market power\(^{26}\) together demonstrate the absence of anticompetitive harm, the Agencies do not challenge the agreement. See Example 8. Alternatively, where the likelihood of anticompetitive harm is evident from the nature of the agreement, or anticompetitive harm has resulted from an agreement

\(^{23}\) In addition, concerns may arise where an agreement increases the ability or incentive of buyers to exercise monopsony power. See infra Section 3.31(a).

\(^{24}\) See California Dental Ass’n, 119 S. Ct. at 1612-13, 1617 (“What is required . . . is an enquiry meet for the case, looking to the circumstances, details, and logic of a restraint.”); NCAA, 468 U.S. 109 n.39 (“the rule of reason can sometimes be applied in the twinkling of an eye”) (quoting Phillip E. Areeda, The “Rule of Reason” in Antitrust Analysis: General Issues 37-38 (Federal Judicial Center, June 1981)).

\(^{25}\) See Board of Trade of the City of Chicago v. United States, 246 U.S. 231, 238 (1918).

\(^{26}\) That market power is absent may be determined without defining a relevant market. For example, if no market power is likely under any plausible market definition, it does not matter which one is correct. Alternatively, easy entry may indicate an absence of market power.

\(^{27}\) See California Dental Ass’n, 119 S. Ct. at 1612-13, 1617 (an “obvious anticompetitive effect” would warrant quick condemnation); Indiana Fed’n of Dentists, 476 U.S. at 459; NCAA, 468 U.S. at 104, 106-10.
already in operation, then, absent overriding benefits that could offset the anticompetitive harm, the Agencies challenge such agreements without a detailed market analysis.

If the initial examination of the nature of the agreement indicates possible competitive concerns, but the agreement is not one that would be challenged without a detailed market analysis, the Agencies analyze the agreement in greater depth. The Agencies typically define relevant markets and calculate market shares and concentration as an initial step in assessing whether the agreement may create or increase market power or facilitate its exercise and thus poses risks to competition. The Agencies examine factors relevant to the extent to which the participants and the collaboration have the ability and incentive to compete independently, such as whether an agreement is exclusive or non-exclusive and its duration. The Agencies also evaluate whether entry would be timely, likely, and sufficient to deter or counteract any anticompetitive harms. In addition, the Agencies assess any other market circumstances that may foster or impede anticompetitive harms.

If the examination of these factors indicates no potential for anticompetitive harm, the Agencies end the investigation without considering procompetitive benefits. If investigation indicates anticompetitive harm, the Agencies examine whether the relevant agreement is reasonably

---

28 See Indiana Fed’n of Dentists, 476 U.S. at 460-61 (“Since the purpose of the inquiries into market definition and market power is to determine whether an arrangement has the potential for genuine adverse effects on competition, ‘proof of actual detrimental effects, such as a reduction of output,’ can obviate the need for an inquiry into market power, which is but a ‘surrogate for detrimental effects.’”) (quoting 7 Phillip E. Areeda, Antitrust Law ¶ 1511, at 424 (1986)); NCAA, 468 U.S. at 104-08, 110 n.42.

29 See Indiana Fed’n of Dentists, 476 U.S. at 459-60 (condemning without “detailed market analysis” an agreement to limit competition by withholding x-rays from patients’ insurers after finding no competitive justification).

30 Market power to a seller is the ability profitably to maintain prices above competitive levels for a significant period of time. Sellers also may exercise market power with respect to significant competitive dimensions other than price, such as quality, service, or innovation. Market power to a buyer is the ability profitably to depress the price paid for a product below the competitive level for a significant period of time and thereby depress output.


32 Compare NCAA, 468 U.S. at 113-15, 119-20 (noting that colleges were not permitted to televise their own games without restraint), with Broadcast Music, 441 U.S. at 23-24 (finding no legal or practical impediment to individual licenses).
necessary to achieve procompetitive benefits that likely would offset anticompetitive harms.\(^{33}\)

3.31 Nature of the Relevant Agreement: Business Purpose, Operation in the Marketplace and Possible Competitive Concerns

The nature of the agreement is relevant to whether it may cause anticompetitive harm. For example, by limiting independent decision making or combining control over or financial interests in production, key assets, or decisions on price, output, or other competitively sensitive variables, an agreement may create or increase market power or facilitate its exercise by the collaboration, its participants, or both. An agreement to limit independent decision making or to combine control or financial interests may reduce the ability or incentive to compete independently. An agreement also may increase the likelihood of an exercise of market power by facilitating explicit or tacit collusion,\(^{34}\) either through facilitating practices such as an exchange of competitively sensitive information or through increased market concentration.

In examining the nature of the relevant agreement, the Agencies take into account inferences about business purposes for the agreement that can be drawn from objective facts. The Agencies also consider evidence of the subjective intent of the participants to the extent that it sheds light on competitive effects.\(^{35}\) The Agencies do not undertake a full analysis of procompetitive benefits pursuant to Section 3.36 below, however, unless an anticompetitive harm appears likely. The Agencies also examine whether an agreement already in operation has caused anticompetitive harm.\(^{36}\) Anticompetitive harm may be observed, for example, if a competitor collaboration successfully mandates new, anticompetitive conduct or successfully eliminates procompetitive pre-collaboration conduct, such as withholding services that were desired by consumers when offered in a competitive market. If anticompetitive harm is found, examination of market power ordinarily is not required. In some cases, however, a determination of anticompetitive harm may be informed by consideration of market power.

\(^{33}\) See NCAA, 468 U.S. at 113-15 (rejecting efficiency claims when production was limited, not enhanced); Prof’l. Eng’rs, 435 U.S. at 696 (dictum) (distinguishing restraints that promote competition from those that eliminate competition); Chicago Bd. of Trade, 246 U.S. at 238 (same).

\(^{34}\) As used in these Guidelines, “collusion” is not limited to conduct that involves an agreement under the antitrust laws.

\(^{35}\) Anticompetitive intent alone does not establish an antitrust violation, and procompetitive intent does not preclude a violation. See, e.g., Chicago Bd. of Trade, 246 U.S. at 238. But extrinsic evidence of intent may aid in evaluating market power, the likelihood of anticompetitive harm, and claimed procompetitive justifications where an agreement’s effects are otherwise ambiguous.

\(^{36}\) See id.
The following sections illustrate competitive concerns that may arise from the nature of particular types of competitor collaborations. This list is not exhaustive. In addition, where these sections address agreements of a type that otherwise might be considered per se illegal, such as agreements on price, the discussion assumes that the agreements already have been determined to be subject to rule of reason analysis because they are reasonably related to, and reasonably necessary to achieve procompetitive benefits from, an efficiency-enhancing integration of economic activity. See supra Section 3.2.

3.31(a) Relevant Agreements that Limit Independent Decision Making or Combine Control or Financial Interests

The following is intended to illustrate but not exhaust the types of agreements that might harm competition by eliminating independent decision making or combining control or financial interests.

Production Collaborations. Competitor collaborations may involve agreements jointly to produce a product sold to others or used by the participants as an input. Such agreements are often procompetitive.\(^{37}\) Participants may combine complementary technologies, know-how, or other assets to enable the collaboration to produce a good more efficiently or to produce a good that no one participant alone could produce. However, production collaborations may involve agreements on the level of output or the use of key assets, or on the price at which the product will be marketed by the collaboration, or on other competitively significant variables, such as quality, service, or promotional strategies, that can result in anticompetitive harm. Such agreements can create or increase market power or facilitate its exercise by limiting independent decision making or by combining in the collaboration, or in certain participants, the control over some or all production or key assets or decisions about key competitive variables that otherwise would be controlled independently.\(^{38}\) Such agreements could reduce individual participants’ control over assets necessary to compete and thereby reduce their ability to compete independently, combine financial interests in ways that undermine incentives to compete

\(^{37}\) The NCRPA accords rule of reason treatment to certain production collaborations. However, the statute permits per se challenges, in appropriate circumstances, to a variety of activities, including agreements to jointly market the goods or services produced or to limit the participants’ independent sale of goods or services produced outside the collaboration. NCRPA, 15 U.S.C. §§ 4301-02.

\(^{38}\) For example, where output resulting from a collaboration is transferred to participants for independent marketing, anticompetitive harm could result if that output is restricted or if the transfer takes place at a supracompetitive price. Such conduct could raise participants’ marginal costs through inflated per-unit charges on the transfer of the collaboration’s output. Anticompetitive harm could occur even if there is vigorous competition among collaboration participants in the output market, since all the participants would have paid the same inflated transfer price.

Marketing Collaborations. Competitor collaborations may involve agreements jointly to sell, distribute, or promote goods or services that are either jointly or individually produced. Such agreements may be procompetitive, for example, where a combination of complementary assets enables products more quickly and efficiently to reach the marketplace. However, marketing collaborations may involve agreements on price, output, or other competitively significant variables, or on the use of competitively significant assets, such as an extensive distribution network, that can result in anticompetitive harm. Such agreements can create or increase market power or facilitate its exercise by limiting independent decision making; by combining in the collaboration, or in certain participants, control over competitively significant assets or decisions about competitively significant variables that otherwise would be controlled independently; or by combining financial interests in ways that undermine incentives to compete independently. For example, joint promotion might reduce or eliminate comparative advertising, thus harming competition by restricting information to consumers on price and other competitively significant variables.

Buying Collaborations. Competitor collaborations may involve agreements jointly to purchase necessary inputs. Many such agreements do not raise antitrust concerns and indeed may be procompetitive. Purchasing collaborations, for example, may enable participants to centralize ordering, to combine warehousing or distribution functions more efficiently, or to achieve other efficiencies. However, such agreements can create or increase market power (which, in the case of buyers, is called “monopsony power”) or facilitate its exercise by increasing the ability or incentive to drive the price of the purchased product, and thereby depress output, below what likely would prevail in the absence of the relevant agreement. Buying collaborations also may facilitate collusion by standardizing participants’ costs or by enhancing the ability to project or monitor a participant’s output level through knowledge of its input purchases.

Research & Development Collaborations. Competitor collaborations may involve agreements to engage in joint research and development (“R&D”). Most such agreements are procompetitive, and they typically are analyzed under the rule of reason. Through the combination of complementary assets, technology, or know-how, an R&D collaboration may enable participants more quickly or more efficiently to research and develop new or improved goods, services, or production processes. Joint R&D agreements, however, can create or increase market power or facilitate its exercise by limiting independent decision making or by combining in the collaboration, or in certain participants, control over competitively significant assets or all or a portion of participants’ individual competitive R&D efforts. Although R&D collaborations also may facilitate tacit collusion on R&D efforts, achieving, monitoring, and punishing departures from collusion is sometimes difficult in the R&D context.

An exercise of market power may injure consumers by reducing innovation below the level that otherwise would prevail, leading to fewer or no products for consumers to choose from, lower quality products, or products that reach consumers more slowly than they otherwise would. An exercise of market power also may injure consumers by reducing the number of independent competitors in the market for the goods, services, or production processes derived from the R&D collaboration, leading to higher prices or reduced output, quality, or service. A central question is whether the agreement increases the ability or incentive anticompetitively to reduce R&D efforts pursued independently or through the collaboration, for example, by slowing the pace at which R&D efforts are pursued. Other considerations being equal, R&D agreements are more likely to raise competitive concerns when the collaboration or its participants already possess a secure source of market power over an existing product and the new R&D efforts might cannibalize their supracompetitive earnings. In addition, anticompetitive harm generally is more likely when R&D competition is confined to firms with specialized characteristics or assets, such as intellectual property, or when a regulatory approval process limits the ability of late-comers to catch up with competitors already engaged in the R&D.

3.31(b) Relevant Agreements that May Facilitate Collusion

Each of the types of competitor collaborations outlined above can facilitate collusion. Competitor collaborations may provide an opportunity for participants to discuss and agree on anticompetitive terms, or otherwise to collude anticompetitively, as well as a greater ability to detect and punish deviations that would undermine the collusion. Certain marketing, production, and buying collaborations, for example, may provide opportunities for their participants to collude on price, output, customers, territories, or other competitively sensitive variables. R&D collaborations, however, may be less likely to facilitate collusion regarding R&D activities since R&D often is conducted in secret, and it thus may be difficult to monitor an agreement to coordinate R&D. In addition, collaborations can increase concentration in a relevant market and thus increase the likelihood of collusion among all firms, including the collaboration and its participants.

Agreements that facilitate collusion sometimes involve the exchange or disclosure of information. The Agencies recognize that the sharing of information among competitors may be procompetitive and is often reasonably necessary to achieve the procompetitive benefits of certain collaborations; for example, sharing certain technology, know-how, or other intellectual property may be essential to achieve the procompetitive benefits of an R&D collaboration. Nevertheless, in some cases, the sharing of information related to a market in which the collaboration operates or in which the participants are actual or potential competitors may increase the likelihood of collusion on matters such as price, output, or other competitively sensitive variables. The competitive concern depends on the nature of the information shared. Other things being equal, the sharing of information relating to price, output, costs, or strategic planning is more likely to raise competitive concern than the sharing of information relating to less competitively sensitive variables. Similarly, other things being equal, the sharing of information on current operating and future business plans is more likely to raise concerns than the sharing of historical information.
Finally, other things being equal, the sharing of individual company data is more likely to raise concern than the sharing of aggregated data that does not permit recipients to identify individual firm data.

3.32 Relevant Markets Affected by the Collaboration

The Agencies typically identify and assess competitive effects in all of the relevant product and geographic markets in which competition may be affected by a competitor collaboration, although in some cases it may be possible to assess competitive effects directly without defining a particular relevant market(s). Markets affected by a competitor collaboration include all markets in which the economic integration of the participants’ operations occurs or in which the collaboration operates or will operate, and may also include additional markets in which any participant is an actual or potential competitor.

3.32(a) Goods Markets

In general, for goods markets affected by a competitor collaboration, the Agencies approach relevant market definition as described in Section 1 of the Horizontal Merger Guidelines. To determine the relevant market, the Agencies generally consider the likely reaction of buyers to a price increase and typically ask, among other things, how buyers would respond to increases over prevailing price levels. However, when circumstances strongly suggest that the prevailing price exceeds what likely would have prevailed absent the relevant agreement, the Agencies use a price more reflective of the price that likely would have prevailed. Once a market has been defined, market shares are assigned both to firms currently in the relevant market and to firms that are able to make “uncommitted” supply responses. See Sections 1.31 and 1.32 of the Horizontal Merger Guidelines.

3.32(b) Technology Markets

When rights to intellectual property are marketed separately from the products in which they are used, the Agencies may define technology markets in assessing the competitive effects of a competitor collaboration that includes an agreement to license intellectual property. Technology markets consist of the intellectual property that is licensed and its close substitutes;

---

40 For example, where a production joint venture buys inputs from an upstream market to incorporate in products to be sold in a downstream market, both upstream and downstream markets may be “markets affected by a competitor collaboration.”

41 Participation in the collaboration may change the participants’ behavior in this third category of markets, for example, by altering incentives and available information, or by providing an opportunity to form additional agreements among participants.

42 The term “goods” also includes services.
that is, the technologies or goods that are close enough substitutes significantly to constrain the exercise of market power with respect to the intellectual property that is licensed. The Agencies approach the definition of a relevant technology market and the measurement of market share as described in Section 3.2.2 of the Intellectual Property Guidelines.

3.32(c) Research and Development: Innovation Markets

In many cases, an agreement’s competitive effects on innovation are analyzed as a separate competitive effect in a relevant goods market. However, if a competitor collaboration may have competitive effects on innovation that cannot be adequately addressed through the analysis of goods or technology markets, the Agencies may define and analyze an innovation market as described in Section 3.2.3 of the Intellectual Property Guidelines. An innovation market consists of the research and development directed to particular new or improved goods or processes and the close substitutes for that research and development. The Agencies define an innovation market only when the capabilities to engage in the relevant research and development can be associated with specialized assets or characteristics of specific firms.

3.33 Market Shares and Market Concentration

Market share and market concentration affect the likelihood that the relevant agreement will create or increase market power or facilitate its exercise. The creation, increase, or facilitation of market power will likely increase the ability and incentive profitably to raise price above or reduce output, quality, service, or innovation below what likely would prevail in the absence of the relevant agreement.

Other things being equal, market share affects the extent to which participants or the collaboration must restrict their own output in order to achieve anticompetitive effects in a relevant market. The smaller the percentage of total supply that a firm controls, the more severely it must restrict its own output in order to produce a given price increase, and the less likely it is that an output restriction will be profitable. In assessing whether an agreement may cause anticompetitive harm, the Agencies typically calculate the market shares of the participants and of the collaboration. The Agencies assign a range of market shares to the collaboration. The high end of that range is the sum of the market shares of the collaboration and its participants. The low end is the share of the collaboration in isolation. In general, the Agencies approach the calculation of market share as set forth in Section 1.4 of the Horizontal Merger Guidelines.

Other things being equal, market concentration affects the difficulties and costs of achieving and

---

43 When the competitive concern is that a limitation on independent decision making or a combination of control or financial interests may yield an anticompetitive reduction of research and development, the Agencies typically frame their inquiries more generally, looking to the strength, scope, and number of competing R&D efforts and their close substitutes. See supra Sections 3.31(a) and 3.32(c).
enforcing collusion in a relevant market. Accordingly, in assessing whether an agreement may increase the likelihood of collusion, the Agencies calculate market concentration. In general, the Agencies approach the calculation of market concentration as set forth in Section 1.5 of the Horizontal Merger Guidelines, ascribing to the competitor collaboration the same range of market shares described above.

Market share and market concentration provide only a starting point for evaluating the competitive effect of the relevant agreement. The Agencies also examine other factors outlined in the Horizontal Merger Guidelines as set forth below:

The Agencies consider whether factors such as those discussed in Section 1.52 of the Horizontal Merger Guidelines indicate that market share and concentration data overstate or understate the likely competitive significance of participants and their collaboration.

In assessing whether anticompetitive harm may arise from an agreement that combines control over or financial interests in assets or otherwise limits independent decision making, the Agencies consider whether factors such as those discussed in Section 2.2 of the Horizontal Merger Guidelines suggest that anticompetitive harm is more or less likely.

In assessing whether anticompetitive harms may arise from an agreement that may increase the likelihood of collusion, the Agencies consider whether factors such as those discussed in Section 2.1 of the Horizontal Merger Guidelines suggest that anticompetitive harm is more or less likely.

In evaluating the significance of market share and market concentration data and interpreting the range of market shares ascribed to the collaboration, the Agencies also examine factors beyond those set forth in the Horizontal Merger Guidelines. The following section describes which factors are relevant and the issues that the Agencies examine in evaluating those factors.

**3.34 Factors Relevant to the Ability and Incentive of the Participants and the Collaboration to Compete**

Competitor collaborations sometimes do not end competition among the participants and the collaboration. Participants may continue to compete against each other and their collaboration, either through separate, independent business operations or through membership in other collaborations. Collaborations may be managed by decision makers independent of the individual participants. Control over key competitive variables may remain outside the collaboration, such as where participants independently market and set prices for the collaboration’s output.

Sometimes, however, competition among the participants and the collaboration may be restrained through explicit contractual terms or through financial or other provisions that reduce or eliminate the incentive to compete. The Agencies look to the competitive benefits and harms of the relevant agreement, not merely the formal terms of agreements among the participants.
Where the nature of the agreement and market share and market concentration data reveal a likelihood of anticompetitive harm, the Agencies more closely examine the extent to which the participants and the collaboration have the ability and incentive to compete independent of each other. The Agencies are likely to focus on six factors: (a) the extent to which the relevant agreement is non-exclusive in that participants are likely to continue to compete independently outside the collaboration in the market in which the collaboration operates; (b) the extent to which participants retain independent control of assets necessary to compete; (c) the nature and extent of participants’ financial interests in the collaboration or in each other; (d) the control of the collaboration’s competitively significant decision making; (e) the likelihood of anticompetitive information sharing; and (f) the duration of the collaboration.

Each of these factors is discussed in further detail below. Consideration of these factors may reduce or increase competitive concern. The analysis necessarily is flexible: the relevance and significance of each factor depends upon the facts and circumstances of each case, and any additional factors pertinent under the circumstances are considered. For example, when an agreement is examined subsequent to formation of the collaboration, the Agencies also examine factual evidence concerning participants’ actual conduct.

3.34(a) Exclusivity

The Agencies consider whether, to what extent, and in what manner the relevant agreement permits participants to continue to compete against each other and their collaboration, either through separate, independent business operations or through membership in other collaborations. The Agencies inquire whether a collaboration is non-exclusive in fact as well as in name and consider any costs or other impediments to competing with the collaboration. In assessing exclusivity when an agreement already is in operation, the Agencies examine whether, to what extent, and in what manner participants actually have continued to compete against each other and the collaboration. In general, competitive concern likely is reduced to the extent that participants actually have continued to compete, either through separate, independent business operations or through membership in other collaborations, or are permitted to do so.

3.34(b) Control over Assets

The Agencies ask whether the relevant agreement requires participants to contribute to the collaboration significant assets that previously have enabled or likely would enable participants to be effective independent competitors in markets affected by the collaboration. If such resources must be contributed to the collaboration and are specialized in that they cannot readily be replaced, the participants may have lost all or some of their ability to compete against each other and their collaboration, even if they retain the contractual right to do so. In general, the greater

44 For example, if participants in a production collaboration must contribute most of their productive capacity to the collaboration, the collaboration may impair the ability of its participants to remain effective independent competitors regardless of the terms of the agreement.
the contribution of specialized assets to the collaboration that is required, the less the participants may be relied upon to provide independent competition.

3.34(c) Financial Interests in the Collaboration or in Other Participants

The Agencies assess each participant’s financial interest in the collaboration and its potential impact on the participant’s incentive to compete independently with the collaboration. The potential impact may vary depending on the size and nature of the financial interest (e.g., whether the financial interest is debt or equity). In general, the greater the financial interest in the collaboration, the less likely is the participant to compete with the collaboration. The Agencies also assess direct equity investments between or among the participants. Such investments may reduce the incentives of the participants to compete with each other. In either case, the analysis is sensitive to the level of financial interest in the collaboration or in another participant relative to the level of the participant’s investment in its independent business operations in the markets affected by the collaboration.

3.34(d) Control of the Collaboration’s Competitively Significant Decision Making

The Agencies consider the manner in which a collaboration is organized and governed in assessing the extent to which participants and their collaboration have the ability and incentive to compete independently. Thus, the Agencies consider the extent to which the collaboration’s governance structure enables the collaboration to act as an independent decision maker. For example, the Agencies ask whether participants are allowed to appoint members of a board of directors for the collaboration, if incorporated, or otherwise to exercise significant control over the operations of the collaboration. In general, the collaboration is less likely to compete independently as participants gain greater control over the collaboration’s price, output, and other competitively significant decisions.

To the extent that the collaboration’s decision making is subject to the participants’ control, the Agencies consider whether that control could be exercised jointly. Joint control over the collaboration’s price and output levels could create or increase market power and raise competitive concerns. Depending on the nature of the collaboration, competitive concern also may arise due to joint control over other competitively significant decisions, such as the level and

---

45 Similarly, a collaboration’s financial interest in a participant may diminish the collaboration’s incentive to compete with that participant.

46 Control may diverge from financial interests. For example, a small equity investment may be coupled with a right to veto large capital expenditures and, thereby, to effectively limit output. The Agencies examine a collaboration’s actual governance structure in assessing issues of control.
scope of R&D efforts and investment. In contrast, to the extent that participants independently set the price and quantity \(^{47}\) of their share of a collaboration’s output and independently control other competitively significant decisions, an agreement’s likely anticompetitive harm is reduced.\(^{48}\)

3.34(e) Likelihood of Anticompetitive Information Sharing

The Agencies evaluate the extent to which competitively sensitive information concerning markets affected by the collaboration likely would be disclosed. This likelihood depends on, among other things, the nature of the collaboration, its organization and governance, and safeguards implemented to prevent or minimize such disclosure. For example, participants might refrain from assigning marketing personnel to an R&D collaboration, or, in a marketing collaboration, participants might limit access to competitively sensitive information regarding their respective operations to only certain individuals or to an independent third party. Similarly, a buying collaboration might use an independent third party to handle negotiations in which its participants’ input requirements or other competitively sensitive information could be revealed. In general, it is less likely that the collaboration will facilitate collusion on competitively sensitive variables if appropriate safeguards governing information sharing are in place.

3.34(f) Duration of the Collaboration

The Agencies consider the duration of the collaboration in assessing whether participants retain the ability and incentive to compete against each other and their collaboration. In general, the shorter the duration, the more likely participants are to compete against each other and their collaboration.

3.35 Entry

Easy entry may deter or prevent profitably maintaining price above, or output, quality, service or innovation below, what likely would prevail in the absence of the relevant agreement. Where the nature of the agreement and market share and concentration data suggest a likelihood of anticompetitive harm that is not sufficiently mitigated by any continuing competition identified

\(^{47}\) Even if prices to consumers are set independently, anticompetitive harms may still occur if participants jointly set the collaboration’s level of output. For example, participants may effectively coordinate price increases by reducing the collaboration’s level of output and collecting their profits through high transfer prices, \(i.e.,\) through the amounts that participants contribute to the collaboration in exchange for each unit of the collaboration’s output. Where a transfer price is determined by reference to an objective measure not under the control of the participants, \((e.g.,\) average price in a different unconcentrated geographic market), competitive concern may be less likely.

\(^{48}\) Anticompetitive harm also is less likely if individual participants may independently increase the overall output of the collaboration.
through the analysis in Section 3.34, the Agencies inquire whether entry would be timely, likely, and sufficient in its magnitude, character and scope to deter or counteract the anticompetitive harm of concern. If so, the relevant agreement ordinarily requires no further analysis.

As a general matter, the Agencies assess timeliness, likelihood, and sufficiency of committed entry under principles set forth in Section 3 of the Horizontal Merger Guidelines. However, unlike mergers, competitor collaborations often restrict only certain business activities, while preserving competition among participants in other respects, and they may be designed to terminate after a limited duration. Consequently, the extent to which an agreement creates and enables identification of opportunities that would induce entry and the conditions under which ease of entry may deter or counteract anticompetitive harms may be more complex and less direct than for mergers and will vary somewhat according to the nature of the relevant agreement. For example, the likelihood of entry may be affected by what potential entrants believe about the probable duration of an anticompetitive agreement. Other things being equal, the shorter the anticipated duration of an anticompetitive agreement, the smaller the profit opportunities for potential entrants, and the lower the likelihood that it will induce committed entry. Examples of other differences are set forth below.

For certain collaborations, sufficiency of entry may be affected by the possibility that entrants will participate in the anticompetitive agreement. To the extent that such participation raises the amount of entry needed to deter or counteract anticompetitive harms, and assets required for entry are not adequately available for entrants to respond fully to their sales opportunities, or otherwise renders entry inadequate in magnitude, character or scope, sufficient entry may be more difficult to achieve. 50

49 Committed entry is defined as new competition that requires expenditure of significant sunk costs of entry and exit. See Section 3.0 of the Horizontal Merger Guidelines.

50 Under the same principles applied to production and marketing collaborations, the exercise of monopsony power by a buying collaboration may be deterred or counteracted by the entry of new purchasers. To the extent that collaborators reduce their purchases, they may create an opportunity for new buyers to make purchases without forcing the price of the input above pre-relevant agreement levels. Committed purchasing entry, defined as new purchasing competition that requires expenditure of significant sunk costs of entry and exit — such as a new steel factory built in response to a reduction in the price of iron ore — is analyzed under principles analogous to those articulated in Section 3 of the Horizontal Merger Guidelines. Under that analysis, the Agencies assess whether a monopsonistic price reduction is likely to attract committed purchasing entry, profitable at pre-relevant agreement prices, that would not have occurred before the relevant agreement at those same prices. (Uncommitted new buyers are identified as participants in the relevant market if their demand responses to a price decrease are likely to occur within one year and without the expenditure of significant sunk costs of entry and exit. See id. at Sections 1.32 and 1.41.)
In the context of research and development collaborations, widespread availability of R&D capabilities and the large gains that may accrue to successful innovators often suggest a high likelihood that entry will deter or counteract anticompetitive reductions of R&D efforts. Nonetheless, such conditions do not always pertain, and the Agencies ask whether entry may deter or counteract anticompetitive R&D reductions, taking into account the likelihood, timeliness, and sufficiency of entry.

To be timely, entry must be sufficiently prompt to deter or counteract such harms. The Agencies evaluate the likelihood of entry based on the extent to which potential entrants have (1) core competencies (and the ability to acquire any necessary specialized assets) that give them the ability to enter into competing R&D and (2) incentives to enter into competing R&D. The sufficiency of entry depends on whether the character and scope of the entrants’ R&D efforts are close enough to the reduced R&D efforts to be likely to achieve similar innovations in the same time frame or otherwise to render a collaborative reduction of R&D unprofitable.

3.36 Identifying Procompetitive Benefits of the Collaboration

Competition usually spurs firms to achieve efficiencies internally. Nevertheless, as explained above, competitor collaborations have the potential to generate significant efficiencies that benefit consumers in a variety of ways. For example, a competitor collaboration may enable firms to offer goods or services that are cheaper, more valuable to consumers, or brought to market faster than would otherwise be possible. Efficiency gains from competitor collaborations often stem from combinations of different capabilities or resources. See supra Section 2.1. Indeed, the primary benefit of competitor collaborations to the economy is their potential to generate such efficiencies.

Efficiencies generated through a competitor collaboration can enhance the ability and incentive of the collaboration and its participants to compete, which may result in lower prices, improved quality, enhanced service, or new products. For example, through collaboration, competitors may be able to produce an input more efficiently than any one participant could individually; such collaboration-generated efficiencies may enhance competition by permitting two or more ineffective (e.g., high cost) participants to become more effective, lower cost competitors. Even when efficiencies generated through a competitor collaboration enhance the collaboration’s or the participants’ ability to compete, however, a competitor collaboration may have other effects that may lessen competition and ultimately may make the relevant agreement anticompetitive.

If the Agencies conclude that the relevant agreement has caused, or is likely to cause, anticompetitive harm, they consider whether the agreement is reasonably necessary to achieve “cognizable efficiencies.” “Cognizable efficiencies” are efficiencies that have been verified by the Agencies, that do not arise from anticompetitive reductions in output or service, and that cannot be achieved through practical, significantly less restrictive means. See infra Sections 3.36(a) and 3.36(b). Cognizable efficiencies are assessed net of costs produced by the competitor collaboration or incurred in achieving those efficiencies.

23
3.36(a)  Cognizable Efficiencies Must Be Verifiable and Potentially Procompetitive

Efficiencies are difficult to verify and quantify, in part because much of the information relating to efficiencies is uniquely in the possession of the collaboration’s participants. The participants must substantiate efficiency claims so that the Agencies can verify by reasonable means the likelihood and magnitude of each asserted efficiency; how and when each would be achieved; any costs of doing so; how each would enhance the collaboration’s or its participants’ ability and incentive to compete; and why the relevant agreement is reasonably necessary to achieve the claimed efficiencies (see Section 3.36 (b)). Efficiency claims are not considered if they are vague or speculative or otherwise cannot be verified by reasonable means.

Moreover, cognizable efficiencies must be potentially procompetitive. Some asserted efficiencies, such as those premised on the notion that competition itself is unreasonable, are insufficient as a matter of law. Similarly, cost savings that arise from anticompetitive output or service reductions are not treated as cognizable efficiencies. See Example 9.

3.36(b)  Reasonable Necessity and Less Restrictive Alternatives

The Agencies consider only those efficiencies for which the relevant agreement is reasonably necessary. An agreement may be “reasonably necessary” without being essential. However, if the participants could have achieved or could achieve similar efficiencies by practical, significantly less restrictive means, then the Agencies conclude that the relevant agreement is not reasonably necessary to their achievement. In making this assessment, the Agencies consider only alternatives that are practical in the business situation faced by the participants; the Agencies do not search for a theoretically less restrictive alternative that is not realistic given business realities.

The reasonable necessity of an agreement may depend upon the market context and upon the duration of the agreement. An agreement that may be justified by the needs of a new entrant, for example, may not be reasonably necessary to achieve cognizable efficiencies in different market circumstances. The reasonable necessity of an agreement also may depend on whether it deters individual participants from undertaking free riding or other opportunistic conduct that could reduce significantly the ability of the collaboration to achieve cognizable efficiencies. Collaborations sometimes include agreements to discourage any one participant from appropriating an undue share of the fruits of the collaboration or to align participants’ incentives to encourage cooperation in achieving the efficiency goals of the collaboration. The Agencies assess whether such agreements are reasonably necessary to deter opportunistic conduct that otherwise would likely prevent the achievement of cognizable efficiencies. See Example 10.

3.37  Overall Competitive Effect

If the relevant agreement is reasonably necessary to achieve cognizable efficiencies, the Agencies
assess the likelihood and magnitude of cognizable efficiencies and anticompetitive harms to determine the agreement’s overall actual or likely effect on competition in the relevant market. To make the requisite determination, the Agencies consider whether cognizable efficiencies likely would be sufficient to offset the potential of the agreement to harm consumers in the relevant market, for example, by preventing price increases.\textsuperscript{51}

The Agencies’ comparison of cognizable efficiencies and anticompetitive harms is necessarily an approximate judgment. In assessing the overall competitive effect of an agreement, the Agencies consider the magnitude and likelihood of both the anticompetitive harms and cognizable efficiencies from the relevant agreement. The likelihood and magnitude of anticompetitive harms in a particular case may be insignificant compared to the expected cognizable efficiencies, or vice versa. As the expected anticompetitive harm of the agreement increases, the Agencies require evidence establishing a greater level of expected cognizable efficiencies in order to avoid the conclusion that the agreement will have an anticompetitive effect overall. When the anticompetitive harm of the agreement is likely to be particularly large, extraordinarily great cognizable efficiencies would be necessary to prevent the agreement from having an anticompetitive effect overall.

SECTION 4: ANTITRUST SAFETY ZONES

4.1 Overview

Because competitor collaborations are often procompetitive, the Agencies believe that “safety zones” are useful in order to encourage such activity. The safety zones set out below are designed to provide participants in a competitor collaboration with a degree of certainty in those situations in which anticompetitive effects are so unlikely that the Agencies presume the arrangements to be lawful without inquiring into particular circumstances. They are not intended to discourage competitor collaborations that fall outside the safety zones.

The Agencies emphasize that competitor collaborations are not anticompetitive merely because they fall outside the safety zones. Indeed, many competitor collaborations falling outside the safety zones are procompetitive or competitively neutral. The Agencies analyze arrangements outside the safety zones based on the principles outlined in Section 3 above.

The following sections articulate two safety zones. Section 4.2 sets out a general safety zone

\textsuperscript{51} In most cases, the Agencies’ enforcement decisions depend on their analysis of the overall effect of the relevant agreement over the short term. The Agencies also will consider the effects of cognizable efficiencies with no short-term, direct effect on prices in the relevant market. Delayed benefits from the efficiencies (due to delay in the achievement of, or the realization of consumer benefits from, the efficiencies) will be given less weight because they are less proximate and more difficult to predict.
applicable to any competitor collaboration.\textsuperscript{52} Section 4.3 establishes a safety zone applicable to research and development collaborations whose competitive effects are analyzed within an innovation market. These safety zones are intended to supplement safety zone provisions in the Agencies’ other guidelines and statements of enforcement policy.\textsuperscript{53}

### 4.2 Safety Zone for Competitor Collaborations in General

Absent extraordinary circumstances, the Agencies do not challenge a competitor collaboration when the market shares of the collaboration and its participants collectively account for no more than twenty percent of each relevant market in which competition may be affected.\textsuperscript{54} The safety zone, however, does not apply to agreements that are per se illegal, or that would be challenged without a detailed market analysis,\textsuperscript{55} or to competitor collaborations to which a merger analysis is applied.\textsuperscript{56}

### 4.3 Safety Zone for Research and Development Competition Analyzed in Terms of Innovation Markets

Absent extraordinary circumstances, the Agencies do not challenge a competitor collaboration on the basis of effects on competition in an innovation market where three or more independently controlled research efforts in addition to those of the collaboration possess the required

\textsuperscript{52} See Sections 1.1 and 1.3 above.

\textsuperscript{53} The Agencies have articulated antitrust safety zones in \textit{Health Care Statements} 7 & 8 and the \textit{Intellectual Property Guidelines}, as well as in the \textit{Horizontal Merger Guidelines}. The antitrust safety zones in these other guidelines relate to particular facts in a specific industry or to particular types of transactions.

\textsuperscript{54} For purposes of the safety zone, the Agencies consider the combined market shares of the participants and the collaboration. For example, with a collaboration among two competitors where each participant individually holds a 6 percent market share in the relevant market and the collaboration separately holds a 3 percent market share in the relevant market, the combined market share in the relevant market for purposes of the safety zone would be 15 percent. This collaboration, therefore, would fall within the safety zone. However, if the collaboration involved three competitors, each with a 6 percent market share in the relevant market, the combined market share in the relevant market for purposes of the safety zone would be 21 percent, and the collaboration would fall outside the safety zone. Including market shares of the participants takes into account possible spillover effects on competition within the relevant market among the participants and their collaboration.

\textsuperscript{55} See \textit{supra} notes 27-29 and accompanying text in Section 3.3.

\textsuperscript{56} See Section 1.3 above.
specialized assets or characteristics and the incentive to engage in R&D that is a close substitute for the R&D activity of the collaboration. In determining whether independently controlled R&D efforts are close substitutes, the Agencies consider, among other things, the nature, scope, and magnitude of the R&D efforts; their access to financial support; their access to intellectual property, skilled personnel, or other specialized assets; their timing; and their ability, either acting alone or through others, to successfully commercialize innovations. The antitrust safety zone does not apply to agreements that are per se illegal, or that would be challenged without a detailed market analysis, or to competitor collaborations to which a merger analysis is applied.\textsuperscript{57}

\textsuperscript{57} See supra notes 27-29 and accompanying text in Section 3.3.

\textsuperscript{58} See Section 1.3 above.
Appendix

Section 1.3

Example 1 (Competitor Collaboration/Merger)

Facts

Two oil companies agree to integrate all of their refining and refined product marketing operations. Under terms of the agreement, the collaboration will expire after twelve years; prior to that expiration date, it may be terminated by either participant on six months’ prior notice. The two oil companies maintain separate crude oil production operations.

Analysis

The formation of the collaboration involves an efficiency-enhancing integration of operations in the refining and refined product markets, and the integration eliminates all competition between the participants in those markets. The evaluating Agency likely would conclude that expiration after twelve years does not constitute termination "within a sufficiently limited period." The participants’ entitlement to terminate the collaboration at any time after giving prior notice is not termination by the collaboration’s "own specific and express terms." Based on the facts presented, the evaluating Agency likely would analyze the collaboration under the Horizontal Merger Guidelines, rather than as a competitor collaboration under these Guidelines. Any agreements restricting competition on crude oil production would be analyzed under these Guidelines.

Section 2.3

Example 2 (Analysis of Individual Agreements/Set of Agreements)

Facts

Two firms enter a joint venture to develop and produce a new software product to be sold independently by the participants. The product will be useful in two areas, biotechnology research and pharmaceuticals research, but doing business with each of the two classes of purchasers would require a different distribution network and a separate marketing campaign. Successful penetration of one market is likely to stimulate sales in the other by enhancing the reputation of the software and by facilitating the ability of biotechnology and pharmaceutical researchers to use the fruits of each other’s efforts. Although the software is to be marketed independently by the participants rather than by the joint venture, the participants agree that one will sell only to biotechnology researchers and the other will sell only to pharmaceutical researchers. The
participants also agree to fix the maximum price that either firm may charge. The parties assert that the combination of these two requirements is necessary for the successful marketing of the new product. They argue that the market allocation provides each participant with adequate incentives to commercialize the product in its sector without fear that the other participant will free-ride on its efforts and that the maximum price prevents either participant from unduly exploiting its sector of the market to the detriment of sales efforts in the other sector.

Analysis

The evaluating Agency would assess overall competitive effects associated with the collaboration in its entirety and with individual agreements, such as the agreement to allocate markets, the agreement to fix maximum prices, and any of the sundry other agreements associated with joint development and production and independent marketing of the software. From the facts presented, it appears that the agreements to allocate markets and to fix maximum prices may be so intertwined that their benefits and harms “cannot meaningfully be isolated.” The two agreements arguably operate together to ensure a particular blend of incentives to achieve the potential procompetitive benefits of successful commercialization of the new product. Moreover, the effects of the agreement to fix maximum prices may mitigate the price effects of the agreement to allocate markets. Based on the facts presented, the evaluating Agency likely would conclude that the agreements to allocate markets and to fix maximum prices should be analyzed as a whole.

Section 2.4

Example 3 (Time of Possible Harm to Competition)

Facts

A group of 25 small-to-mid-size banks formed a joint venture to establish an automatic teller machine network. To ensure sufficient business to justify launching the venture, the joint venture agreement specified that participants would not participate in any other ATM networks. Numerous other ATM networks were forming in roughly the same time period.

Over time, the joint venture expanded by adding more and more banks, and the number of its competitors fell. Now, ten years after formation, the joint venture has 900 member banks and controls 60% of the ATM outlets in a relevant geographic market. Following complaints from consumers that ATM fees have rapidly escalated, the evaluating Agency assesses the rule barring participation in other ATM networks, which now binds 900 banks.

Analysis

The circumstances in which the venture operates have changed over time, and the evaluating Agency would determine whether the exclusivity rule now harms competition. In assessing the exclusivity rule’s competitive effect, the evaluating Agency would take account of the
collaboration’s substantial current market share and any procompetitive benefits of exclusivity under present circumstances, along with other factors discussed in Section 3. The Agencies would consider whether significant sunk investments were made in reliance on the exclusivity rule.

Section 3.2

Example 4 (Agreement Not to Compete on Price)

Facts

Net-Business and Net-Company are two start-up companies. They independently developed, and have begun selling in competition with one another, software for the networks that link users within a particular business to each other and, in some cases, to entities outside the business. Both Net-Business and Net-Company were formed by computer specialists with no prior business expertise, and they are having trouble implementing marketing strategies, distributing their inventory, and managing their sales forces. The two companies decide to form a partnership joint venture, NET-FIRM, whose sole function will be to market and distribute the network software products of Net-Business and Net-Company. NET-FIRM will be the exclusive marketer of network software produced by Net-Business and Net-Company. Net-Business and Net-Company will each have 50% control of NET-FIRM, but each will derive profits from NET-FIRM in proportion to the revenues from sales of that partner’s products. The documents setting up NET-FIRM specify that Net-Business and Net-Company will agree on the prices for the products that NET-FIRM will sell.

Analysis

Net-Business and Net-Company will agree on the prices at which NET-FIRM will sell their individually-produced software. The agreement is one “not to compete on price,” and it is of a type that always or almost always tends to raise price or reduce output. The agreement to jointly set price may be challenged as per se illegal, unless it is reasonably related to, and reasonably necessary to achieve procompetitive benefits from, an efficiency-enhancing integration of economic activity.

Example 5 (Specialization without Integration)

Facts

Firm A and Firm B are two of only three producers of automobile carburetors. Minor engine variations from year to year, even within given models of a particular automobile manufacturer, require re-design of each year’s carburetor and re-tooling for carburetor production. Firms A and B meet and agree that henceforth Firm A will design and produce carburetors only for automobile models of even-numbered years and Firm B will design and produce carburetors only for automobile models of odd-numbered years. Some design and re-tooling costs would be saved,
but automobile manufacturers would face only two suppliers each year, rather than three.

**Analysis**

The agreement allocates sales by automobile model year and constitutes an agreement “not to compete on . . . output.” The participants do not combine production; rather, the collaboration consists solely of an agreement *not* to produce certain carburetors. The mere coordination of decisions on output is not integration, and cost-savings without integration, such as the costs saved by refraining from design and production for any given model year, are not a basis for avoiding per se condemnation. The agreement is of a type so likely to harm competition and to have no significant benefits that particularized inquiry into its competitive effect is deemed by the antitrust laws not to be worth the time and expense that would be required. Consequently, the evaluating Agency likely would conclude that the agreement is per se illegal.

**Example 6 (Efficiency-Enhancing Integration Present)**

**Facts**

Compu-Max and Compu-Pro are two major producers of a variety of computer software. Each has a large, world-wide sales department. Each firm has developed and sold its own word-processing software. However, despite all efforts to develop a strong market presence in word processing, each firm has achieved only slightly more than a 10% market share, and neither is a major competitor to the two firms that dominate the word-processing software market.

Compu-Max and Compu-Pro determine that in light of their complementary areas of design expertise they could develop a markedly better word-processing program together than either can produce on its own. Compu-Max and Compu-Pro form a joint venture, WORD-FIRM, to jointly develop and market a new word-processing program, with expenses and profits to be split equally. Compu-Max and Compu-Pro both contribute to WORD-FIRM software developers experienced with word processing.

**Analysis**

Compu-Max and Compu-Pro have combined their word-processing design efforts, reflecting complementary areas of design expertise, in a common endeavor to develop new word-processing software that they could not have developed separately. Each participant has contributed significant assets – the time and know-how of its word-processing software developers – to the joint effort. Consequently, the evaluating Agency likely would conclude that the joint word-processing software development project is an efficiency-enhancing integration of economic activity that promotes procompetitive benefits.

**Example 7 (Efficiency-Enhancing Integration Absent)**
Facts

Each of the three major producers of flashlight batteries has a patent on a process for manufacturing a revolutionary new flashlight battery -- the Century Battery -- that would last 100 years without requiring recharging or replacement. There is little chance that another firm could produce such a battery without infringing one of the patents. Based on consumer surveys, each firm believes that aggregate profits will be less if all three sold the Century Battery than if all three sold only conventional batteries, but that any one firm could maximize profits by being the first to introduce a Century Battery. All three are capable of introducing the Century Battery within two years, although it is uncertain who would be first to market.

One component in all conventional batteries is a copper widget. An essential element in each producers’ Century Battery would be a zinc, rather than a copper widget. Instead of introducing the Century Battery, the three producers agree that their batteries will use only copper widgets. Adherence to the agreement precludes any of the producers from introducing a Century Battery.

Analysis

The agreement to use only copper widgets is merely an agreement not to produce any zinc-based batteries, in particular, the Century Battery. It is "an agreement not to compete on . . . output” and is “of a type that always or almost always tends to raise price or reduce output.” The participants do not collaborate to perform any business functions, and there are no procompetitive benefits from an efficiency-enhancing integration of economic activity. The evaluating Agency likely would challenge the agreement to use only copper widgets as per se illegal.

Section 3.3

Example 8 (Rule-of-Reason: Agreement Quickly Exculpated)

Facts

Under the facts of Example 4, Net-Business and Net-Company jointly market their independently-produced network software products through NET-FIRM. Those facts are changed in one respect: rather than jointly setting the prices of their products, Net-Business and Net-Company will each independently specify the prices at which its products are to be sold by NET-FIRM. The participants explicitly agree that each company will decide on the prices for its own software independently of the other company. The collaboration also includes a requirement that NET-FIRM compile and transmit to each participant quarterly reports summarizing any comments received from customers in the course of NET-FIRM’s marketing efforts regarding the desirable/undesirable features of and desirable improvements to (1) that participant’s product and (2) network software in general. Sufficient provisions are included to prevent the company-specific information reported to one participant from being disclosed to the other, and those provisions are followed. The information pertaining to network software in general is to be
reported simultaneously to both participants.

**Analysis**

Under these revised facts, there is no agreement “not to compete on price or output.” Absent any agreement of a type that always or almost always tends to raise price or reduce output, and absent any subsequent conduct suggesting that the firms did not follow their explicit agreement to set prices independently, no aspect of the partnership arrangement might be subjected to per se analysis. Analysis would continue under the rule of reason.

The information disclosure arrangements provide for the sharing of a very limited category of information: customer-response data pertaining to network software in general. Collection and sharing of information of this nature is unlikely to increase the ability or incentive of Net-Business or Net-Company to raise price or reduce output, quality, service, or innovation. There is no evidence that the disclosure arrangements have caused anticompetitive harm and no evidence that the prohibitions against disclosure of firm-specific information have been violated. Under any plausible relevant market definition, Net-Business and Net-Company have small market shares, and there is no other evidence to suggest that they have market power. In light of these facts, the evaluating Agency would refrain from further investigation.

**Section 3.36(a)**

**Example 9 (Cost Savings from Anticompetitive Output or Service Reductions)**

**Facts**

Two widget manufacturers enter a marketing collaboration. Each will continue to manufacture and set the price for its own widget, but the widgets will be promoted by a joint sales force. The two manufacturers conclude that through this collaboration they can increase their profits using only half of their aggregate pre-collaboration sales forces by (1) taking advantage of economies of scale -- presenting both widgets during the same customer call -- and (2) refraining from time-consuming demonstrations highlighting the relative advantages of one manufacturer’s widgets over the other manufacturer’s widgets. Prior to their collaboration, both manufacturers had engaged in the demonstrations.

**Analysis**

The savings attributable to economies of scale would be cognizable efficiencies. In contrast, eliminating demonstrations that highlight the relative advantages of one manufacturer’s widgets over the other manufacturer’s widgets deprives customers of information useful to their decision making. Cost savings from this source arise from an anticompetitive output or service reduction and would not be cognizable efficiencies.
Example 10 (Efficiencies from Restrictions on Competitive Independence)

Facts

Under the facts of Example 6, Compu-Max and Compu-Pro decide to collaborate on developing and marketing word-processing software. The firms agree that neither one will engage in R&D for designing word-processing software outside of their WORD-FIRM joint venture. Compu-Max papers drafted during the negotiations cite the concern that absent a restriction on outside word-processing R&D, Compu-Pro might withhold its best ideas, use the joint venture to learn Compu-Max’s approaches to design problems, and then use that information to design an improved word-processing software product on its own. Compu-Pro’s files contain similar documents regarding Compu-Max.

Compu-Max and Compu-Pro further agree that neither will sell its previously designed word-processing program once their jointly developed product is ready to be introduced. Papers in both firms’ files, dating from the time of the negotiations, state that this latter restraint was designed to foster greater trust between the participants and thereby enable the collaboration to function more smoothly. As further support, the parties point to a recent failed collaboration involving other firms who sought to collaborate on developing and selling a new spread-sheet program while independently marketing their older spread-sheet software.

Analysis

The restraints on outside R&D efforts and on outside sales both restrict the competitive independence of the participants and could cause competitive harm. The evaluating Agency would inquire whether each restraint is reasonably necessary to achieve cognizable efficiencies. In the given context, that inquiry would entail an assessment of whether, by aligning the participants’ incentives, the restraints in fact are reasonably necessary to deter opportunistic conduct that otherwise would likely prevent achieving cognizable efficiency goals of the collaboration.

With respect to the limitation on independent R&D efforts, possible alternatives might include agreements specifying the level and quality of each participant’s R&D contributions to WORD-FIRM or requiring the sharing of all relevant R&D. The evaluating Agency would assess whether any alternatives would permit each participant to adequately monitor the scope and quality of the other’s R&D contributions and whether they would effectively prevent the misappropriation of the other participant’s know-how. In some circumstances, there may be no "practical, significantly less restrictive" alternative.

Although the agreement prohibiting outside sales might be challenged as per se illegal if not reasonably necessary for achieving the procompetitive benefits of the integration discussed in Example 6, the evaluating Agency likely would analyze the agreement under the rule of reason if
it could not adequately assess the claim of reasonable necessity through limited factual inquiry. As a general matter, participants’ contributions of marketing assets to the collaboration could more readily be monitored than their contributions of know-how, and neither participant may be capable of misappropriating the other’s marketing contributions as readily as it could misappropriate know-how. Consequently, the specification and monitoring of each participant’s marketing contributions could be a "practical, significantly less restrictive" alternative to prohibiting outside sales of pre-existing products. The evaluating Agency, however, would examine the experiences of the failed spread-sheet collaboration and any other facts presented by the parties to better assess whether such specification and monitoring would likely enable the achievement of cognizable efficiencies.
COPPERWELD CORP. ET AL. v. INDEPENDENCE TUBE CORP.

CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SEVENTH CIRCUIT

No. 82–1260. Argued December 5, 1983—Decided June 19, 1984

Petitioner Copperweld Corp. purchased petitioner Regal Tube Co., a manufacturer of steel tubing, from Lear Siegler, Inc., which had operated Regal as an unincorporated division, and which under the sale agreement was bound not to compete with Regal for five years. Copperweld then transferred Regal's assets to a newly formed, wholly owned subsidiary. Shortly before Copperweld acquired Regal, David Grohne, who previously had been an officer of Regal, became an officer of Lear Siegler, and, while continuing to work for Lear Siegler, formed respondent corporation to compete with Regal. Respondent then gave Yoder Co. a purchase order for a tubing mill, but Yoder voided the order when it received a letter from Copperweld warning that Copperweld would be greatly concerned if Grohne contemplated competing with Regal and promising to take the necessary steps to protect Copperweld's rights under the noncompetition agreement with Lear Siegler. Respondent then arranged to have a mill supplied by another company. Thereafter, respondent filed an action in Federal District Court against petitioners and Yoder. The jury found, inter alia, that petitioners had conspired to violate § 1 of the Sherman Act but that Yoder was not part of the conspiracy, and awarded treble damages against petitioners. The Court of Appeals affirmed. Noting that the exoneration of Yoder from antitrust liability left a parent corporation and its wholly owned subsidiary as the only parties to the § 1 conspiracy, the court questioned the wisdom of subjecting an "intra-enterprise" conspiracy to antitrust liability, but held that such liability was appropriate "when there is enough separation between the two entities to make treating them as two independent actors sensible," and that there was sufficient evidence for the jury to conclude that Regal was more like a separate corporate entity than a mere service arm of the parent.

Held: Petitioner Copperweld and its wholly owned subsidiary, petitioner Regal, are incapable of conspiring with each other for purposes of § 1 of the Sherman Act. Pp. 759–777.

(a) While this Court has previously seemed to acquiesce in the "intra-enterprise conspiracy" doctrine, which provides that § 1 liability is not
foreclosed merely because a parent and its subsidiary are subject to common ownership, the Court has never explored or analyzed in detail the justifications for such a rule. Pp. 759–766.

(b) Section 1 of the Sherman Act, in contrast to § 2, reaches unreasonable restraints of trade effected by a "contract, combination . . . or conspiracy" between separate entities, and does not reach conduct that is "wholly unilateral." Pp. 767–769.

(c) The coordinated activity of a parent and its wholly owned subsidiary must be viewed as that of a single enterprise for purposes of § 1 of the Sherman Act. A parent and its wholly owned subsidiary have a complete unity of interest. Their objectives are common, not disparate, and their general corporate objectives are guided or determined not by two separate corporate consciousnesses, but one. With or without a formal "agreement," the subsidiary acts for the parent's benefit. If the parent and subsidiary "agree" to a course of action, there is no sudden joining of economic resources that had previously served different interests, and there is no justification for § 1 scrutiny. In reality, the parent and subsidiary always have a "unity of purpose or a common design." The "intra-enterprise conspiracy" doctrine relies on artificial distinctions, looking to the form of an enterprise's structure and ignoring the reality. Antitrust liability should not depend on whether a corporate subunit is organized as an unincorporated division or a wholly owned subsidiary. Here, nothing in the record indicates any meaningful difference between Regal's operations as an unincorporated division of Lear Siegler and its later operations as a wholly owned subsidiary of Copperweld. Pp. 771–774.

(d) The appropriate inquiry in this case is not whether the coordinated conduct of a parent and its wholly owned subsidiary may ever have anticompetitive effects or whether the term "conspiracy" will bear a literal construction that includes a parent and its subsidiaries, but rather whether the logic underlying Congress' decision to exempt unilateral conduct from scrutiny under § 1 of the Sherman Act similarly excludes the conduct of a parent and subsidiary. It can only be concluded that the coordinated behavior of a parent and subsidiary falls outside the reach of § 1. Any anticompetitive activities of corporations and their wholly owned subsidiaries meriting antitrust remedies may be policed adequately without resort to an "intra-enterprise conspiracy" doctrine. A corporation's initial acquisition of control is always subject to scrutiny under § 1 of the Sherman Act and § 7 of the Clayton Act, and thereafter the enterprise is subject to § 2 of the Sherman Act and § 5 of the Federal Trade Commission Act. Pp. 774–777.
BURGER, C. J., delivered the opinion of the Court, in which BLACKMUN, POWELL, REHNQUIST, and O'CONNOR, JJ., joined. STEVENS, J., filed a dissenting opinion, in which BRENNAN and MARSHALL, JJ., joined, post, p. 778. WHITE, J., took no part in the consideration or decision of the case.

Erwin N. Griswold argued the cause for petitioners. With him on the briefs were William R. Jentes, Sidney N. Herman, Robert E. Shapiro, and Donald I. Baker.

Deputy Solicitor General Wallace argued the cause for the United States as amicus curiae urging reversal. With him on the brief were Solicitor General Lee, Assistant Attorney General Baxter, Deputy Assistant Attorney General Collins, Carolyn F. Corwin, Barry Grossman, and Nancy C. Garrison.

Victor E. Grimm argued the cause for respondent. With him on the brief were John R. Myers and Scott M. Mendel.*

*J. Randolf Wilson, Russell H. Carpenter, Jr., Stephen A. Bokat, Cynthia Wicker, William E. Blasier, and Quentin Riegel filed a brief for the Chamber of Commerce of the United States et al. as amici curiae urging reversal.

CHIEF JUSTICE BURGER delivered the opinion of the Court.

We granted certiorari to determine whether a parent corporation and its wholly owned subsidiary are legally capable of conspiring with each other under §1 of the Sherman Act.

I

A

The predecessor to petitioner Regal Tube Co. was established in Chicago in 1955 to manufacture structural steel...
tubing used in heavy equipment, cargo vehicles, and construction. From 1955 to 1968 it remained a wholly owned subsidiary of C. E. Robinson Co. In 1968 Lear Siegler, Inc., purchased Regal Tube Co. and operated it as an unincorporated division. David Grohne, who had previously served as vice president and general manager of Regal, became president of the division after the acquisition.

In 1972 petitioner Copperweld Corp. purchased the Regal division from Lear Siegler; the sale agreement bound Lear Siegler and its subsidiaries not to compete with Regal in the United States for five years. Copperweld then transferred Regal's assets to a newly formed, wholly owned Pennsylvania corporation, petitioner Regal Tube Co. The new subsidiary continued to conduct its manufacturing operations in Chicago but shared Copperweld's corporate headquarters in Pittsburgh.

Shortly before Copperweld acquired Regal, David Grohne accepted a job as a corporate officer of Lear Siegler. After the acquisition, while continuing to work for Lear Siegler, Grohne set out to establish his own steel tubing business to compete in the same market as Regal. In May 1972 he formed respondent Independence Tube Corp., which soon secured an offer from the Yoder Co. to supply a tubing mill. In December 1972 respondent gave Yoder a purchase order to have a mill ready by the end of December 1973.

When executives at Regal and Copperweld learned of Grohne's plans, they initially hoped that Lear Siegler's non-competition agreement would thwart the new competitor. Although their lawyer advised them that Grohne was not bound by the agreement, he did suggest that petitioners might obtain an injunction against Grohne's activities if he made use of any technical information or trade secrets belonging to Regal. The legal opinion was given to Regal and Copperweld along with a letter to be sent to anyone with whom Grohne attempted to deal. The letter warned that Copperweld would be "greatly concerned if [Grohne] contem-
plates entering the structural tube market . . . in competition with Regal Tube” and promised to take “any and all steps which are necessary to protect our rights under the terms of our purchase agreement and to protect the know-how, trade secrets, etc., which we purchased from Lear Siegler.” Petitioners later asserted that the letter was intended only to prevent third parties from developing reliance interests that might later make a court reluctant to enjoin Grohne’s operations.

When Yoder accepted respondent’s order for a tubing mill on February 19, 1973, Copperweld sent Yoder one of these letters; two days later Yoder voided its acceptance. After respondent’s efforts to resurrect the deal failed, respondent arranged to have a mill supplied by another company, which performed its agreement even though it too received a warning letter from Copperweld. Respondent began operations on September 13, 1974, nine months later than it could have if Yoder had supplied the mill when originally agreed.

Although the letter to Yoder was petitioners’ most successful effort to discourage those contemplating doing business with respondent, it was not their only one. Copperweld repeatedly contacted banks that were considering financing respondent’s operations. One or both petitioners also approached real estate firms that were considering providing plant space to respondent and contacted prospective suppliers and customers of the new company.

B

In 1976 respondent filed this action in the District Court against petitioners and Yoder.¹ The jury found that

¹The chairman of the board and chief executive officer of both Copperweld and Regal, Phillip H. Smith, was also named as a defendant. In addition, respondents originally charged petitioners and Smith with an attempt to monopolize the market for structural steel tubing in violation of § 2 of the Sherman Act, 26 Stat. 209, as amended, 15 U. S. C. § 2. Before
Copperweld and Regal had conspired to violate § 1 of the Sherman Act, 26 Stat. 209, as amended, 15 U. S. C. § 1, but that Yoder was not part of the conspiracy. It also found that Copperweld, but not Regal, had interfered with respondent's contractual relationship with Yoder; that Regal, but not Copperweld, had interfered with respondent's contractual relationship with a potential customer of respondent, Deere Plow & Planter Works, and had slandered respondent to Deere; and that Yoder had breached its contract to supply a tubing mill.

At a separate damages phase, the judge instructed the jury that the damages for the antitrust violation and for the inducement of the Yoder contract breach should be identical and not double counted. The jury then awarded $2,499,009 against petitioners on the antitrust claim, which was trebled to $7,497,027. It awarded $15,000 against Regal alone on the contractual interference and slander counts pertaining to Deere. The court also awarded attorney's fees and costs after denying petitioners' motions for judgment n. o. v. and for a new trial.

C

The United States Court of Appeals for the Seventh Circuit affirmed. 691 F. 2d 310 (1982). It noted that the exoneration of Yoder from antitrust liability left a parent corporation and its wholly owned subsidiary as the only parties to the § 1 conspiracy. The court questioned the wisdom of subjecting an "intra-enterprise" conspiracy to antitrust liability, when the same conduct by a corporation and an unincorporated respondent dismissed Smith as a defendant and dismissed its § 2 monopolization count.

Petitioners counterclaimed on the ground that respondent and Grohne had used proprietary information belonging to Regal, had competed unfairly by hiring away key Regal personnel, and had interfered with prospective business relationships by filing the lawsuit on the eve of a large Copperweld debenture offering. At the close of the evidence, the court directed a verdict against petitioners on their counterclaims. The disposition of these claims is not at issue before this Court.
rated division would escape liability for lack of the requisite two legal persons. However, relying on its decision in *Photovest Corp. v. Fotomat Corp.*, 606 F. 2d 704 (1979), cert. denied, 445 U. S. 917 (1980), the Court of Appeals held that liability was appropriate "when there is enough separation between the two entities to make treating them as two independent actors sensible." 691 F. 2d, at 318. It held that the jury instructions took account of the proper factors for determining how much separation Copperweld and Regal in fact maintained in the conduct of their businesses. It also held that there was sufficient evidence for the jury to conclude that Regal was more like a separate corporate entity than a mere service arm of the parent.

We granted certiorari to reexamine the intra-enterprise conspiracy doctrine, 462 U. S. 1131 (1983), and we reverse.

II

Review of this case calls directly into question whether the coordinated acts of a parent and its wholly owned subsidiary can, in the legal sense contemplated by §1 of the Sherman Act, constitute a combination or conspiracy. The so-called "intra-enterprise conspiracy" doctrine provides that §1 liability is not foreclosed merely because a parent and its subsidiary are subject to common ownership. The doctrine derives from declarations in several of this Court's opinions.

---

2The jury was instructed to consider many different factors: for instance, whether Copperweld and Regal had separate management staffs, separate corporate officers, separate clients, separate records and bank accounts, separate corporate offices, autonomy in setting policy, and so on. The jury also was instructed to consider "any other facts that you find are relevant to a determination of whether or not Copperweld and Regal are separate and distinct companies." App. to Pet. for Cert. B–9.

3Section 1 of the Sherman Act provides in pertinent part:

"Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is declared to be illegal. Every person who shall make any contract or engage in any combination or conspiracy hereby declared to be illegal shall be deemed guilty of a felony." 26 Stat. 209, as amended, 15 U. S. C. §1.
In no case has the Court considered the merits of the intra-enterprise conspiracy doctrine in depth. Indeed, the concept arose from a far narrower rule. Although the Court has expressed approval of the doctrine on a number of occasions, a finding of intra-enterprise conspiracy was in all but perhaps one instance unnecessary to the result.

The problem began with United States v. Yellow Cab Co., 332 U. S. 218 (1947). The controlling shareholder of the Checker Cab Manufacturing Corp., Morris Markin, also controlled numerous companies operating taxicabs in four cities. With few exceptions, the operating companies had once been independent and had come under Markin's control by acquisition or merger. The complaint alleged conspiracies under §§ 1 and 2 of the Sherman Act among Markin, Checker, and five corporations in the operating system. The Court stated that even restraints in a vertically integrated enterprise were not “necessarily” outside of the Sherman Act, observing that an unreasonable restraint

"may result as readily from a conspiracy among those who are affiliated or integrated under common ownership as from a conspiracy among those who are otherwise independent. Similarly, any affiliation or integration flowing from an illegal conspiracy cannot insulate the conspirators from the sanctions which Congress has imposed. The corporate interrelationships of the conspirators, in other words, are not determinative of the applicability of the Sherman Act. That statute is aimed at substance rather than form. See Appalachian Coals, Inc. v. United States, 288 U. S. 344, 360–361, 376–377.

“And so in this case, the common ownership and control of the various corporate appellees are impotent to liberate the alleged combination and conspiracy from the impact of the Act. The complaint charges that the restraint of interstate trade was not only effected by the combination of the appellees but was the primary object
of the combination. The theory of the complaint . . . is that ‘dominating power’ over the cab operating companies ‘was not obtained by normal expansion . . . but by deliberate, calculated purchase for control.’” Id., at 227–228 (emphasis added) (quoting United States v. Reading Co., 253 U. S. 26, 57 (1920)).

It is the underscored language that later breathed life into the intra-enterprise conspiracy doctrine. The passage as a whole, however, more accurately stands for a quite different proposition. It has long been clear that a pattern of acquisitions may itself create a combination illegal under § 1, especially when an original anticompetitive purpose is evident from the affiliated corporations’ subsequent conduct.\(^4\) The Yellow Cab passage is most fairly read in light of this settled rule. In Yellow Cab, the affiliation of the defendants was irrelevant because the original acquisitions were themselves illegal.\(^5\) An affiliation “flowing from an illegal conspiracy” would not avert sanctions. Common ownership and control were irrelevant because restraint of trade was the primary object of the combination,” which was created in a “delib-

\(^4\) Under the arrangements condemned in Northern Securities Co. v. United States, 193 U. S. 197, 354 (1904) (plurality opinion), “all the stock [a railroad holding company] held or acquired in the constituent companies was acquired and held to be used in suppressing competition between those companies. It came into existence only for that purpose.” In Standard Oil Co. v. United States, 221 U. S. 1 (1911), and United States v. American Tobacco Co., 221 U. S. 106 (1911), the trust or holding company device brought together previously independent firms to lessen competition and achieve monopoly power. Although the Court in the latter case suggested that the contracts between affiliated companies, and not merely the original combination, could be viewed as the conspiracy, id., at 184, the Court left no doubt that “the combination in and of itself” was a restraint of trade and a monopolization, id., at 187.

\(^5\) Contrary to the dissent’s suggestion, post, at 779, 788, n. 18, our point is not that Yellow Cab found only the initial acquisition illegal; our point is that the illegality of the initial acquisition was a predicate for its holding that any postacquisition conduct violated the Act.
erate, calculated’’ manner. Other language in the opinion is to the same effect.6

The Court’s opinion relies on Appalachian Coals, Inc. v. United States, 288 U. S. 344 (1933); however, examination of that case reveals that it gives very little support for the broad doctrine Yellow Cab has been thought to announce. On the contrary, the language of Chief Justice Hughes speaking for the Court in Appalachian Coals supports a contrary conclusion. After observing that “[t]he restrictions the Act imposes are not mechanical or artificial,” 288 U. S., at 360, he went on to state:

6 When discussing the fact that some of the affiliated Chicago operating companies did not compete to obtain exclusive transportation contracts held by another of the affiliated companies, the Court stated:

“[T]he fact that the competition restrained is that between affiliated corporations cannot serve to negative the statutory violation where, as here, the affiliation is assertedly one of the means of effectuating the illegal conspiracy not to compete.” 332 U. S., at 229 (emphasis added).

The passage quoted in text is soon followed by a cite to United States v. Crescent Amusement Co., 323 U. S. 173, 189 (1944). Crescent Amusement found violations of §§ 1 and 2 by film exhibitors affiliated (in most cases) by 50 percent ownership. The exhibitors used the monopoly power they possessed in certain towns to force film distributors to give them favorable terms in other towns. The Court found it unnecessary to view the distributors as part of the conspiracy, id., at 183, so the Court plainly viewed the affiliated entities themselves as the conspirators. The Crescent Amusement Court, however, in affirming an order of divestiture, noted that such a remedy was appropriate when “creation of the combination is itself the violation.” Id., at 189. This suggests that both Crescent Amusement and Yellow Cab, which cited the very page on which this passage appears, stand for a narrow rule based on the original illegality of the affiliation.

The dissent misconstrues a later passage in Crescent Amusement stating that divestiture need not be limited to those affiliates whose “acquisition was part of the fruits of the conspiracy,” 323 U. S., at 189. See post, at 780–781. This meant only that divestiture could apply to affiliates other than those who were driven out of business by the practices of the original conspirators and who were then acquired illegally to increase the combination’s monopoly power. See 323 U. S., at 181. It did not mean that affiliates acquired for lawful purposes were subject to divestiture.
"The argument that integration may be considered a normal expansion of business, while a combination of independent producers in a common selling agency should be treated as abnormal—that one is a legitimate enterprise and the other is not—makes but an artificial distinction. The Anti-Trust Act aims at substance."  

As we shall see, infra, at 771–774, it is the intra-enterprise conspiracy doctrine itself that "makes but an artificial distinction" at the expense of substance.

The ambiguity of the Yellow Cab holding yielded the one case giving support to the intra-enterprise conspiracy doctrine. In Kiefer-Stewart Co. v. Joseph E. Seagram & Sons, Inc., 340 U. S. 211 (1951), the Court held that two wholly owned subsidiaries of a liquor distiller were guilty under § 1 of the Sherman Act for jointly refusing to supply a wholesaler who declined to abide by a maximum resale pricing scheme. The Court offhandedly dismissed the defendants' argument

7 Appalachian Coals does state that the key question is whether there is an unreasonable restraint of trade or an attempt to monopolize. "If there is, the combination cannot escape because it has chosen corporate form; and, if there is not, it is not to be condemned because of the absence of corporate integration." 288 U. S., at 377. Appalachian Coals, however, validated a cooperative selling arrangement among independent entities. The statement that intracorporate relationships would be subject to liability under § 1 is thus dictum. The statement may also envision merely the limited rule in Yellow Cab pertaining to acquisitions that are themselves anticompetitive.

8 In two cases decided soon after Yellow Cab on facts similar to Crescent Amusement, see n. 6, supra, affiliated film exhibitors were found to have conspired in violation of §1. Schine Chain Theatres, Inc. v. United States, 334 U. S. 110 (1948); United States v. Griffith, 334 U. S. 100 (1948). Griffith simply assumed that the companies were capable of conspiring with each other; Schine cited Yellow Cab and Crescent Amusement for the proposition, 334 U. S., at 116. In both cases, however, an intra-enterprise conspiracy holding was unnecessary not only because the Court found a § 2 violation, but also because the affiliated exhibitors had conspired with independent film distributors. See ibid.; Griffith, supra, at 103, n. 6, 109.
that "their status as 'mere instrumentalities of a single manufacturing-merchandizing unit' makes it impossible for them to have conspired in a manner forbidden by the Sherman Act." Id., at 215. With only a citation to Yellow Cab and no further analysis, the Court stated that the

"suggestion runs counter to our past decisions that common ownership and control does not liberate corporations from the impact of the antitrust laws"

and stated that this rule was "especially applicable" when defendants "hold themselves out as competitors." 340 U. S., at 215.

Unlike the Yellow Cab passage, this language does not pertain to corporations whose initial affiliation was itself unlawful. In straying beyond Yellow Cab, the Kiefer-Stewart Court failed to confront the anomalies an intra-enterprise doctrine entails. It is relevant nonetheless that, were the case decided today, the same result probably could be justified on the ground that the subsidiaries conspired with wholesalers other than the plaintiff. An intra-enterprise conspiracy doctrine thus would no longer be necessary to a finding of liability on the facts of Kiefer-Stewart.

Later cases invoking the intra-enterprise conspiracy doctrine do little more than cite Yellow Cab or Kiefer-Stewart, and in none of the cases was the doctrine necessary to the result reached. Timken Roller Bearing Co. v. United States, 341 U. S. 593 (1951), involved restrictive horizontal agree-

*Although the plaintiff apparently never acquiesced in the resale price maintenance scheme, Kiefer-Stewart Co. v. Joseph E. Seagram & Sons, Inc., 182 F. 2d 228, 231 (CA7 1950), rev'd, 340 U. S. 211 (1951), one of the subsidiaries did gain the compliance of other wholesalers after once terminating them for refusing to abide by the pricing scheme. See 182 F. 2d, at 231; 340 U. S., at 213. A theory of combination between the subsidiaries and the wholesalers could now support § 1 relief, whether or not it could have when Kiefer-Stewart was decided. See Albrecht v. Herald Co., 390 U. S. 145, 149-150, and n. 6 (1968); United States v. Parke, Davis & Co., 362 U. S. 29 (1960).
ments between an American corporation and two foreign corporations in which it owned 30 and 50 percent interests respectively. The Timken Court cited Kiefer-Stewart to show that "[t]he fact that there is common ownership or control of the contracting corporations does not liberate them from the impact of the antitrust laws." 341 U. S., at 598. But the relevance of this statement is unclear. The American defendant in Timken did not own a majority interest in either of the foreign corporate conspirators and, as the District Court found, it did not control them. Moreover, as in Yellow Cab, there was evidence that the stock acquisitions were themselves designed to effectuate restrictive practices. The Court's reliance on the intra-enterprise conspiracy doctrine was in no way necessary to the result.

The same is true of Perma Life Mufflers, Inc. v. International Parts Corp., 392 U. S. 134 (1968), which involved a conspiracy among a parent corporation and three subsidiaries to impose various illegal restrictions on plaintiff franchisees. The Court did suggest that, because the defendants

"availed themselves of the privilege of doing business through separate corporations, the fact of common own-

---

10 See United States v. Timken Roller Bearing Co., 83 F. Supp. 284, 311–312 (ND Ohio 1949), aff'd as modified, 341 U. S. 593 (1951). The agreement of an individual named Dewar, who owned 24 and 50 percent of the foreign corporations respectively, was apparently required for the American defendant to have its way.

11 For almost 20 years before they became affiliated by stock ownership, two of the corporations had been party to the sort of restrictive agreements the Timken Court condemned. Three Justices upholding antitrust liability were of the view that Timken's "interests in the [foreign] companies were obtained as part of a plan to promote the illegal trade restraints" and that the "intercorporate relationship" was "the core of the conspiracy." Id., at 600–601. Because two Justices found no antitrust violation at all, see id., at 605 (Frankfurter, J., dissenting); id., at 606 (Jackson, J., dissenting), and two Justices did not take part, apparently only Chief Justice Vinson and Justice Reed were prepared to hold that there was a violation even if the initial acquisition itself was not illegal. See id., at 601–602 (Reed, J., joined by Vinson, C. J., concurring).
ership could not save them from any of the obligations that the law imposes on separate entities [citing Yellow Cab and Timken].”  

But the Court noted immediately thereafter that “[i]n any event” each plaintiff could “clearly” charge a combination between itself and the defendants or between the defendants and other franchise dealers.  

Thus, for the same reason that a finding of liability in Kiefer-Stewart could today be justified without reference to the intra-enterprise conspiracy doctrine, see n. 9, supra, the doctrine was at most only an alternative holding in Perma Life Mufflers.

In short, while this Court has previously seemed to acquiesce in the intra-enterprise conspiracy doctrine, it has never explored or analyzed in detail the justifications for such a rule; the doctrine has played only a relatively minor role in the Court’s Sherman Act holdings.

III

Petitioners, joined by the United States as amicus curiae, urge us to repudiate the intra-enterprise conspiracy doctrine. 12 The central criticism is that the doctrine gives undue significance to the fact that a subsidiary is separately incorporated and thereby treats as the concerted activity of two

---

entities what is really unilateral behavior flowing from decisions of a single enterprise.

We limit our inquiry to the narrow issue squarely presented: whether a parent and its wholly owned subsidiary are capable of conspiring in violation of §1 of the Sherman Act. We do not consider under what circumstances, if any, a parent may be liable for conspiring with an affiliated corporation it does not completely own.

A

The Sherman Act contains a "basic distinction between concerted and independent action." Monsanto Co. v. Spray-Rite Service Corp., 465 U. S. 752, 761 (1984). The conduct of a single firm is governed by §2 alone and is unlawful only when it threatens actual monopolization. It is not enough that a single firm appears to "restrain trade" unreasonably, for even a vigorous competitor may leave that impression. For instance, an efficient firm may capture unsatisfied customers from an inefficient rival, whose own ability to compete may suffer as a result. This is the rule of the marketplace and is precisely the sort of competition that promotes the consumer interests that the Sherman Act aims to foster. In part because it is sometimes difficult to

13 "Section 2 of the Sherman Act provides in pertinent part:

"Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a felony." 26 Stat. 209, as amended, 15 U. S. C. §2.

By making a conspiracy to monopolize unlawful, §2 does reach both concerted and unilateral behavior. The point remains, however, that purely unilateral conduct is illegal only under §2 and not under §1. Monopolization without conspiracy is unlawful under §2, but restraint of trade without a conspiracy or combination is not unlawful under §1.

14 "For example, the Court has declared that §2 does not forbid market power to be acquired "as a consequence of a superior product, [or] business acumen." United States v. Grinnell Corp., 384 U. S. 563, 571 (1966). We have also made clear that the "antitrust laws . . . were enacted for 'the protection of competition, not competitors.'" Brunswick Corp. v. Pueblo
distinguish robust competition from conduct with long-run anticompetitive effects, Congress authorized Sherman Act scrutiny of single firms only when they pose a danger of monopolization. Judging unilateral conduct in this manner reduces the risk that the antitrust laws will dampen the competitive zeal of a single aggressive entrepreneur.

Section 1 of the Sherman Act, in contrast, reaches unreasonable restraints of trade effected by a "contract, combination . . . or conspiracy" between separate entities. It does not reach conduct that is "wholly unilateral." Albrecht v. Herald Co., 390 U. S. 145, 149 (1968); accord, Monsanto Co. v. Spray-Rite Corp., supra, at 761. Concerted activity subject to §1 is judged more sternly than unilateral activity under §2. Certain agreements, such as horizontal price fixing and market allocation, are thought so inherently anticompetitive that each is illegal per se without inquiry into the harm it has actually caused. See generally Northern Pacific R. Co. v. United States, 356 U. S. 1, 5 (1958). Other combinations, such as mergers, joint ventures, and various vertical agreements, hold the promise of increasing a firm's efficiency and enabling it to compete more effectively. Accordingly, such combinations are judged under a rule of reason, an inquiry into market power and market structure designed to assess the combination's actual effect. See, e.g., Continental T. V., Inc. v. GTE Sylvania Inc., 433 U. S. 36 (1977); Chicago Board of Trade v. United States, 246 U. S. 231 (1918). Whatever form the inquiry takes, however, it is not necessary to prove that concerted activity threatens monopolization.

The reason Congress treated concerted behavior more strictly than unilateral behavior is readily appreciated. Concerted activity inherently is fraught with anticompetitive

risk. It deprives the marketplace of the independent centers of decisionmaking that competition assumes and demands. In any conspiracy, two or more entities that previously pursued their own interests separately are combining to act as one for their common benefit. This not only reduces the diverse directions in which economic power is aimed but suddenly increases the economic power moving in one particular direction. Of course, such mergings of resources may well lead to efficiencies that benefit consumers, but their anticompetitive potential is sufficient to warrant scrutiny even in the absence of incipient monopoly.

B

The distinction between unilateral and concerted conduct is necessary for a proper understanding of the terms "contract, combination . . . or conspiracy" in § 1. Nothing in the literal meaning of those terms excludes coordinated conduct among officers or employees of the same company. But it is perfectly plain that an internal "agreement" to implement a single, unitary firm's policies does not raise the antitrust dangers that § 1 was designed to police. The officers of a single firm are not separate economic actors pursuing separate economic interests, so agreements among them do not suddenly bring together economic power that was previously pursuing divergent goals. Coordination within a firm is as likely to result from an effort to compete as from an effort to stifle competition. In the marketplace, such coordination may be necessary if a business enterprise is to compete effectively. For these reasons, officers or employees of the same firm do not provide the plurality of actors imperative for a § 1 conspiracy. 15

There is also general agreement that § 1 is not violated by the internally coordinated conduct of a corporation and one of its unincorporated divisions.\textsuperscript{16} Although this Court has not previously addressed the question,\textsuperscript{17} there can be little doubt that the operations of a corporate enterprise organized into divisions must be judged as the conduct of a single actor. The existence of an unincorporated division reflects no more than a firm's decision to adopt an organizational division of labor. A division within a corporate structure pursues the common interests of the whole rather than interests separate from those of the corporation itself; a business enterprise establishes divisions to further its own interests in the most efficient manner. Because coordination between a corporation


\textsuperscript{17}The Court left this issue unresolved in Poller v. Columbia Broadcasting System, Inc., 368 U. S., at 469, n. 4.
and its division does not represent a sudden joining of two independent sources of economic power previously pursuing separate interests, it is not an activity that warrants § 1 scrutiny.

Indeed, a rule that punished coordinated conduct simply because a corporation delegated certain responsibilities to autonomous units might well discourage corporations from creating divisions with their presumed benefits. This would serve no useful antitrust purpose but could well deprive consumers of the efficiencies that decentralized management may bring.

C

For similar reasons, the coordinated activity of a parent and its wholly owned subsidiary must be viewed as that of a single enterprise for purposes of § 1 of the Sherman Act. A parent and its wholly owned subsidiary have a complete unity of interest. Their objectives are common, not disparate; their general corporate actions are guided or determined not by two separate corporate consciousnesses, but one. They are not unlike a multiple team of horses drawing a vehicle under the control of a single driver. With or without a formal "agreement," the subsidiary acts for the benefit of the parent, its sole shareholder. If a parent and a wholly owned subsidiary do "agree" to a course of action, there is no sudden joining of economic resources that had previously served different interests, and there is no justification for § 1 scrutiny.

Indeed, the very notion of an "agreement" in Sherman Act terms between a parent and a wholly owned subsidiary lacks meaning. A § 1 agreement may be found when "the conspirators had a unity of purpose or a common design and understanding, or a meeting of minds in an unlawful arrangement." American Tobacco Co. v. United States, 328 U. S. 781, 810 (1946). But in reality a parent and a wholly owned subsidiary always have a "unity of purpose or a common design." They share a common purpose whether or not the parent keeps a tight rein over the subsidiary; the parent may assert
full control at any moment if the subsidiary fails to act in the parent's best interests.\(^8\)

The intra-enterprise conspiracy doctrine looks to the form of an enterprise's structure and ignores the reality. Antitrust liability should not depend on whether a corporate subunit is organized as an unincorporated division or a wholly owned subsidiary. A corporation has complete power to maintain a wholly owned subsidiary in either form. The economic, legal, or other considerations that lead corporate management to choose one structure over the other are not relevant to whether the enterprise's conduct seriously threatens competition.\(^9\) Rather, a corporation may adopt the subsidiary form of organization for valid management and related purposes. Separate incorporation may im-

---

\(^8\) As applied to a wholly owned subsidiary, the so-called "single entity" test is thus inadequate to preserve the Sherman Act's distinction between unilateral and concerted conduct. Followed by the Seventh Circuit below as well as by other Courts of Appeals, this test sets forth various criteria for evaluating whether a given parent and subsidiary are capable of conspiring with each other. See n. 2, supra; see generally Ogilvie v. Fotomat Corp., 641 F. 2d 581 (CA8 1981); Las Vegas Sun, Inc. v. Summa Corp., 610 F. 2d 614 (CA9 1979), cert. denied, 447 U. S. 906 (1980); Photovest Corp. v. Fotomat Corp., 606 F. 2d 704 (CA7 1979), cert. denied, 445 U. S. 917 (1980). These criteria measure the "separateness" of the subsidiary: whether it has separate control of its day-to-day operations, separate officers, separate corporate headquarters, and so forth. At least when a subsidiary is wholly owned, however, these factors are not sufficient to describe a separate economic entity for purposes of the Sherman Act. The factors simply describe the manner in which the parent chooses to structure a subunit of itself. They cannot overcome the basic fact that the ultimate interests of the subsidiary and the parent are identical, so the parent and the subsidiary must be viewed as a single economic unit.

\(^9\) Because an "agreement" between a parent and its wholly owned subsidiary is no more likely to be anticompetitive than an agreement between two divisions of a single corporation, it does not matter that the parent "availed [itself] of the privilege of doing business through separate corporations," Perma Life Mufflers, Inc. v. International Parts Corp., 392 U. S. 134, 141 (1968). The purposeful choice of a parent corporation to organize a subunit as a subsidiary is not itself a reason to heighten antitrust scrutiny, because it is not laden with anticompetitive risk.
prove management, avoid special tax problems arising from multistate operations, or serve other legitimate interests. Especially in view of the increasing complexity of corporate operations, a business enterprise should be free to structure itself in ways that serve efficiency of control, economy of operations, and other factors dictated by business judgment without increasing its exposure to antitrust liability. Because there is nothing inherently anticompetitive about a corporation's decision to create a subsidiary, the intra-enterprise conspiracy doctrine "impose[s] grave legal consequences upon organizational distinctions that are of \textit{de minimis} meaning and effect." \textsc{Sunkist Growers, Inc. v. Winckler & Smith Citrus Products Co.}, 370 U. S. 19, 29 (1962).

If antitrust liability turned on the garb in which a corporate subunit was clothed, parent corporations would be encouraged to convert subsidiaries into unincorporated divisions. Indeed, this is precisely what the Seagram company did after this Court's decision in \textit{Kiefer-Stewart Co. v. Joseph E. Seagram & Sons, Inc.}, 340 U. S. 211 (1951). Such an

\begin{itemize}
\item For example, "[s]eparate incorporation may reduce federal or state taxes or facilitate compliance with regulatory or reporting laws. Local incorporation may also improve local identification. Investors or lenders may prefer to specialize in a particular aspect of a conglomerate's business. Different parts of the business may require different pension or profit-sharing plans or different accounting practices." \textsc{Areeda, 97 Harv. L. Rev.}, at 453.

\item \textit{Sunkist Growers} provides strong support for the notion that separate incorporation does not necessarily imply a capacity to conspire. The defendants in that case were an agricultural cooperative, its wholly owned subsidiary, and a second cooperative comprising only members of the first. The Court refused to find a § 1 or § 2 conspiracy among them because they were "one 'organization' or 'association' even though they have formally organized themselves into three separate legal entities." 370 U. S., at 29. Although this holding derived from statutory immunities granted to agricultural organizations, the reasoning of \textit{Sunkist Growers} supports the broader principle that substance, not form, should determine whether a separately incorporated entity is capable of conspiring under § 1.

\end{itemize}
incentive serves no valid antitrust goals but merely deprives consumers and producers of the benefits that the subsidiary form may yield.

The error of treating a corporate division differently from a wholly owned subsidiary is readily seen from the facts of this case. Regal was operated as an unincorporated division of Lear Siegler for four years before it became a wholly owned subsidiary of Copperweld. Nothing in this record indicates any meaningful difference between Regal's operations as a division and its later operations as a separate corporation. Certainly nothing suggests that Regal was a greater threat to competition as a subsidiary of Copperweld than as a division of Lear Siegler. Under either arrangement, Regal might have acted to bar a new competitor from entering the market. In one case it could have relied on economic power from other quarters of the Lear Siegler corporation; instead it drew on the strength of its separately incorporated parent, Copperweld. From the standpoint of the antitrust laws, there is no reason to treat one more harshly than the other. As Chief Justice Hughes cautioned, "[r]ealities must dominate the judgment." Appalachian Coals, Inc. v. United States, 288 U. S., at 360.

D

Any reading of the Sherman Act that remains true to the Act's distinction between unilateral and concerted conduct will necessarily disappoint those who find that distinction arbitrary. It cannot be denied that §1's focus on concerted

---

23 The dissent argues that references in the legislative history to "trusts" suggest that Congress intended §1 to govern the conduct of all affiliated corporations. See post, at 787-788. But those passages explicitly refer to combinations created for the very purpose of restraining trade. None of the cited debates refers to the postacquisition conduct of corporations whose initial affiliation was lawful. Indeed, Senator Sherman stated: "It is the unlawful combination, tested by the rules of common law and human experience, that is aimed at by this bill, and not the lawful and useful combination." 21 Cong. Rec. 2457 (1890).
behavior leaves a "gap" in the Act's proscription against unreasonable restraints of trade. See post, at 789. An unreasonable restraint of trade may be effected not only by two independent firms acting in concert; a single firm may restrain trade to precisely the same extent if it alone possesses the combined market power of those same two firms. Because the Sherman Act does not prohibit unreasonable restraints of trade as such—but only restraints effected by a contract, combination, or conspiracy—it leaves untouched a single firm's anticompetitive conduct (short of threatened monopolization) that may be indistinguishable in economic effect from the conduct of two firms subject to §1 liability.

We have already noted that Congress left this "gap" for eminently sound reasons. Subjecting a single firm's every action to judicial scrutiny for reasonableness would threaten to discourage the competitive enthusiasm that the antitrust laws seek to promote. See supra, at 767–769. Moreover, whatever the wisdom of the distinction, the Act's plain language leaves no doubt that Congress made a purposeful choice to accord different treatment to unilateral and concerted conduct. Had Congress intended to outlaw unreasonable restraints of trade as such, §1's requirement of a contract, combination, or conspiracy would be superfluous, as would the entirety of §2.\(^{24}\) Indeed, this Court has recog-

\(^{24}\) Even if common-law intracorporate conspiracies were firmly established when Congress passed the Sherman Act, the obvious incompatibility of an intracorporate conspiracy with §1 is sufficient to refute the dissent's suggestion that Congress intended to incorporate such a definition. See post, at 784–787. Moreover, it is far from clear that intracorporate conspiracies were recognized at common law in 1890. Even today courts disagree whether corporate employees can conspire with themselves or with the corporation for purposes of certain statutes, such as 42 U. S. C. §1985(3). Compare, e. g., Novotny v. Great Am. Fed. Sav. & Loan Assn., 584 F. 2d 1235 (CA3 1978) (en banc), vacated and remanded on other grounds, 442 U. S. 366 (1979), with Dombrowski v. Dowling, 459 F. 2d 190 (CA7 1972). And in 1890 it was disputed whether a corporation could itself be guilty of a crime that required criminal intent, such as
nized that §1 is limited to concerted conduct at least since the days of United States v. Colgate & Co., 250 U. S. 300 (1919). Accord, post, at 789.

The appropriate inquiry in this case, therefore, is not whether the coordinated conduct of a parent and its wholly owned subsidiary may ever have anticompetitive effects, as the dissent suggests. Nor is it whether the term “conspiracy” will bear a literal construction that includes parent corporations and their wholly owned subsidiaries. For if these were the proper inquiries, a single firm’s conduct would be subject to §1 scrutiny whenever the coordination of two employees was involved. Such a rule would obliterate the Act’s distinction between unilateral and concerted conduct, contrary to the clear intent of Congress as interpreted by the weight of judicial authority. See n. 15, supra. Rather, the appropriate inquiry requires us to explain the logic underlying Congress’ decision to exempt unilateral conduct from §1 scrutiny, and to assess whether that logic similarly excludes the conduct of a parent and its wholly owned subsidiary. Unless we second-guess the judgment of Congress to limit §1 to concerted conduct, we can only conclude that the coordinated behavior of a parent and its wholly owned subsidiary falls outside the reach of that provision.

Although we recognize that any “gap” the Sherman Act leaves is the sensible result of a purposeful policy decision by Congress, we also note that the size of any such gap is open

conspiracy. Commentators appear to agree that courts began finding corporate liability for such crimes only around the turn of the century. See generally Edgerton, Corporate Criminal Responsibility, 36 Yale L. J. 827, 828, and n. 11 (1927); Miller, Corporate Criminal Liability: A Principle Extended to Its Limits, 38 Fed. Bar J. 49 (1979); Note, 60 Harv. L. Rev. 283, 284, and n. 9 (1946). Of course, Congress changed that common-law rule when it explicitly provided that a corporation could be guilty of a §1 conspiracy. But the point remains that the Sherman Act did not import a pre-existing common-law tradition recognizing conspiracies between corporations and their own employees.
to serious question. Any anticompetitive activities of corporations and their wholly owned subsidiaries meriting antitrust remedies may be policed adequately without resort to an intra-enterprise conspiracy doctrine. A corporation's initial acquisition of control will always be subject to scrutiny under §1 of the Sherman Act and §7 of the Clayton Act, 38 Stat. 731, 15 U. S. C. §18. Thereafter, the enterprise is fully subject to §2 of the Sherman Act and §5 of the Federal Trade Commission Act, 38 Stat. 719, 15 U. S. C. §45. That these statutes are adequate to control dangerous anticompetitive conduct is suggested by the fact that not a single holding of antitrust liability by this Court would today be different in the absence of an intra-enterprise conspiracy doctrine. It is further suggested by the fact that the Federal Government, in its administration of the antitrust laws, no longer accepts the concept that a corporation and its wholly owned subsidiaries can "combine" or "conspire" under §1. Elimination of the intra-enterprise conspiracy doctrine with respect to corporations and their wholly owned subsidiaries will therefore not cripple antitrust enforcement. It will simply eliminate treble damages from private state tort suits masquerading as antitrust actions.

IV

We hold that Copperweld and its wholly owned subsidiary Regal are incapable of conspiring with each other for purposes of §1 of the Sherman Act. To the extent that prior decisions of this Court are to the contrary, they are disapproved and overruled. Accordingly, the judgment of the Court of Appeals is reversed.

It is so ordered.

25 "[T]he [intra-enterprise conspiracy] doctrine has played a relatively minor role in government enforcement actions, and the government has not relied on the doctrine in recent years." Brief for United States as Amicus Curiae 26, n. 42.
JUSTICE WHITE took no part in the consideration or decision of this case.

JUSTICE STEVENS, with whom JUSTICE BRENNAN and JUSTICE MARSHALL join, dissenting.

It is safe to assume that corporate affiliates do not vigorously compete with one another. A price-fixing or market-allocation agreement between two or more such corporate entities does not, therefore, eliminate any competition that would otherwise exist. It makes no difference whether such an agreement is labeled a "contract," a "conspiracy," or merely a policy decision, because it surely does not unreasonably restrain competition within the meaning of the Sherman Act. The Rule of Reason has always given the courts adequate latitude to examine the substance rather than the form of an arrangement when answering the question whether collective action has restrained competition within the meaning of §1.

Today the Court announces a new per se rule: a wholly owned subsidiary is incapable of conspiring with its parent under §1 of the Sherman Act. Instead of redefining the word "conspiracy," the Court would be better advised to continue to rely on the Rule of Reason. Precisely because they do not eliminate competition that would otherwise exist but rather enhance the ability to compete, restraints which enable effective integration between a corporate parent and its subsidiary—the type of arrangement the Court is properly concerned with protecting—are not prohibited by §1. Thus, the Court's desire to shield such arrangements from antitrust liability provides no justification for the Court's new rule.

In contrast, the case before us today presents the type of restraint that has precious little to do with effective integration between parent and subsidiary corporations. Rather, the purpose of the challenged conduct was to exclude a potential competitor of the subsidiary from the market. The jury apparently concluded that the two defendant corporations—
COPPERWELD CORP. v. INDEPENDENCE TUBE CORP. 779

752  STEVENS, J., dissenting

Copperweld and its subsidiary Regal—had successfully delayed Independence's entry into the steel tubing business by applying a form of economic coercion to potential suppliers of financing and capital equipment, as well as to potential customers. Everyone seems to agree that this conduct was tortious as a matter of state law. This type of exclusionary conduct is plainly distinguishable from vertical integration designed to achieve competitive efficiencies. If, as seems to be the case, the challenged conduct was manifestly anti-competitive, it should not be immunized from scrutiny under §1 of the Sherman Act.

I

Repudiation of prior cases is not a step that should be taken lightly. As the Court wrote only days ago: "[A]ny departure from the doctrine of stare decisis demands special justification." *Arizona v. Rumsey*, ante, at 212. It is therefore appropriate to begin with an examination of the precedents.

In *United States v. Yellow Cab Co.*, 332 U.S. 218 (1947), the Court explicitly stated that a corporate subsidiary could conspire with its parent:

"The fact that these restraints occur in a setting described by the appellees as a vertically integrated enterprise does not necessarily remove the ban of the Sherman Act. The test of illegality under the Act is the presence or absence of an unreasonable restraint on interstate commerce. Such a restraint may result as readily from a conspiracy among those who are affiliated or integrated under common ownership as from a conspiracy among those who are otherwise independent." *Id.*, at 227.

The majority attempts to explain *Yellow Cab* by suggesting that it dealt only with unlawful acquisition of subsidiaries. *Ante*, at 761-762. But the Court mentioned acquisitions only as an additional consideration separate from the passage
quoted above, and more important, the Court explicitly held that restraints imposed by the corporate parent on the affiliates that it already owned in themselves violated §1.2

At least three cases involving the motion picture industry also recognize that affiliated corporations may combine or conspire within the meaning of §1. In United States v. Crescent Amusement Co., 323 U. S. 173 (1944), as the Court recognizes, ante, at 762, n. 6, the only conspirators were affiliated corporations. The majority's claim that the case involved only unlawful acquisitions because of the Court's comments concerning divestiture of the affiliates cannot be squared with the passage immediately following that cited by the majority, which states that there had been unlawful conduct going beyond the acquisition of subsidiaries:

"That principle is adequate here to justify divestiture of all interest in some of the affiliates since their acquisition was part of the fruits of the conspiracy. But the relief need not, and under these facts should not, be so restricted [to divestiture]. The fact that the companies were affiliated induced joint action and agreement. Common control was one of the instruments in bringing about unity of purpose and unity of action and in making the conspiracy effective. If that affiliation continues,

1The language I have quoted, most of which is overlooked by the majority, makes it clear that the Court's adoption of the concept of conspiracy between affiliated corporations was unqualified. As the first word of the sentence indicates, the Court's following statement: "Similarly, any affiliation or integration flowing from an illegal conspiracy cannot insulate the conspirators from the sanctions which Congress has imposed," 332 U. S., at 227, expresses a separate if related point.

2"[B]y preventing the cab operating companies under their control from purchasing cabs from manufacturers other than CCM, the appellees deny those companies the opportunity to purchase cabs in a free, competitive market. The Sherman Act has never been thought to sanction such a conspiracy to restrain the free purchase of goods in interstate commerce." Id., at 226–227 (footnote omitted).
there will be tempting opportunity for these exhibitors to continue to act in combination against the independents.” 323 U. S., at 189–190 (emphasis supplied).

Similarly, in Schine Chain Theatres, Inc. v. United States, 334 U. S. 110 (1948), the Court held that concerted action by parents and subsidiaries constituted an unlawful conspiracy. That was also the holding in United States v. Griffith, 334 U. S. 100, 109 (1948). The majority’s observation that in these cases there were alternative grounds that could have been used to reach the same result, ante, at 763, n. 8, disguises neither the fact that the holding that actually appears in these opinions rests on conspiracy between affiliated entities, nor that today’s holding is inconsistent with what was actually held in these cases.

In Kiefer-Stewart Co. v. Joseph E. Seagram & Sons, Inc., 340 U. S. 211 (1951), the Court’s holding was plain and unequivocal:

“Respondents next suggest that their status as ‘mere instrumentalities of a single manufacturing-merchandizing unit’ makes it impossible for them to have conspired in a manner forbidden by the Sherman Act. But this suggestion runs counter to our past decisions that common ownership and control does not liberate corporations from the impact of the antitrust laws. E. g. United States v. Yellow Cab Co., 332 U. S. 218. The rule is especially applicable where, as here, respondents hold themselves out as competitors.” Id., at 215.

3 “[T]he combining of the open and closed towns for the negotiation of films for the circuit was a restraint of trade and the use of monopoly power in violation of § 1 and § 2 of the Act. The concerted action of the parent company, its subsidiaries, and the named officers and directors in that endeavor was a conspiracy which was not immunized by reason of the fact that the members were closely affiliated rather than independent. See United States v. Yellow Cab Co., 332 U. S. 218, 227; United States v. Crescent Amusement Co., 323 U. S. 173.” 334 U. S., at 116.
This holding is so clear that even the Court, which is not wanting for inventiveness in its reading of the prior cases, cannot explain it away. The Court suggests only that today Kiefer-Stewart might be decided on alternative grounds, ante, at 764, ignoring the fact that today's holding is inconsistent with the ground on which the case actually was decided.4

A construction of the statute that reaches agreements between corporate parents and subsidiaries was again embraced by the Court in Timken Roller Bearing Co. v. United States, 341 U. S. 593 (1951),5 and Perma Life Mufflers, Inc. v. International Parts Corp., 392 U. S. 134 (1968).6 The majority only notes that there might have been other grounds for decision available in these cases, ante, at 764–766, but again it cannot deny that its new rule is inconsistent with what the Court actually did write in these cases.

4 In Kiefer-Stewart, Seagram unsuccessfully argued that Yellow Cab was confined to cases concerning unlawful acquisitions, see Brief for Respondents, O. T. 1950, No. 297, p. 21. Thus the Kiefer-Stewart Court considered and rejected exactly the same argument embraced by today's majority.

5 "The fact that there is common ownership or control of the contracting corporations does not liberate them from the impact of the antitrust laws. E. g., Kiefer-Stewart Co. v. Seagram & Sons, [340 U. S.,] at 215. Nor do we find any support in reason or authority for the proposition that agreements between legally separate persons and companies to suppress competition among themselves and others can be justified by labeling the project a 'joint venture.' Perhaps every agreement and combination to restrain trade could be so labeled." 341 U. S., at 598.

6 "There remains for consideration only the Court of Appeals' alternative holding that the Sherman Act claim should be dismissed because respondents were all part of a single business entity and were therefore entitled to cooperate without creating an illegal conspiracy. But since respondents Midas and International availed themselves of the privilege of doing business through separate corporations, the fact of common ownership could not save them from any of the obligations that the law imposes on separate entities. See Timken Co. v. United States, 341 U. S. 593, 598 (1951); United States v. Yellow Cab Co., 332 U. S. 218, 227 (1947)." 392 U. S., at 141–142.
Thus, the rule announced today is inconsistent with what this Court has held on at least seven previous occasions.7 Perhaps most illuminating is the fact that until today, whether they favored the doctrine or not, it had been the universal conclusion of both the lower courts8 and the commentators9 that this Court's cases establish that a parent

7 Also pertinent is United States v. Citizens & Southern National Bank, 422 U. S. 86 (1975), in which the Court wrote:

"The central message of the Sherman Act is that a business entity must find new customers and higher profits through internal expansion—that is, by competing successfully rather than by arranging treaties with its competitors. This Court has held that even commonly owned firms must compete against each other, if they hold themselves out as distinct entities. 'The corporate interrelationships of the conspirators . . . are not determinative of the applicability of the Sherman Act.' United States v. Yellow Cab Co., 332 U. S. 218, 227. See also Kiefer-Stewart Co. v. Joseph E. Seagram & Sons, Inc., 340 U. S. 211, 215; Timken Roller Bearing Co. v. United States, 341 U. S. 593, 598; Perma Life Mufflers, Inc. v. International Parts Corp., 392 U. S. 134, 141-142." Id., at 116-117.


and a wholly owned subsidiary corporation are capable of conspiring in violation of §1. In this very case the Court of Appeals observed:

"[T]he salient factor is that the Supreme Court's decisions, while they need not be read with complete literalism, of course they cannot be ignored. It is no accident that every Court of Appeals to consider the question has concluded that a parent and its subsidiary have the same capacity to conspire, whether or not they can be found to have done so in a particular case." 691 F. 2d 310, 317 (CA7 1982) (footnotes omitted).

Thus, we are not writing on a clean slate. "[W]e must bear in mind that considerations of stare decisis weigh heavily in the area of statutory construction, where Congress is free to change this Court's interpretation of its legislation." Illinois Brick Co. v. Illinois, 431 U. S. 720, 736 (1977). There can be no doubt that the Court today changes what has been taken to be the long-settled rule: a rule that Congress did not revise at any point in the last four decades. At a minimum there should be a strong presumption against the approach taken today by the Court. It is to the merits of that approach that I now turn.

II

The language of § 1 of the Sherman Act is sweeping in its breadth: "Every contract, combination in the form of trust or


otherwise, or conspiracy, in restraint of trade or commerce among the several States, . . . is declared to be illegal." 15 U. S. C. § 1. This Court has long recognized that Congress intended this language to have a broad sweep, reaching any form of combination:

"[I]n view of the many new forms of contracts and combinations which were being evolved from existing economic conditions, it was deemed essential by an all-embracing enumeration to make sure that no form of contract or combination by which an undue restraint of interstate or foreign commerce was brought about could save such restraint from condemnation. The statute under this view evidenced the intent not to restrain the right to make and enforce contracts, whether resulting from combination or otherwise, which did not unduly restrain interstate or foreign commerce, but to protect that commerce from being restrained by methods, whether old or new, which would constitute an interference that is an undue restraint." Standard Oil Co. v. United States, 221 U. S. 1, 59–60 (1911).

This broad construction is illustrated by the Court's refusal to limit the statute to actual agreements. Even mere acquiescence in an anticompetitive scheme has been held sufficient to satisfy the statutory language.\footnote{See Albrecht v. Herald Co., 390 U. S. 145, 149 (1968); United States v. Parke, Davis & Co., 362 U. S. 29, 44 (1960). See also Monsanto Co. v. Spray-Rite Service Co., 465 U. S., at 764, n. 9.}

Since the statute was written against the background of the common law,\footnote{E. g., Associated General Contractors of California, Inc. v. Carpenters, 459 U. S. 519, 531–532 (1983); National Society of Professional Engineers v. United States, 435 U. S. 679, 687–688 (1978); Standard Oil, 221 U. S., at 59.} reference to the common law is particularly enlightening in construing the statutory requirement of a "contract, combination in the form of trust or otherwise, or conspiracy." Under the common law, the question whether
affiliated corporations constitute a plurality of actors within the meaning of the statute is easily answered. The well-settled rule is that a corporation is a separate legal entity; the separate corporate form cannot be disregarded. The Congress that passed the Sherman Act was well acquainted with this rule. See 21 Cong. Rec. 2571 (1890) (remarks of Sen. Teller) ("Each corporation is a creature by itself"). Thus it has long been the law of criminal conspiracy that the officers of even a single corporation are capable of conspiring with each other or the corporation. This Court has held that a corporation can conspire with its employee, and that a labor union can "combine" with its business agent within the meaning of § 1. This concept explains the Timken Court's statement that the affiliated corporations in that case made

---


“agreements between legally separate persons,” 341 U. S., at 598. Thus, today’s holding that agreements between parent and subsidiary corporations involve merely unilateral conduct is at odds with the way that this Court has traditionally understood the concept of a combination or conspiracy, and also at odds with the way in which the Congress that enacted the Sherman Act surely understood it.

Holding that affiliated corporations cannot constitute a plurality of actors is also inconsistent with the objectives of the Sherman Act. Congress was particularly concerned with “trusts,” hence it named them in §1 as a specific form of “combination” at which the statute was directed. Yet “trusts” consisted of affiliated corporations. As Senator Sherman explained:

“Because these combinations are always in many States and, as the Senator from Missouri says, it will be very easy for them to make a corporation within a State. So they can; but that is only one corporation of the combination. The combination is always of two or more, and in one case of forty-odd corporations, all bound together by a link which holds them under the name of trustees, who are themselves incorporated under the laws of one of the States.” 21 Cong. Rec. 2569 (1890).

The activities of these “combinations” of affiliated corporations were of special concern:

“[A]ssoicated enterprise and capital are not satisfied with partnerships and corporations competing with each other, and have invented a new form of combination commonly called trusts, that seeks to avoid competition by combining the controlling corporations, partnerships, and individuals engaged in the same business, and placing the power and property of the combination under the government of a few individuals, and often under the control of a single man called a trustee, a chairman, or a president.
"The sole object of such a combination is to make competition impossible. It can control the market, raise or lower prices, as will best promote its selfish interests, reduce prices in a particular locality and break down competition and advance prices at will where competition does not exist. Its governing motive is to increase the profits of the parties composing it. The law of selfishness, uncontrolled by competition, compels it to disregard the interest of the consumer. It dictates terms to transportation companies, it commands the price of labor without fear of strikes, for in its field it allows no competitors. . . . It is this kind of a combination we have to deal with now." Id., at 2457.17

Thus, the corporate subsidiary, when used as a device to eliminate competition, was one of the chief evils to which the Sherman Act was addressed.18 The anomaly in today's holding is that the corporate devices most similar to the original "trusts" are now those which free an enterprise from antitrust scrutiny.

17See also 21 Cong. Rec. 2562 (1890) (remarks of Sen. Teller); id., at 2570 (remarks of Sen. Sherman); id., at 2609 (remarks of Sen. Morgan).
18This legislative history thus demonstrates the error in the majority's conclusion that only acquisitions of corporate affiliates fall within § 1. See ante, at 761-762. The conduct of the trusts that Senator Sherman and others objected to went much further than mere acquisitions. Indeed, the irony of the Court's approach is that, had it been adopted in 1890, it would have meant that § 1 would have no application to trust combinations which had already been formed—the very trusts to which Senator Sherman was referring.

I cannot believe that the Court really intends to express doubt as to whether the Congress that passed the Sherman Act thought conspiracy doctrine could apply to corporations. Ante, at 775-776, n. 24. If that were not the case, then the Sherman Act would have no application to corporations. Since, as is clear and as the Court concedes, the Sherman Act does apply to corporations, there can be no doubt that Congress intended to apply the law of conspiracy to agreements between corporations.
III

The Court's reason for rejecting the concept of a combination or conspiracy among a parent corporation and its wholly owned subsidiary is that it elevates form over substance—while in form the two corporations are separate legal entities, in substance they are a single integrated enterprise and hence cannot comprise the plurality of actors necessary to satisfy §1. Ante, at 771-774. In many situations the Court's reasoning is perfectly sensible, for the affiliation of corporate entities often is procompetitive precisely because, as the Court explains, it enhances efficiency. A challenge to conduct that is merely an incident of the desirable integration that accompanies such affiliation should fail. However, the protection of such conduct provides no justification for the Court's new rule, precisely because such conduct cannot be characterized as an unreasonable restraint of trade violative of §1. Conversely, the problem with the Court's new rule is that it leaves a significant gap in the enforcement of §1 with respect to anticompetitive conduct that is entirely unrelated to the efficiencies associated with integration.

Since at least United States v. Colgate & Co., 250 U. S. 300 (1919), §1 has been construed to require a plurality of actors. This requirement, however, is a consequence of the plain statutory language, not of any economic principle. As an economic matter, what is critical is the presence of market power, rather than a plurality of actors. From a competitive standpoint, a decision of a single firm possessing power to reduce output and raise prices above competitive levels has the same consequence as a decision by two firms acting together who have acquired an equivalent amount of market

---

power through an agreement not to compete. Unilateral conduct by a firm with market power has no less anticompetitive potential than conduct by a plurality of actors which generates or exploits the same power, and probably more, since the unilateral actor avoids the policing problems faced by cartels.

The rule of Yellow Cab thus has an economic justification. It addresses a gap in antitrust enforcement by reaching anticompetitive agreements between affiliated corporations which

---

20 Significantly, the Court never suggests that the plurality-of-actors requirement has any intrinsic economic significance. Rather, it suggests that the requirement has evidentiary significance: combinations are more likely to signal anticompetitive conduct than is unilateral activity: "In any conspiracy, two or more entities that previously pursued their own interests separately are combining to act as one for their common benefit. This not only reduces the diverse directions in which economic power is aimed but suddenly increases the economic power moving in one particular direction." Ante, at 769. That is true, but it is also true of any ordinary commercial contract between separate entities, as can be seen if one substitutes the word "contract" for "conspiracy" in the passage I have quoted. The language of the Sherman Act indicates that it treats "contracts" and "conspiracies" as equivalent concepts—both satisfy the multiplicity-of-actors requirement—and yet one of the most fundamental points in antitrust jurisprudence, dating at least to Standard Oil, is that there is nothing inherently anticompetitive about a contract. Similarly, an agreement to act "for common benefit" in itself is unremarkable—all agreements are in some sense a restraint of trade be they contracts or conspiracies. It is only when trade is unreasonably restrained that § 1 is implicated. The Court's evidentiary concern lacks merit.

21 We made this point in the context of resale price maintenance in United States v. Parke, Davis & Co., 362 U. S. 29 (1960):

"The Sherman Act forbids combinations of traders to suppress competition. True, there results the same economic effect as is accomplished by a prohibited combination to suppress price competition if each customer, although induced to do so solely by a manufacturer's announced policy, independently decides to observe specified resale prices. So long as Colgate is not overruled, this result is tolerated but only when it is the consequence of a mere refusal to sell in the exercise of a manufacturer's right 'freely to exercise his own independent discretion as to parties with whom he will deal.'" Id., at 44 (quoting Colgate, 250 U. S., at 307).
have sufficient market power to restrain marketwide competition, but not sufficient power to be considered monopolists within the ambit of § 2 of the Act. The doctrine is also useful when a third party declines to join a conspiracy to restrain trade among affiliated corporations, and is harmed as a result through a boycott or similar tactics designed to penalize the refusal. In such cases, since there has been no agreement with the third party, only an agreement between the affiliated corporations can be the basis for § 1 inquiry.

Finally, it must be remembered that not all persons who restrain trade wear grey flannel suits. Businesses controlled by organized crime often attempt to gain control of an industry through violence or intimidation of competitors; in such cases § 1 can be applied to separately incorporated businesses which benefit from such tactics, but which may be ultimately controlled by a single criminal enterprise.

---

"[I]t is the potential which this conspiracy concept holds for the development of a rational enforcement policy which, if anything, will ultimately attract the courts. If conduct of a single corporation which restrains trade were to violate Section 1, a forceful weapon would be available to the government with which to challenge conduct which in oligopolistic industries creates or reinforces entry barriers. Excessive advertising in the cereal, drug, or detergent industries, annual style changes in the auto industry, and other such practices could be reached as soon as they threatened to inhibit competition; there would be no need to wait until a 'dangerous probability' of monopoly had been reached, the requirement under Section 2 'attempt' doctrine. Nor would a single firm restraint of trade rule be overbroad. It would in no way threaten single firm activity—setting a price, deciding what market it would deal in, or the like—which did not threaten competitive conditions." L. Sullivan, supra n. 9, § 114, at 324 (footnotes omitted).

This was the case in Kiefer-Stewart, for example. Seagram had refused to sell liquor to Kiefer-Stewart unless it agreed to an illegal resale price maintenance scheme. Kiefer-Stewart refused to agree, and as a result was injured by losing access to Seagram's products. See 340 U. S., at 213.

The rule of *Yellow Cab* and its progeny is not one that condemns every parent-subsidiary relationship. A single firm, no matter what its corporate structure may be, is not expected to compete with itself. Functional integration by its very nature requires unified action; hence in itself it has never been sufficient to establish the existence of an unreasonable restraint of trade: "In discussing the charge in the *Yellow Cab* case, we said that the fact that the conspirators were integrated did not insulate them from the act, not that corporate integration violated the act." *United States v. Columbia Steel Co.*, 334 U. S. 495, 522 (1948). Restraints that act only on the parent or its subsidiary as a consequence of an otherwise lawful integration do not violate § 1 of the Sherman Act. But if the behavior at issue is unrelated to any functional integration between the affiliated corporations and various types of racketeering activity. See Hartwell, Criminal RICO and Antitrust, 52 Antitrust L. J. 311, 312–313 (1983); McLaren, Antitrust and Competition—Review of the Past Year and Suggestions for the Future, in New York State Bar Assn., 1971 Antitrust Law Symposium 1, 3 (1971).

"Picture, at one end of the spectrum, a family business which operates one retail store in each of three or four adjacent communities. All of the stores are managed as a unit by one individual, the founder of the business who sets policy, does all the buying, decides on all the advertising, sets prices, and hires and fires all employees other than family members. The fact that each store is operated by a separate corporation should not convert a family business into a cartel . . . . If there is, as a practical matter, an integrated ownership and management, this small business is a single firm. And a single firm cannot compete with itself. Hence it cannot restrain price competition with itself, or divide markets with itself, or act as a common purchasing agent for itself or otherwise restrain competition with itself, regardless of how many separate corporations the single firm may, for reasons unrelated to the act, be divided into." L. Sullivan, *supra* n. 9, § 114, at 326–327.

Thus, the Court is wrong to suggest, *ante*, at 771–772, 774–776, and n. 24, that *Yellow Cab* could reach truly unilateral conduct involving only the employees of a single firm.
imposes a restraint on third parties of sufficient magnitude to restrain marketwide competition, as a matter of economic substance, as well as form, it is appropriate to characterize the conduct as a "combination or conspiracy in restraint of trade." 27

For example, in *Yellow Cab* the Court read the complaint as alleging that integration had assisted the parent in excluding competing manufacturers from the marketplace, 332 U. S., at 226–227, leading the Court to conclude that "restraint of interstate trade was not only effected by the combination of the appellees but was the primary object of the combination." *Id.*, at 227. Similarly, in *Crescent Amusement* the Court noted that corporate affiliation between exhibitors enhanced their buying power and "was one of the instruments in . . . making the conspiracy effective" in excluding independents from the market. 323 U. S., at 189–190. Thus, in both cases the Court found that the affiliation enhanced the ability of the parent corporation to exclude the competition of third parties, and hence raised entry

27 If the rule of *Yellow Cab* and its progeny could be easily circumvented through, for example, use of unincorporated divisions instead of subsidiaries, then there would be reason to question its efficacy as a tool for rational antitrust enforcement. However, the Court is incorrect when it asserts, *ante*, at 770–771, 772–774, that there is no economic substance in a distinction between unincorporated divisions, which cannot provide a plurality of actors, and wholly owned subsidiaries, which under *Yellow Cab* can. If that were the case, incorporated subsidiaries would never be used to achieve integration—the ready availability of an unincorporated alternative would always be employed in order to avoid antitrust liability. The answer is provided by the Court itself—the use of subsidiaries often makes possible operating efficiencies that are unavailable through the use of unincorporated divisions. *Ante*, at 772–774. We may confidently assume that any corporate parent whose contingent antitrust liability exceeds the savings it realizes through the use of subsidiaries already utilizes unincorporated divisions instead of corporate subsidiaries. Thus, it is more than merely a question of form when a decision is made to use corporate subsidiaries instead of unincorporated divisions, and the rule is not that easily circumvented.
barriers faced by actual and potential competitors. When conduct restrains trade not merely by integrating affiliated corporations but rather by restraining the ability of others to compete, that conduct has competitive significance drastically different from procompetitive integration. In these cases, the affiliation assisted exclusionary conduct; it was not the competitive equivalent of unilateral integration but instead generated power to restrain marketwide competition.

There are other ways in which corporate affiliation can operate to restrain competition. A wholly owned subsidiary might market a "fighting brand" or engage in other predatory behavior that would be more effective if its ownership were concealed than if it was known that only one firm was involved. A predator might be willing to accept the risk of bankrupting a subsidiary when it could not afford to let a division incur similar risks. Affiliated corporations might enhance their power over suppliers by agreeing to refuse to deal with those who deal with an actual or potential com-

---

See L. Sullivan, supra n. 9, § 114, at 328 ("To have two competitors acting concertedly two separate firms, not just persons, are needed. Thus 'concerted action' by two 'legal persons' which is limited solely to the internal management of a single firm does not restrain competition; but 'concerted action' by two 'legal persons' which erects barriers to entry by another separate firm, a competitor or potential competitor, can be a restraint of trade"); see also Willis & Pitofsky, supra n. 9, at 38-41. The Attorney General's National Committee to Study the Antitrust Laws made the same point in 1955:

"The substance of the Supreme Court decisions is that concerted action between a parent and subsidiary or between subsidiaries which has for its purpose or effect coercion or unreasonable restraint on the trade of strangers to those acting in concert is prohibited by Section 1. Nothing in these opinions should be interpreted as justifying the conclusion that concerted action solely between a parent and subsidiary or subsidiaries, the purpose and effect of which is not coercive restraint of the trade of strangers to the corporate family, violates Section 1. Where such concerted action restrains no trade and is designed to restrain no trade other than that of the parent and its subsidiaries, Section 1 is not violated." Attorney General's Committee Report, supra n. 9, at 34.
petitor of one of them; such a threat might be more potent coming from both corporations than from only one.\textsuperscript{29}

In this case, it may be that notices to potential suppliers of respondent emanating from Copperweld carried more weight than would notices coming only from Regal. There was evidence suggesting that Regal and Copperweld were not integrated, and that the challenged agreement had little to do with achieving procompetitive efficiencies and much to do with protecting Regal's market position. The Court does not even try to explain why their common ownership meant that Copperweld and Regal were merely obtaining benefits associated with the efficiencies of integration. Both the District Court and the Court of Appeals thought that their agreement had a very different result—that it raised barriers to entry and imposed an appreciable marketwide restraint. The Court's discussion of the justifications for corporate affiliation is therefore entirely abstract—while it dutifully lists the procompetitive justifications for corporate affiliation, ante, at 772–774, it fails to explain how any of them relate to the conduct at issue in this case. What is challenged here is not the fact of integration between Regal and Copperweld, but their specific agreement with respect to Independence. That agreement concerned the exclusion of

\textsuperscript{29}Professor Sullivan provides another example:

"[P]icture a parent corporation and its wholly owned subsidiary (or two corporations wholly owned by the same parent or stockholder group) which operate, respectively, a newspaper and a radio station in the same city. If the radio station, which has no local competitors, were to deny advertising to a local business because the latter advertised in a rival newspaper, the integration between the two corporations, however close in terms of ownership or management or both, would not protect them from a charge of conspiracy to restrain trade. . . . [T]he concerted action here involved is not merely carrying on the business of a single integrated firm, it is action which is aimed at restraining trade by utilizing such market power as is possessed by the firm because of its radio station in order to erect a competitive barrier in front of a competitor of the firm's newspaper." L. Sullivan, supra n. 9, § 114, at 327 (footnote omitted).
Independence from the market, and not any efficiency resulting from integration. The facts of this very case belie the conclusion that affiliated corporations are incapable of engaging in the kind of conduct that threatens marketwide competition. The Court does not even attempt to assess the competitive significance of the conduct under challenge here—it never tests its economic assumptions against the concrete facts before it. Use of economic theory without reference to the competitive impact of the particular economic arrangement at issue is properly criticized when it produces overly broad *per se* rules of antitrust liability; *criticism is no less warranted when a *per se* rule of antitrust immunity is adopted in the same way.

In sum, the question that the Court should ask is not why a wholly owned subsidiary should be treated differently from a corporate division, since the immunity accorded that type of arrangement is a necessary consequence of *Colgate*. Rather the question should be why two corporations that engage in a predatory course of conduct which produces a marketwide restraint on competition and which, as separate legal entities, can be easily fit within the language of § 1, should be immunized from liability because they are controlled by the same godfather. That is a question the Court simply fails to confront. I respectfully dissent.

---

TEXACO INC. v. DAGHER ET AL.

CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

No. 04–805. Argued January 10, 2006—Decided February 28, 2006*

Petitioners, Texaco Inc. and Shell Oil Co., collaborated in a joint venture, Equilon Enterprises, to refine and sell gasoline in the western United States under the two companies’ original brand names. After Equilon set a single price for both brands, respondents, Texaco and Shell Oil service station owners, brought suit alleging that, by unifying gas prices under the two brands, petitioners had violated the per se rule against price fixing long recognized under §1 of the Sherman Act, see, e.g., Catalano, Inc. v. Target Sales, Inc., 446 U. S. 643, 647. Granting petitioners summary judgment, the District Court determined that the rule of reason, rather than a per se rule, governs respondents’ claim, and that, by eschewing rule of reason analysis, respondents had failed to raise a triable issue of fact. The Ninth Circuit reversed, characterizing petitioners’ position as a request for an exception to the per se price-fixing prohibition, and rejecting that request.

Held: It is not per se illegal under §1 of the Sherman Act for a lawful, economically integrated joint venture to set the prices at which it sells its products. Although §1 prohibits “[e]very contract [or] combination . . . in restraint of trade,” 15 U. S. C. §1, this Court has not taken a literal approach to that language, recognizing, instead, that Congress intended to outlaw only unreasonable restraints, e.g., State Oil Co. v. Khan, 522 U. S. 3, 10. Under rule of reason analysis, antitrust plaintiffs must demonstrate that a particular contract or combination is in fact unreasonable and anticompetitive. See, e.g., id., at 10–19. Per se liability is reserved for “plainly anticompetitive” agree-

*Together with No. 04–814, Shell Oil Co. v. Dagher et al., also on certiorari to the same court.
Syllabus

ments. *National Soc. of Professional Engineers v. United States*, 435 U. S. 679, 692. While “horizontal” price-fixing agreements between two or more competitors are *per se* unlawful, see, *e.g.*, *Catalano, supra*, at 647, this case does not present such an agreement, because Texaco and Shell Oil did not compete with one another in the relevant market—*i.e.*, gasoline sales to western service stations—but instead participated in that market jointly through Equilon. When those who would otherwise be competitors pool their capital and share the risks of loss and opportunities for profit, they are regarded as a single firm competing with other sellers in the market. *Arizona v. Maricopa County Medical Soc.*, 457 U. S. 332, 356. As such, Equilon’s pricing policy may be price fixing in a literal sense, but it is not price fixing in the antitrust sense. The court below erred in reaching the opposite conclusion under the ancillary restraints doctrine, which governs the validity of restrictions imposed by a legitimate joint venture on nonventure activities. That doctrine has no application here, where the challenged business practice involves the core activity of the joint venture itself—the pricing of the very goods produced and sold by Equilon. Pp. 3–6.

369 F. 3d 1108, reversed.

THOMAS, J., delivered the opinion of the Court, in which all other Members joined, except ALITO, J., who took no part in the consideration or decision of the cases.
JUSTICE THOMAS delivered the opinion of the Court.

From 1998 until 2002, petitioners Texaco Inc. and Shell Oil Co. collaborated in a joint venture, Equilon Enterprises, to refine and sell gasoline in the western United States under the original Texaco and Shell Oil brand names. Respondents, a class of Texaco and Shell Oil service station owners, allege that petitioners engaged in unlawful price fixing when Equilon set a single price for both Texaco and Shell Oil brand gasoline. We granted certiorari to determine whether it is per se illegal under §1 of the Sherman Act, 15 U. S. C. §1, for a lawful, economically integrated joint venture to set the prices at which the joint venture sells its products. We conclude that it is not, and accordingly we reverse the contrary judgment of the Court of Appeals.
Historically, Texaco and Shell Oil have competed with one another in the national and international oil and gasoline markets. Their business activities include refining crude oil into gasoline, as well as marketing gasoline to downstream purchasers, such as the service stations represented in respondents' class action.

In 1998, Texaco and Shell Oil formed a joint venture, Equilon, to consolidate their operations in the western United States, thereby ending competition between the two companies in the domestic refining and marketing of gasoline. Under the joint venture agreement, Texaco and Shell Oil agreed to pool their resources and share the risks of and profits from Equilon's activities. Equilon's board of directors would comprise representatives of Texaco and Shell Oil, and Equilon gasoline would be sold to downstream purchasers under the original Texaco and Shell Oil brand names. The formation of Equilon was approved by consent decree, subject to certain divestments and other modifications, by the Federal Trade Commission, see In re Shell Oil Co., 125 F. T. C. 769 (1998), as well as by the state attorneys general of California, Hawai‘i, Oregon, and Washington. Notably, the decrees imposed no restrictions on the pricing of Equilon gasoline.

After the joint venture began to operate, respondents brought suit in district court, alleging that, by unifying gasoline prices under the two brands, petitioners had violated the per se rule against price fixing that this Court has long recognized under §1 of the Sherman Act, ch. 647, 26 Stat. 209, as amended, 15 U. S. C. §1. See, e.g., Catalano, Inc. v. Target Sales, Inc., 446 U. S. 643, 647 (1980) (per curiam). The District Court awarded summary judgment to Texaco and Shell Oil. It determined that the rule of reason, rather than a per se rule or the quick look doctrine, governs respondents' claim, and that, by eschewing rule of reason analysis, respondents had failed to raise
a triable issue of fact. The Ninth Circuit reversed, characterizing petitioners' position as a request for an "exception to the per se prohibition on price fixing," and rejecting that request. *Dagher v. Saudi Refining, Inc.*, 369 F. 3d 1108, 1116 (2004). We consolidated Texaco's and Shell Oil's separate petitions and granted certiorari to determine the extent to which the per se rule against price fixing applies to an important and increasingly popular form of business organization, the joint venture. 545 U. S. ___ (2005).

II

Section 1 of the Sherman Act prohibits "[e]very contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States." 15 U. S. C. §1. This Court has not taken a literal approach to this language, however. See, e.g., *State Oil Co. v. Khan*, 522 U. S. 3, 10 (1997) ("[T]his Court has long recognized that Congress intended to outlaw only unreasonable restraints" (emphasis added)). Instead, this Court presumptively applies rule of reason analysis, under which antitrust plaintiffs must demonstrate that a particular contract or combination is in fact unreasonable and anticompetitive before it will be found unlawful. See, e.g., *id.*, at 10–19 (concluding that vertical price-fixing arrangements are subject to the rule of reason, not per se liability). *Per se* liability is reserved for only those agreements that are "so plainly anticompetitive that no elaborate study of the industry is needed to establish their illegality." *National Soc. of Professional Engineers v. United States*, 435 U. S. 679, 692 (1978). Accordingly, "we have expressed reluctance to adopt per se rules . . . 'where the economic impact of certain practices is not immediately obvious.'" *State Oil, supra*, at 10 (quoting *FTC v. Indiana Federation of Dentists*, 476 U. S. 447, 458–459 (1986)).

Price-fixing agreements between two or more competi-
tors, otherwise known as horizontal price-fixing agreements, fall into the category of arrangements that are *per se* unlawful. See, e.g., *Catalano, supra*, at 647. These cases do not present such an agreement, however, because Texaco and Shell Oil did not compete with one another in the relevant market—namely, the sale of gasoline to service stations in the western United States—but instead participated in that market jointly through their investments in Equilon. In other words, the pricing policy challenged here amounts to little more than price setting by a single entity—albeit within the context of a joint venture—and not a pricing agreement between competing entities with respect to their competing products. Throughout Equilon’s existence, Texaco and Shell Oil shared in the profits of Equilon’s activities in their role as investors, not competitors. When “persons who would otherwise be competitors pool their capital and share the risks of loss as well as the opportunities for profit . . . such joint ventures [are] regarded as a single firm competing with other sellers in the market.” *Arizona v. Maricopa County Medical Soc.*, 457 U. S. 332, 356 (1982). As such, though Equilon’s pricing policy may be price fixing in a literal sense, it is not price fixing in the antitrust sense. See *Broadcast Music, Inc. v. Columbia Broadcasting Sys*.

---

1We presume for purposes of these cases that Equilon is a lawful joint venture. Its formation has been approved by federal and state regulators, and there is no contention here that it is a sham. As the court below noted: “There is a voluminous record documenting the economic justifications for creating the joint ventures. [T]he defendants concluded that numerous synergies and cost efficiencies would result” by creating Equilon as well as a parallel venture, Motiva Enterprises, in the eastern United States, and “that nationwide there would be up to $800 million in cost savings annually.” 369 F. 3d 1108, 1111 (CA9 2004). Had respondents challenged Equilon itself, they would have been required to show that its creation was anticompetitive under the rule of reason. See *Copperweld Corp. v. Independence Tube Corp.*, 467 U. S. 752, 768 (1984).
tem, Inc., 441 U. S. 1, 9 (1979) (“When two partners set the price of their goods or services they are literally ‘price fixing,’ but they are not per se in violation of the Sherman Act”).

This conclusion is confirmed by respondents’ apparent concession that there would be no per se liability had Equilon simply chosen to sell its gasoline under a single brand. See Tr. of Oral Arg. 34. We see no reason to treat Equilon differently just because it chose to sell gasoline under two distinct brands at a single price. As a single entity, a joint venture, like any other firm, must have the discretion to determine the prices of the products that it sells, including the discretion to sell a product under two different brands at a single, unified price. If Equilon’s price unification policy is anticompetitive, then respondents should have challenged it pursuant to the rule of reason. But it would be inconsistent with this Court’s antitrust precedents to condemn the internal pricing decisions of a legitimate joint venture as per se unlawful.

The court below reached the opposite conclusion by invoking the ancillary restraints doctrine. 369 F. 3d, at 1118–1124. That doctrine governs the validity of restrictions imposed by a legitimate business collaboration, such as a business association or joint venture, on nonventure activities. See, e.g., National Collegiate Athletic Assn. v. Board of Regents of Univ. of Okla., 468 U. S. 85, 113–115

2 Respondents have not put forth a rule of reason claim. 369 F. 3d, at 1113. Accordingly, we need not address petitioners’ alternative argument that §1 of the Sherman Act is inapplicable to joint ventures.

3 Respondents alternatively contend that petitioners should be held liable under the quick look doctrine. To be sure, we have applied the quick look doctrine to business activities that are so plainly anticompetitive that courts need undertake only a cursory examination before imposing antitrust liability. See California Dental Assn. v. FTC, 526 U. S. 756, 770 (1999). But for the same reasons that per se liability is unwarranted here, we conclude that petitioners cannot be held liable under the quick look doctrine.
Opinion of the Court

(1984); *Citizen Publishing Co. v. United States*, 394 U. S. 131, 135–136 (1969). Under the doctrine, courts must determine whether the nonventure restriction is a naked restraint on trade, and thus invalid, or one that is ancillary to the legitimate and competitive purposes of the business association, and thus valid. We agree with petitioners that the ancillary restraints doctrine has no application here, where the business practice being challenged involves the core activity of the joint venture itself—namely, the pricing of the very goods produced and sold by Equilon. And even if we were to invoke the doctrine in these cases, Equilon’s pricing policy is clearly ancillary to the sale of its own products. Judge Fernandez, dissenting from the ruling of the court below, put it well:

“In this case, nothing more radical is afoot than the fact that an entity, which now owns all of the production, transportation, research, storage, sales and distribution facilities for engaging in the gasoline business, also prices its own products. It decided to price them the same, as any other entity could. What could be more integral to the running of a business than setting a price for its goods and services?” 369 F. 3d, at 1127.

See also *Broadcast Music, supra*, at 23 (“Joint ventures and other cooperative arrangements are ... not usually unlawful, at least not as price-fixing schemes, where the agreement on price is necessary to market the product at all”).

* * *

Because the pricing decisions of a legitimate joint venture do not fall within the narrow category of activity that is *per se* unlawful under §1 of the Sherman Act, respondents’ antitrust claim cannot prevail. Accordingly, the judgment of the Court of Appeals is reversed.
Opinion of the Court

It is so ordered.

JUSTICE ALITO took no part in the consideration or decision of these cases.
SUPREME COURT OF THE UNITED STATES

SYLLABUS

AMERICAN NEEDLE, INC. v. NATIONAL FOOTBALL LEAGUE ET AL.

CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SEVENTH CIRCUIT

No. 08–661. Argued January 13, 2010—Decided May 24, 2010

Respondent National Football League (NFL) is an unincorporated association of 32 separately owned professional football teams, also respondents here. The teams, each of which owns its own name, colors, logo, trademarks, and related intellectual property, formed respondent National Football League Properties (NFLP) to develop, license, and market that property. At first, NFLP granted nonexclusive licenses to petitioner and other vendors to manufacture and sell team-labeled apparel. In December 2000, however, the teams authorized NFLP to grant exclusive licenses. NFLP granted an exclusive license to respondent Reebok International Ltd. to produce and sell trademarked headwear for all 32 teams. When petitioner's license was not renewed, it filed this action alleging that the agreements between respondents violated the Sherman Act, §1 of which makes “[e]very contract, combination . . . or, conspiracy, in restraint of trade” illegal. Respondents answered that they were incapable of conspiring within §1's meaning because the NFL and its teams are, in antitrust law jargon, a single entity with respect to the conduct challenged. The District Court granted respondents summary judgment, and the Seventh Circuit affirmed.

Held: The alleged conduct related to licensing of intellectual property constitutes concerted action that is not categorically beyond §1's coverage. Pp. 4–20.

(a) The meaning of “contract, combination . . . or, conspiracy” in §1 of the Sherman Act is informed by the Act's “basic distinction between concerted and independent action.” Copperweld Corp. v. Independence Tube Corp., 467 U. S. 752, 767. Section 1 “treat[s] concerted behavior more strictly than unilateral behavior,” id., at 768,
because, unlike independent action, “[c]oerced activity inherently is fraught with anticompetitive risk” insofar as it “deprives the marketplace of independent centers of decisionmaking that competition assumes and demands,” id., at 768–769. And because concerted action is discrete and distinct, a limit on such activity leaves untouched a vast amount of business conduct. That creates less risk of deterring a firm’s necessary conduct and leaves courts to examine only discrete agreements. An arrangement must therefore embody concerted action in order to be a “contract, combination . . . or, conspiracy” under §1. Pp. 4–6.

(b) In determining whether there is concerted action under §1, the Court has eschewed formalistic distinctions, such as whether the alleged conspirators are legally distinct entities, in favor of a functional consideration of how they actually operate. The Court has repeatedly found instances in which members of a legally single entity violated §1 when the entity was controlled by a group of competitors and served, in essence, as a vehicle for ongoing concerted activity. See, e.g., United States v. Sealy, Inc., 388 U. S. 350, 352–356. Conversely, the Court has found that although the entities may be “separate” for purposes of incorporation or formal title, if they are controlled by a single center of decisionmaking and they control a single aggregation of economic power, an agreement between them does not constitute a “contract, combination . . . or, conspiracy.” Copperweld, 467 U. S., at 769. Pp. 6–10.

(c) The relevant inquiry is therefore one of substance, not form, which does not turn on whether the alleged parties to contract, combination, or conspiracy are part of a legally single entity or seem like one firm or multiple firms in any metaphysical sense. The inquiry is whether the agreement in question joins together “separate economic actors pursuing separate economic interests,” Copperweld, 467 U. S., at 768, such that it “deprives the marketplace of independent centers of decisionmaking,” id., at 769, and therefore of diversity of entrepreneurial interests and thus of actual or potential competition. If it does, then there is concerted action covered by §1, and the court must decide whether the restraint of trade is unreasonable and therefore illegal. Pp. 10–11.

(d) The NFL teams do not possess either the unitary decisionmaking quality or the single aggregation of economic power characteristic of independent action. Each of them is a substantial, independently owned, independently managed business, whose “general corporate actions are guided or determined” by “separate corporate consciousnesses,” and whose “objectives are” not “common.” Copperweld, 467 U. S., at 771. They compete with one another, not only on the playing field, but to attract fans, for gate receipts, and for contracts with
managerial and playing personnel. See, e.g., Brown v. Pro Football, Inc., 518 U. S. 231, 249. Directly relevant here, the teams are potentially competing suppliers in the market for intellectual property. When teams license such property, they are not pursuing the “common interests of the whole” league, but, instead, the interests of each “corporation itself.” Copperweld, 467 U. S., at 770. It is not dispositive, as respondents argue, that, by forming NFLP, they have formed a single entity, akin to a merger, and market their NFL brands through a single outlet. Although the NFL respondents may be similar in some sense to a single enterprise, they are not similar in the relevant functional sense. While teams have common interests such as promoting the NFL brand, they are still separate, profit-maximizing entities, and their interests in licensing team trademarks are not necessarily aligned. Nor does it matter that the teams may find the alleged cooperation necessary to compete against other forms of entertainment. Although decisions made by NFLP are not as easily classified as concerted activity, the NFLP’s decisions about licensing the teams’ separately owned intellectual property are concerted activity and thus covered by §1 for the same reason that decisions made directly by the 32 teams are covered by §1. In making the relevant licensing decisions, NFLP is “an instrumentality” of the teams. Sealy, 388 U. S., at 352–354. Pp. 11–17.

(e) Football teams that need to cooperate are not trapped by antitrust law. The fact that the NFL teams share an interest in making the entire league successful and profitable, and that they must cooperate to produce games, provides a perfectly sensible justification for making a host of collective decisions. Because some of these restraints on competition are necessary to produce the NFL’s product, the Rule of Reason generally should apply, and teams’ cooperation is likely to be permissible. And depending upon the activity in question, the Rule of Reason can at times be applied without detailed analysis. But the activity at issue in this case is still concerted activity covered for §1 purposes. Pp. 18–19.

538 F. 3d 736, reversed and remanded.

Stevens, J., delivered the opinion for a unanimous Court.
“Every contract, combination in the form of a trust or otherwise, or, conspiracy, in restraint of trade” is made illegal by §1 of the Sherman Act, ch. 647, 26 Stat. 209, as amended, 15 U. S. C. §1. The question whether an arrangement is a contract, combination, or conspiracy is different from and antecedent to the question whether it unreasonably restrains trade. This case raises that antecedent question about the business of the 32 teams in the National Football League (NFL) and a corporate entity that they formed to manage their intellectual property. We conclude that the NFL’s licensing activities constitute concerted action that is not categorically beyond the coverage of §1. The legality of that concerted action must be judged under the Rule of Reason.

I

Originally organized in 1920, the NFL is an unincorporated association that now includes 32 separately owned professional football teams.¹ Each team has its own name,

¹The NFL was founded in Canton, Ohio as the “American Profes-
colors, and logo, and owns related intellectual property. Like each of the other teams in the league, the New Orleans Saints and the Indianapolis Colts, for example, have their own distinctive names, colors, and marks that are well known to millions of sports fans.

Prior to 1963, the teams made their own arrangements for licensing their intellectual property and marketing trademarked items such as caps and jerseys. In 1963, the teams formed National Football League Properties (NFLP) to develop, license, and market their intellectual property. Most, but not all, of the substantial revenues generated by NFLP have either been given to charity or shared equally among the teams. However, the teams are able to and have at times sought to withdraw from this arrangement.

Between 1963 and 2000, NFLP granted nonexclusive licenses to a number of vendors, permitting them to manufacture and sell apparel bearing team insignias. Petitioner, American Needle, Inc., was one of those licensees. In December 2000, the teams voted to authorize NFLP to grant exclusive licenses, and NFLP granted Reebok International Ltd. an exclusive 10-year license to manufacture and sell trademarked headwear for all 32 teams. It thereafter declined to renew American Needle's nonexclusive license.

American Needle filed this action in the Northern District of Illinois, alleging that the agreements between the NFL, its teams, NFLP, and Reebok violated §§1 and 2 of the Sherman Act. In their answer to the complaint, the defendants averred that the teams, NFL, and NFLP were incapable of conspiring within the meaning of §1 “because they are a single economic enterprise, at least with respect

Opinion of the Court

to the conduct challenged.” App. 99. After limited discovery, the District Court granted summary judgment on the question “whether, with regard to the facet of their operations respecting exploitation of intellectual property rights, the NFL and its 32 teams are, in the jargon of antitrust law, acting as a single entity.” American Needle, Inc. v. New Orleans La. Saints, 496 F. Supp. 2d 941, 943 (2007). The court concluded “that in that facet of their operations they have so integrated their operations that they should be deemed a single entity rather than joint ventures cooperating for a common purpose.” Ibid.

The Court of Appeals for the Seventh Circuit affirmed. The panel observed that “in some contexts, a league seems more aptly described as a single entity immune from antitrust scrutiny, while in others a league appears to be a joint venture between independently owned teams that is subject to review under §1.” 538 F. 3d, 736, 741 (2008). Relying on Circuit precedent, the court limited its inquiry to the particular conduct at issue, licensing of teams’ intellectual property. The panel agreed with petitioner that “when making a single-entity determination, courts must examine whether the conduct in question deprives the marketplace of the independent sources of economic control that competition assumes.” Id., at 742. The court, however, discounted the significance of potential competition among the teams regarding the use of their intellectual property because the teams “can function only as one source of economic power when collectively producing NFL football.” Id., at 743. The court noted that football itself can only be carried out jointly. See ibid. (“Asserting that a single football team could produce a football game . . . is a Zen riddle: Who wins when a football team plays itself”). Moreover, “NFL teams share a vital economic interest in collectively promoting NFL football . . . [to] compet[e] with other forms of entertainment.” Ibid. “It thus follows,” the court found, “that only one source of economic power con-
trols the promotion of NFL football,” and “it makes little sense to assert that each individual team has the authority, if not the responsibility, to promote the jointly produced NFL football.” Ibid. Recognizing that NFL teams have “license[d] their intellectual property collectively” since 1963, the court held that §1 did not apply. Id., at 744.

We granted certiorari. 557 U. S. __ (2009).

II

As the case comes to us, we have only a narrow issue to decide: whether the NFL respondents are capable of engaging in a “contract, combination . . . , or conspiracy” as defined by §1 of the Sherman Act, 15 U. S. C. §1, or, as we have sometimes phrased it, whether the alleged activity by the NFL respondents “must be viewed as that of a single enterprise for purposes of §1.” Copperweld Corp. v. Independence Tube Corp., 467 U. S. 752, 771 (1984).

Taken literally, the applicability of §1 to “every contract, combination . . . or conspiracy” could be understood to cover every conceivable agreement, whether it be a group of competing firms fixing prices or a single firm’s chief executive telling her subordinate how to price their company’s product. But even though, “read literally,” §1 would address “the entire body of private contract,” that is not what the statute means. National Soc. of Professional Engineers v. United States, 435 U. S. 679, 688 (1978); see also Texaco Inc. v. Dagher, 547 U. S. 1, 5 (2006) (“This Court has not taken a literal approach to this language”); cf. Board of Trade of Chicago v. United States, 246 U. S. 231, 238 (1918) (reasoning that the term “restraint of trade” in §1 cannot possibly refer to any restraint on competition because “[e]very agreement concerning trade, every regulation of trade, restrains. To bind, to restrain, is of their very essence”). Not every instance of cooperation between two people is a potential “contract,
The meaning of the term “contract, combination . . . or conspiracy” is informed by the “basic distinction” in the Sherman Act “between concerted and independent action” that distinguishes §1 of the Sherman Act from §2. Copperweld, 467 U.S., at 767 (quoting Monsanto Co. v. Spray-Rite Service Corp., 465 U.S. 752, 761 (1984)). Section 1 applies only to concerted action that restrains trade. Section 2, by contrast, covers both concerted and independent action, but only if that action “monopolize[s],” 15 U. S. C. §2, or “threatens actual monopolization,” Copperweld, 467 U.S., at 767, a category that is narrower than restraint of trade. Monopoly power may be equally harmful whether it is the product of joint action or individual action.

Congress used this distinction between concerted and independent action to deter anticompetitive conduct and compensate its victims, without chilling vigorous competition through ordinary business operations. The distinction also avoids judicial scrutiny of routine, internal business decisions.

Thus, in §1 Congress “treated concerted behavior more strictly than unilateral behavior.” Id., at 768. This is so because unlike independent action, “[c]onscerted activity inherently is fraught with anticompetitive risk” insofar as it “deprives the marketplace of independent centers of decisionmaking that competition assumes and demands.” Id., at 768–769. And because concerted action is discrete and distinct, a limit on such activity leaves untouched a vast amount of business conduct. As a result, there is less risk of deterring a firm’s necessary conduct; courts need only examine discrete agreements; and such conduct may be remedied simply through prohibition. See Areeda &

\(^2\) If Congress prohibited independent action that merely restrains
Hovenkamp ¶1464c, at 206. Concerted activity is thus “judged more sternly than unilateral activity under §2.” Copperweld, 467 U.S., at 768. For these reasons, §1 prohibits any concerted action “in restraint of trade or commerce,” even if the action does not “threaten[ ] monopolization,” Ibid. And therefore, an arrangement must embody concerted action in order to be a “contract, combination . . . or conspiracy” under §1.

III

We have long held that concerted action under §1 does not turn simply on whether the parties involved are legally distinct entities. Instead, we have eschewed such formalistic distinctions in favor of a functional consideration of how the parties involved in the alleged anticompetitive conduct actually operate.

As a result, we have repeatedly found instances in which members of a legally single entity violated §1 when the entity was controlled by a group of competitors and served, in essence, as a vehicle for ongoing concerted activity. In United States v. Sealy, Inc., 388 U.S. 350 (1967), for example, a group of mattress manufacturers operated and controlled Sealy, Inc., a company that licensed the Sealy trademark to the manufacturers, and

trade (even if it does not threaten monopolization), that prohibition could deter perfectly competitive conduct by firms that are fearful of litigation costs and judicial error. See Copperweld, 467 U.S., at 768 (“Judging unilateral conduct in this manner reduces the risk that the antitrust laws will dampen the competitive zeal of a single aggressive competitor”); cf. United States v. United States Gypsum Co., 438 U.S. 422, 441 (1978) (“[S]alutary and procompetitive conduct . . . might be shunned by businessmen who chose to be excessively cautious in the face of uncertainty”). Moreover, if every unilateral action that restrained trade were subject to antitrust scrutiny, then courts would be forced to judge almost every internal business decision. See 7 P. Areeda & H. Hovenkamp, Antitrust Law ¶1464c, at 206 (2d ed. 2003) (hereinafter Areeda & Hovenkamp) (unilateral behavior is “often difficult to evaluate or remedy”).
dictated that each operate within a specific geographic area. *Id.*, at 352–353. The Government alleged that the licensees and Sealy were conspiring in violation of §1, and we agreed. *Id.*, at 352–354. We explained that “[w]e seek the central substance of the situation” and therefore “we are moved by the identity of the persons who act, rather than the label of their hats.” *Id.*, at 353. We thus held that Sealy was not a “separate entity, but . . . an instrumentality of the individual manufacturers.” *Id.*, at 356.

In similar circumstances, we have found other formally distinct business organizations covered by §1. See, e.g., *Northwest Wholesale Stationers, Inc. v. Pacific Stationery & Printing Co.*, 472 U. S. 284 (1985); *National Collegiate Athletic Assn. v. Board of Regents of Univ. of Okla.*, 468 U. S. 85 (1984) (NCAA); *United States v. Topco Associates, Inc.*, 405 U. S. 596, 609 (1972); *Associated Press v. United States*, 326 U. S. 1 (1945); *id.*, at 26 (Frankfurter, J., concurring); *United States v. Terminal Railroad Assn. of St. Louis*, 224 U. S. 383 (1912); see also Rock, Corporate Law Through an Antitrust Lens, 92 Colum. L. Rev. 497, 506–510 (1992) (discussing cases). We have similarly looked past the form of a legally “single entity” when competitors were part of professional organizations\(^3\) or trade groups.\(^4\)

Conversely, there is not necessarily concerted action simply because more than one legally distinct entity is involved. Although, under a now-defunct doctrine known as the “intraenterprise conspiracy doctrine,” we once treated cooperation between legally separate entities as


necessarily covered by §1, we now embark on a more functional analysis.

The roots of this functional analysis can be found in the very decision that established the intraenterprise conspiracy doctrine. In *United States v. Yellow Cab Co.*, 332 U. S. 218 (1947), we observed that “corporate interrelationships ... are not determinitive of the applicability of the Sherman Act” because the Act “is aimed at substance rather than form.” *Id.*, at 227. We nonetheless held that cooperation between legally separate entities was necessarily covered by §1 because an unreasonable restraint of trade “may result as readily from a conspiracy among those who are affiliated or integrated under common ownership as from a conspiracy among those who are otherwise independent.” *Id.*; see also *Kiefer-Stewart Co. v. Joseph E. Seagram & Sons, Inc.*, 340 U. S. 211, 215 (1951).

The decline of the intraenterprise conspiracy doctrine began in *Sunkist Growers, Inc. v. Winckler & Smith Citrus Products Co.*, 370 U. S. 19 (1962). In that case, several agricultural cooperatives that were owned by the same farmers were sued for violations of §1 of the Sherman Act. *Id.*, at 24–25. Applying a specific immunity provision for agricultural cooperatives, we held that the three cooperatives were “in practical effect” one “organization,” even though the controlling farmers “have formally organized themselves into three separate legal entities.” *Id.*, at 29. “To hold otherwise,” we explained, “would be to impose grave legal consequences upon organizational distinctions that are of *de minimis* meaning and effect” insofar as “use of separate corporations had [no] economic significance.” *Ibid.*

Next, in *United States v. Citizens & Southern Nat. Bank*, 422 U. S. 86 (1975), a large bank, Citizens and Southern (C&S), formed a holding company that operated *de facto* suburban branch banks in the Atlanta area
through ownership of the maximum amount of stock in each local branch that was allowed by law, “ownership of much of the remaining stock by parties friendly to C&S, use by the suburban banks of the C&S logogram and all of C&S’s banking services, and close C&S oversight of the operation and governance of the suburban banks.” Id., at 89 (footnote omitted). The Government challenged the cooperation between the banks. In our analysis, we observed that “‘corporate interrelationships . . . are not determinative,’” id., at 116, “looked to economic substance,” and observed that “because the sponsored banks were not set up to be competitors, §1 did not compel them to compete.” Areeda & Hovenkamp ¶1463, at 200–201; see also Citizens & Southern, 422 U. S., at 119–120; Areeda, Intraenterprise Conspiracy in Decline, 97 Harv. L. Rev. 451, 461 (1983).

We finally reexamined the intraenterprise conspiracy doctrine in Copperweld Corp. v. Independence Tube Corp., 467 U. S. 752 (1984), and concluded that it was inconsistent with the “‘basic distinction between concerted and independent action.’” Id., at 767. Considering it “perfectly plain that an internal agreement to implement a single, unitary firm’s policies does not raise the antitrust dangers that §1 was designed to police,” id., at 769, we held that a parent corporation and its wholly owned subsidiary “are incapable of conspiring with each other for purposes of §1 of the Sherman Act,” id., at 777. We explained that although a parent corporation and its wholly owned subsidiary are “separate” for the purposes of incorporation or formal title, they are controlled by a single center of decisionmaking and they control a single aggregation of economic power. Joint conduct by two such entities does not “depriv[e] the marketplace of independent centers of decisionmaking,” id., at 769, and as a result, an agreement between them does not constitute a “contract, combination . . . or conspiracy” for the purposes
of §1.\textsuperscript{5}

IV

As Copperweld exemplifies, “substance, not form, should determine whether a[n] . . . entity is capable of conspiring under §1.” 467 U. S., at 773, n. 21. This inquiry is sometimes described as asking whether the alleged conspirators are a single entity. That is perhaps a misdescription, however, because the question is not whether the defendant is a legally single entity or has a single name; nor is the question whether the parties involved “seem” like one firm or multiple firms in any metaphysical sense. The key is whether the alleged “contract, combination . . ., or conspiracy” is concerted action—that is, whether it joins together separate decisionmakers. The relevant inquiry, therefore, is whether there is a “contract, combination . . . or conspiracy” amongst “separate economic actors pursuing separate economic interests,” id., at 769, such that the agreement “deprives the marketplace of independent centers of decisionmaking,” ibid., at 769, and therefore of “diversity of entrepreneurial interests,” Fraser v. Major League Soccer, L. L. C., 284 F. 3d 47, 57 (CA1 2002) (Boudin, C. J.), and thus of actual or potential competition, see Freeman v. San Diego Assn. of Realtors, 322 F. 3d 1133, 1148–1149 (CA9 2003) (Kozinski, J.); Rothery Storage & Van Co. v. Atlas Van Line, Inc., 792 F. 2d 210, 214–215 (CADC 1986) (Bork, J.); see also Areeda & Hovenkamp ¶1462b, at 193–194 (noting that the “central evil ad-

\textsuperscript{5}This focus on “substance, not form,” Copperweld, 467 U. S., at 773, n. 21, can also be seen in our cases about whether a company and its agent are capable of conspiring under §1. See, e.g., Simpson v. Union Oil Co. of Cal., 377 U. S. 13, 20–21 (1964); see also E. Elhauge & D. Geradin, Global Antitrust Law and Economics 787–788, and n. 7 (2007) (hereinafter Elhauge & Geradin) (explaining the functional difference between Simpson and United States v. General Elec. Co., 272 U. S. 476 (1926), in which we treated a similar agreement as beyond the reach of §1).
dressed by Sherman Act §1” is the “elimin[ation of] competi-
tion that would otherwise exist”).

Thus, while the president and a vice president of a firm
could (and regularly do) act in combination, their joint
action generally is not the sort of “combination” that §1 is
intended to cover. Such agreements might be described as
“really unilateral behavior flowing from decisions of a
single enterprise.” Copperweld, 467 U. S., at 767. Nor, for
this reason, does §1 cover “internally coordinated conduct
of a corporation and one of its unincorporated divisions,”
id., at 770, because “[a] division within a corporate struc-
ture pursues the common interests of the whole,” ibid.,
and therefore “coordination between a corporation and its
division does not represent a sudden joining of two inde-
pendent sources of economic power previously pursuing
separate interests,” id., at 770–771. Nor, for the same
reasons, is “the coordinated activity of a parent and its
wholly owned subsidiary” covered. See id., at 771. They
“have a complete unity of interest” and thus “[w]ith or
without a formal ‘agreement,’ the subsidiary acts for the
benefit of the parent, its sole shareholder.” Ibid.

Because the inquiry is one of competitive reality, it is
not determinative that two parties to an alleged §1 viola-
tion are legally distinct entities. Nor, however, is it de-
terminative that two legally distinct entities have organ-
ized themselves under a single umbrella or into a
structured joint venture. The question is whether the
agreement joins together “independent centers of deci-
sionmaking.” Id., at 769. If it does, the entities are capa-
ble of conspiring under §1, and the court must decide
whether the restraint of trade is an unreasonable and
therefore illegal one.

V

The NFL teams do not possess either the unitary deci-
sionmaking quality or the single aggregation of economic
power characteristic of independent action. Each of the teams is a substantial, independently owned, and independently managed business. “[T]heir general corporate actions are guided or determined” by “separate corporate consciousnesses,” and “[t]heir objectives are” not “common.” Copperweld, 467 U.S., at 771; see also North American Soccer League v. NFL, 670 F.2d 1249, 1252 (CA2 1982) (discussing ways that “the financial performance of each team, while related to that of the others, does not . . . necessarily rise and fall with that of the others”). The teams compete with one another, not only on the playing field, but to attract fans, for gate receipts and for contracts with managerial and playing personnel. See Brown v. Pro Football, Inc., 518 U.S. 231, 249 (1996); Sullivan v. NFL, 34 F.3d 1091, 1098 (CA1 1994); Mid-South Grizzlies v. NFL, 720 F.2d 772, 787 (CA3 1983); cf. NCAA, 468 U.S., at 99.

Directly relevant to this case, the teams compete in the market for intellectual property. To a firm making hats, the Saints and the Colts are two potentially competing suppliers of valuable trademarks. When each NFL team licenses its intellectual property, it is not pursuing the “common interests of the whole” league but is instead pursuing interests of each “corporation itself.” Copperweld, 467 U.S., at 770; teams are acting as “separate economic actors pursuing separate economic interests,” and each team therefore is a potential “independent center of decisionmaking.” id., at 769. Decisions by NFL teams to license their separately owned trademarks collectively and to only one vendor are decisions that “depriv[e] the marketplace of independent centers of decisionmaking,” ibid., and therefore of actual or potential competition. See NCAA, 468 U.S., at 109, n. 39 (observing a possible §1 violation if two separately owned companies sold their separate products through a “single selling agent”); cf. Areeda & Hovenkamp ¶1478a, at 318 ("Obviously, the
most significant competitive threats arise when joint venture participants are actual or potential competitors").

In defense, respondents argue that by forming NFLP, they have formed a single entity, akin to a merger, and market their NFL brands through a single outlet. But it is not dispositive that the teams have organized and own a legally separate entity that centralizes the management of their intellectual property. An ongoing §1 violation cannot evade §1 scrutiny simply by giving the ongoing violation a name and label. “Perhaps every agreement and combination in restraint of trade could be so labeled.” *Timken Roller Bearing Co. v. United States*, 341 U.S. 593, 598 (1951).

The NFL respondents may be similar in some sense to a single enterprise that owns several pieces of intellectual property and licenses them jointly, but they are not similar in the relevant functional sense. Although NFL teams have common interests such as promoting the NFL brand, they are still separate, profit-maximizing entities, and their interests in licensing team trademarks are not necessarily aligned. See generally Hovenkamp, Exclusive Joint Ventures and Antitrust Policy, 1995 Colum. Bus. L. Rev. 1, 52–61 (1995); Shishido, Conflicts of Interest and Fiduciary Duties in the Operation of a Joint Venture, 39 Hastings L. J. 63, 69–81 (1987). Common interests in the NFL brand “*partially unit[e] the economic interests of the parent firms,*” Broadley, Joint Ventures and Antitrust Policy, 95 Harv. L. Rev. 1521, 1526 (1982) (emphasis added), but the teams still have distinct, potentially competing interests.

It may be, as respondents argue, that NFLP “*has served as the ‘single driver’ of the teams’ ‘promotional vehicle,’ “pursu[ing] the common interests of the whole.”’ Brief for NFL Respondents 28 (quoting Copperweld, 467 U.S., at 770–771; brackets in original). But illegal restraints often are in the common interests of the parties to the restraint,
at the expense of those who are not parties. It is true, as respondents describe, that they have for some time marketed their trademarks jointly. But a history of concerted activity does not immunize conduct from §1 scrutiny. “Absence of actual competition may simply be a manifestation of the anticompetitive agreement itself.” *Freeman*, 322 F. 3d, at 1149.

Respondents argue that nonetheless, as the Court of Appeals held, they constitute a single entity because without their cooperation, there would be no NFL football. It is true that “the clubs that make up a professional sports league are not completely independent economic competitors, as they depend upon a degree of cooperation for economic survival.” *Brown*, 518 U. S., at 248. But the Court of Appeals’ reasoning is unpersuasive.

The justification for cooperation is not relevant to whether that cooperation is concerted or independent action. A “contract, combination . . . or conspiracy,” §1, that is necessary or useful to a joint venture is still a “contract, combination . . . or conspiracy” if it “deprives the marketplace of independent centers of decisionmaking,” *Copperweld*, 467 U. S., at 769. See *NCAA*, 468 U. S., at 113 (“[J]oint ventures have no immunity from antitrust laws”). Any joint venture involves multiple sources of economic power cooperating to produce a product. And for many such ventures, the participation of others is necessary. But that does not mean that necessity of cooperation transforms concerted action into independent action; a nut and a bolt can only operate together, but an agreement between nut and bolt manufacturers is still subject to §1

---

6As discussed *infra*, necessity of cooperation is a factor relevant to whether the agreement is subject to the Rule of Reason. See *NCAA*, 468 U. S., at 101 (holding that NCAA restrictions on televising college football games are subject to Rule of Reason analysis for the “critical” reason that “horizontal restraints on competition are essential if the product is to be available at all”).
analysis. Nor does it mean that once a group of firms agree to produce a joint product, cooperation amongst those firms must be treated as independent conduct. The mere fact that the teams operate jointly in some sense does not mean that they are immune.7

The question whether NFLP decisions can constitute concerted activity covered by §1 is closer than whether decisions made directly by the 32 teams are covered by §1. This is so both because NFLP is a separate corporation with its own management and because the record indicates that most of the revenues generated by NFLP are shared by the teams on an equal basis. Nevertheless we think it clear that for the same reasons the 32 teams’ conduct is covered by §1, NFLP’s actions also are subject to §1, at least with regards to its marketing of property owned by the separate teams. NFLP’s licensing decisions are made by the 32 potential competitors, and each of them actually owns its share of the jointly managed assets. Cf. Sealy, 388 U.S., at 352–354. Apart from their agreement to cooperate in exploiting those assets, including their decisions as the NFLP, there would be nothing to prevent each of the teams from making its own market

7In any event, it simply is not apparent that the alleged conduct was necessary at all. Although two teams are needed to play a football game, not all aspects of elaborate interleague cooperation are necessary to produce a game. Moreover, even if leaguewide agreements are necessary to produce football, it does not follow that concerted activity in marketing intellectual property is necessary to produce football.

The Court of Appeals carved out a zone of antitrust immunity for conduct arguably related to league operations by reasoning that coordinated team trademark sales are necessary to produce “NFL football,” a single NFL brand that competes against other forms of entertainment. But defining the product as “NFL football” puts the cart before the horse: Of course the NFL produces NFL football; but that does not mean that cooperation amongst NFL teams is immune from §1 scrutiny. Members of any cartel could insist that their cooperation is necessary to produce the “cartel product” and compete with other products.
decisions relating to purchases of apparel and headwear, to the sale of such items, and to the granting of licenses to use its trademarks.

We generally treat agreements within a single firm as independent action on the presumption that the components of the firm will act to maximize the firm’s profits. But in rare cases, that presumption does not hold. Agreements made within a firm can constitute concerted action covered by §1 when the parties to the agreement act on interests separate from those of the firm itself, and the intrafirm agreements may simply be a formalistic shell for ongoing concerted action. See, e.g., Topco Associates, Inc., 405 U. S., at 609; Sealy, 388 U. S., at 352–354.

For that reason, decisions by the NFLP regarding the teams’ separately owned intellectual property constitute concerted action. Thirty-two teams operating independently through the vehicle of the NFLP are not like the components of a single firm that act to maximize the firm’s profits. The teams remain separately controlled, potential competitors with economic interests that are distinct from NFLP’s financial well-being. See generally Hovenkamp, 1995 Colum. Bus. L. Rev., at 52–61. Unlike typical decisions by corporate shareholders, NFLP licensing decisions effectively require the assent of more than a mere majority of shareholders. And each team’s decision reflects not only an interest in NFLP’s profits but also an interest in the team’s individual profits. See generally Shusido, 39 Hastings L. J., at 69–71. The 32 teams capture individual

---

8 See Areeda & Hovenkamp ¶1471; Elhauge & Geradin 786–787, and n. 6; see also Capital Imaging Assoc. v. Mohawk Valley Medical Assoc., Inc., 996 F. 2d 537, 544 (CA2 1993); Bolt v. Halifax Hospital Medical Center, 891 F. 2d 810, 819 (CA11 1990); Oksanen v. Page Memorial Hospital, 945 F. 2d 696, 706 (CA4 1991); Motive Parts Warehouse v. Facet Enterprises, 774 F. 2d 380, 387–388 (CA10 1985); Victorian House, Inc. v. Fisher Camuto Corp., 769 F. 2d 466, 469 (CA8 1985); Weiss v. York Hospital, 745 F. 2d 786, 828 (CA3 1984).
economic benefits separate and apart from NFLP profits as a result of the decisions they make for the NFLP. NFLP’s decisions thus affect each team’s profits from licensing its own intellectual property. “Although the business interests of” the teams “will often coincide with those of the” NFLP “as an entity in itself, that commonality of interest exists in every cartel.” Los Angeles Memorial Coliseum Comm’n v. NFL, 726 F. 2d 1381, 1389 (CA9 1984) (emphasis added). In making the relevant licensing decisions, NFLP is therefore “an instrumentality” of the teams. Sealy, 388 U. S., at 352–354; see also Topco Associates, Inc., 405 U. S., at 609.

If the fact that potential competitors shared in profits or losses from a venture meant that the venture was immune from §1, then any cartel “could evade the antitrust law simply by creating a ‘joint venture’ to serve as the exclusive seller of their competing products.” Major League Baseball Properties, Inc. v. Salvino, Inc., 542 F. 3d 290, 335 (CA2 2008) (Sotomayor, J., concurring in judgment). “So long as no agreement,” other than one made by the cartelists sitting on the board of the joint venture, “explicitly listed the prices to be charged, the companies could act as monopolies through the ‘joint venture.’” Ibid. (Indeed, a joint venture with a single management structure is generally a better way to operate a cartel because it decreases the risks of a party to an illegal agreement defecting from that agreement). However, competitors “cannot simply get around” antitrust liability by acting “through a third-party intermediary or ‘joint venture’.” Id., at 336.

For the purposes of resolving this case, there is no need to pass upon the Government’s position that entities are incapable of conspiring under §1 if they “have effectively merged the relevant aspect of their operations, thereby eliminating actual and potential competition . . . in that operational sphere” and “the challenged restraint [does] not significantly affect actual or potential competition . . . outside their merged operations.” Brief for United States as Amicus Curiae 17. The
Football teams that need to cooperate are not trapped by antitrust law. “[T]he special characteristics of this industry may provide a justification” for many kinds of agreements. Brown, 518 U. S., at 252 (STEVENS, J., dissenting). The fact that NFL teams share an interest in making the entire league successful and profitable, and that they must cooperate in the production and scheduling of games, provides a perfectly sensible justification for making a host of collective decisions. But the conduct at issue in this case is still concerted activity under the Sherman Act that is subject to §1 analysis.

When “restraints on competition are essential if the product is to be available at all,” per se rules of illegality are inapplicable, and instead the restraint must be judged according to the flexible Rule of Reason.10 NCAA, 468

Government urges that the choices “to offer only a blanket license” and “to have only a single headwear licensee” might not constitute concerted action under its test. Id., at 32. However, because the teams still own their own trademarks and are free to market those trademarks as they see fit, even those two choices were agreements amongst potential competitors and would constitute concerted action under the Government’s own standard. At any point, the teams could decide to license their own trademarks. It is significant, moreover, that the teams here control NFLP. The two choices that the Government might treat as independent action, although nominally made by NFLP, are for all functional purposes choices made by the 32 entities with potentially competing interests.

10Justice Brandeis provided the classic formulation of the Rule of Reason in Board of Trade of Chicago v. United States, 246 U. S. 231, 238 (1918):

“The true test of legality is whether the restraint imposed is such as merely regulates and perhaps thereby promotes competition or whether it is such as may suppress or even destroy competition. To determine that question the court must ordinarily consider the facts peculiar to the business to which the restraint is applied; its condition before and after the restraint is imposed; the nature of the restraint and its effect, actual or probable. The history of the restraint, the evil believed to exist, the reason for adopting the particular remedy, the purpose or end
Opinion of the Court

U. S., at 101; see id., at 117 (“Our decision not to apply a per se rule to this case rests in large part on our recognition that a certain degree of cooperation is necessary if the type of competition that petitioner and its member institutions seek to market is to be preserved”); see also Dagher, 547 U. S., at 6. In such instances, the agreement is likely to survive the Rule of Reason. See Broadcast Music, Inc. v. Columbia Broadcasting System, Inc., 441 U. S. 1, 23 (1979) (“Joint ventures and other cooperative arrangements are also not usually unlawful. . . where the agreement . . . is necessary to market the product at all”). And depending upon the concerted activity in question, the Rule of Reason may not require a detailed analysis; it “can sometimes be applied in the twinkling of an eye.” NCAA, 468 U. S., at 109, n. 39.

Other features of the NFL may also save agreements amongst the teams. We have recognized, for example, “that the interest in maintaining a competitive balance” among “athletic teams is legitimate and important,” NCAA, 468 U. S., at 117. While that same interest applies to the teams in the NFL, it does not justify treating them as a single entity for §1 purposes when it comes to the marketing of the teams’ individually owned intellectual property. It is, however, unquestionably an interest that may well justify a variety of collective decisions made by the teams. What role it properly plays in applying the Rule of Reason to the allegations in this case is a matter to be considered on remand.

sought to be attained, are all relevant facts. This is not because a good intention will save an otherwise objectionable regulation or the reverse; but because knowledge of intent may help the court to interpret facts and to predict consequences.” See also Leegin Creative Leather Products, Inc. v. PSKS, Inc., 551 U. S. 877, 885–887 (2007); National Soc. of Professional Engineers, 435 U. S., at 688–691.
Accordingly, the judgment of the Court of Appeals is reversed, and the case is remanded for further proceedings consistent with this opinion.

* * *

It is so ordered.
BIOGRAPHIES
Christopher J. Barr is a principal in Post & Schell PC’s Energy Group and has practiced in federal energy law for nearly 30 years.

He primarily represents and counsels interstate liquids pipeline companies subject to the Interstate Commerce Act and natural gas utilities and interstate natural gas pipelines subject to the Natural Gas Act and related laws. He has represented national trade associations in the natural gas and liquids pipeline industries, and also advises clients regarding, pipeline safety statutes, state public utility issues, state and federal land use requirements and the Federal Power Act. He has extensive experience in business planning in light of federal and state regulations, assisting in the development of new services and facilities, preparing and litigating rate cases, advising in compliance and enforcement matters, filing declaratory order petitions, commenting in rulemakings, as well as participating in certificate and judicial appellate proceedings.

Chris is a past Chairman of the Energy Bar Association’s Natural Gas Regulation and Oil and Liquids Pipeline Committees, and has frequently written and spoken professionally on both natural gas and liquids pipeline topics. He received a B.A. in History from Yale University and a J.D. from George Washington University.
Dan M. Berkovitz is General Counsel of the Commodity Futures Trading Commission. In this capacity Mr. Berkovitz played a key role in providing the CFTC’s legislative assistance to the Congress during the consideration of the Dodd-Frank Wall Street Reform and Consumer Protection Act.

Prior to joining the CFTC in June 2009, Mr. Berkovitz was Counsel to the United States Senate Permanent Subcommittee on Investigations. Serving under Senator Carl Levin, he led several major investigations into energy markets and prices, including the role of financial speculation in natural gas and crude oil prices; the effect of the Department of Energy’s program to fill the Strategic Petroleum Reserve on oil prices and energy security; and the effect of increasing concentration in the gasoline refining industry on retail gasoline prices. He was one of the lead staffers during Congress’s consideration and passage of legislation in the 2008 Farm Bill to regulate the electronic trading of energy commodities.

From 1995-2001, Mr. Berkovitz served as Deputy Assistant Secretary for Planning, Policy, and Budget in the Department of Energy’s Environmental Management program. In this position he was responsible for formulating and presenting to Congress the Department’s $6 billion annual budget for the clean-up of nuclear and hazardous wastes generated by the production of nuclear weapons. He has authored a number of law review and trade journal articles on the regulation of nuclear energy and wastes.

He graduated cum laude with an A.B. in Physics from Princeton University in 1978, and received a J.D. from University of California, Hastings College of Law in 1982. He resides in Bethesda, Maryland, with his wife, Michelle, and two children, Zoe and Eli.
Sydney D. Berwager

Mr. Berwager is the Director, Strategy Integration at the Bonneville Power Administration (BPA). In this Corporate Strategy role, Syd manages the staff who are leading and coordinating BPA’s response to new electric industry challenges: climate change and related national and state initiatives, rapid growth of wind resources in BPA’s control area, integrated resource and transmission planning, and multi-utility approaches to operational improvements. Mr. Berwager and his staff also lead BPA’s participation in ColumbiaGrid and the North American Energy Standards Board (NAESB).

Syd serves on the Executive Committee of the North American Energy Standards Board (NAESB). He also serves as BPA’s official member representative for ColumbiaGrid and The Climate Registry.

Mr. Berwager has been with BPA since 1982. During that time, Syd has held various positions with BPA, including Contracts and Rates Division Director, Conservation Programs Division Director, Subscription Process Manager, and Senior Account Executive for power customers, both in the region and in the Southwest.

Prior to joining BPA, Syd’s work experience included positions with the U.S. Department of Energy in Washington DC and with the Metropolitan Washington (DC) Council of Governments.

Syd has a Bachelor of Arts degree from Gettysburg College, a Bachelor of Science in Civil Engineering from the Pennsylvania State University, and a Master’s Degree from the University of Maryland.
Andrew Bradford
Director of Origination and Business Development
BENETEK Energy
Evergreen, CO

Andrew Bradford is the Director of Origination and Business Development at BENETEK Energy LLC. In this role, he leads BENETEK’s sales team, conducts product development and frequently speaks about the natural gas market at energy conferences. In addition, Andrew is currently managing project integration for BENETEK’s participation in the National Petroleum Council’s North American Natural Gas and Oil Resource Study.

While at BENETEK, Andrew launched BENETEK’s Northeast market coverage and fundamental analytical reports. He was also the project lead for multiple Appalachian pipeline capacity studies conducted for BENETEK consulting clients.

A veteran of Amoco Production Company and Constellation Energy, Andrew has worked in the energy and technology business for over 12 years. Andrew holds a Masters in Energy and Environmental Analysis from Boston University and a B.A. in Geology from Colorado College.
Steve H. Brose

Steve Brose is a partner in the Washington office of Steptoe & Johnson LLP, where he is the head of the Regulatory & Industry Affairs Department. Mr. Brose has more than 30 years of experience in a broad range of administrative, judicial, and transactional matters, principally involving the oil and natural gas pipeline industries.

Oil Pipeline Regulation

Mr. Brose has served as lead counsel for the regulated company in a number of the most complex oil pipeline matters to come before the Federal Energy Regulatory Commission (FERC). These have included recent cases involving the rates and practices of Colonial Pipeline Company, ExxonMobil Pipeline Company, Mid-America Pipeline Company, Amberjack Pipeline Company, Alpine Transportation Company, Enbridge Energy, Limited Partnership, Koch Pipeline Company, L.P., and SFPP, as well as earlier matters for ARCO Pipeline Company, Kuparuk Transportation Company and others. Several of these cases resulted in innovative, long-term settlements.

Mr. Brose has also defended the owners of the Trans Alaska Pipeline System (TAPS) and its feeder lines in a range of regulatory proceedings before the FERC and the Regulatory Commission of Alaska. His relationship with TAPS dates back to the pipeline's original rate proceeding. That case culminated in a unique, 25-year rate settlement with the state of Alaska in which Mr. Brose played a primary role. Since then, he has defended the TAPS owners in challenges to the cost of repairing corrosion on the pipeline, the cost of settling the Exxon Valdez oil spill case, and the cost of investigating and repairing thousands of electrical code violations on TAPS facilities, as well as numerous other contested matters.

As part of Mr. Brose's oil pipeline practice, he counsels a great number of companies with respect to their rates, regulated practices, and business opportunities. This has included participation in several successful transactions involving the sale or lease of pipeline assets. He has also served as an expert witness on oil pipeline regulation in private civil litigation.

Mr. Brose's experience includes a variety of pipeline safety matters at the Department of Transportation's Office of Pipeline Safety, in private litigation, and in counseling pipeline clients.

Mr. Brose has served numerous terms as Chair of the Oil Pipeline Committees of both the American Bar Association Section on Public Utility, Communications, and Transportation Law, and of the Federal Energy Bar Association. He is a frequent speaker to bar associations and industry groups on matters involving various aspects of pipeline regulation.
Steven H. Brose

Natural Gas Regulation
Mr. Brose's experience in natural gas regulatory matters spans his entire career. He has represented natural gas producers and processors in a variety of administrative and judicial matters involving royalty issues, abandonments, pipeline certificates, connections, and gas quality standards. Mr. Brose was heavily involved in the proposed conversion of a major facility in the Southwest to interstate gas pipeline service. This project entailed, among other things, preparation of a detailed certificate application to the FERC, preparation of the initial tariff and rate structure for the pipeline, and coordination of the environmental and regulatory permitting process.

Energy Matters in the Former Soviet Union and South America
In recent years, Mr. Brose has served on expert task forces for the World Bank and the State Department's Agency for International Development involving energy projects in the Former Soviet Union. The goal of the World Bank project was to increase access to the immense Russian oil pipeline network; the AID task force advised and assisted the government of the Republic of Georgia regarding a proposed oil pipeline project from the Caspian Sea to the Black Sea.

Most recently, Mr. Brose was the lead advisor to the Ecuador Ministry of Energy and Mines in its successful negotiations with Western developers of the new Ecuador oil pipeline project.

Noteworthy

- Named in Chambers Global 2008-2011: The World's Leading Lawyers for Business as a leading attorney in Energy: Oil & Gas; Regulatory & Litigation (US)
- Ranked in Legal 500 US 2010 for Litigation: Energy
- Listed in Washington, DC Super Lawyers 2007-2010
- Listed in Best Lawyers in America 2010 for Energy and Natural Resources Law
- Recommended by Legal 500 US 2009 for Litigation: Energy
- Listed in Who's Who Legal for Oil & Gas in 2008 and 2009
Steven H. Brose

Professional Affiliations

American Bar Association: Section on Public Utility, Communications and Transportation Law; Vice Chair, (and Former Chair) Oil Pipelines Committee; Former Member of Section Council

Federal Energy Bar Association: Former Chair, Oil Pipelines Committee; Former Member of Executive Committee

Board of Trustees, Lawyers Committee for Civil Rights Under Law
Patrick Brown is the Manager of NERC & Regional Coordination for PJM Interconnection, which administers one of the largest energy markets and operates North America's largest centrally dispatched electricity grid.

In his current position, Mr. Brown is responsible for coordinating the reliable operation of the PJM Interconnection in accordance with the NERC and Regional Reliability Standards, and NAESB Business Practices. He is also responsible for providing technical and business support and guidance to PJM departments and member companies in addressing reliability standards compliance, and working in support of joint compliance efforts. He also has experience in a number of positions in PJM System Operations including managing generation dispatch, transmission monitoring and control, interchange transaction administration, generating unit scheduling, reliability coordinator duties and the implementation of emergency procedures.

Prior to joining PJM, Mr. Brown was a production manager for IKON Office Solutions in Chicago, Illinois, and served in the United States Army for 15 years.


Mr. Brown holds a bachelors of science in liberal arts (magna cum laude) from Excelsior College, University of the State of New York, and a masters of business administration from Benedictine University. He also holds an advanced certificate in project management from Stanford University and a post-graduate diploma in international management from the Royal Holloway School of Management, University of London. He is also a graduate of the University of Idaho’s Utility Executive Course. Mr. Brown is a member of the Sigma Beta Delta international honors society.

PJM Interconnection ensures the reliability of the high-voltage electric power system serving 51 million people in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia. PJM coordinates and directs the operation of the region's transmission grid, which includes 6,038 substations and 56,250 miles of transmission lines; administers a competitive wholesale electricity market; and plans regional transmission expansion improvements to maintain grid reliability and relieve congestion.
**Doug Egan** Chairman & Chief Executive Officer

Doug co-founded CPV with Gary Lambert in 1999 and together they raised venture capital funding for the company in a series of separate financings, exceeding $300 million in total. Under his leadership, CPV has focused on traditional and renewable power generation project development and asset management services for major energy and finance industry clients and investors. Doug provides the strategic direction for the company as it responds to the evolution of a highly dynamic North American market. With more than 25 years in the independent power industry, he is well known to the power, natural gas and financial communities.

Prior to forming CPV, Doug was Senior Vice President for Development at PG&E Generating Company, formerly US Generating Company. At PG&E, he was responsible for non-regulated power project development. He was responsible for the initiation of seven natural gas fired power generation projects and a wind project representing more than 5,000 MW of capacity currently in operation across the United States. Prior to assuming control of PG&E's development program, Doug was Vice President and Regional Executive for their Northeast Region where he supervised six operating IPP projects, including fuel supply and transportation and power sale agreements.

Prior to PG&E, Doug was Vice President of Development at J. Makowski Company of Boston where he was responsible for the acquisition and financial restructuring of Altresco Financial, Inc. Additionally, he held the position of General Counsel for Intercontinental Energy Corporation of Hingham, Massachusetts through the development and construction of two cogeneration projects representing more than 600 MWs. In the early 1980's, Doug worked at the law firm of Murtha Cullina Richter & Pinney in Hartford, Connecticut.

Doug is a graduate of Dartmouth College and Cornell Law School.
David C. Holden – Brief Bio Info

David C. Holden is vice-president – Enterprise Risk Management, Dominion Resources Services, Inc. He has nearly 30 years of energy industry experience including power operations, trading, and energy risk management. He has served as director and executive sponsor of the Dominion Center for Energy Modeling and Optimization, Blacksburg, Virginia. He was a founding member of the Committee of Chief Risk Officers and served on its board from inception until 2004. His current responsibilities include credit & liquidity risk management; market risk management; middle office, trading control & compliance. He earned a BBA from Averett College and a MSA from Central Michigan University. David and his wife, Wanda, have two daughters and live in Powhatan, Virginia.
George E. Johnson

George Johnson has been engaged in administrative regulatory practice—in the energy, environmental, and telecommunications areas—for more than 25 years, both in private practice and on behalf of the Federal government. He joined Dickstein Shapiro in 1995 and currently is senior counsel. Mr. Johnson has represented independent power producers, electric utilities, and industrial electricity end-users with interests in the ongoing restructuring of the electric power industry at the federal, regional, and state levels.

AREAS OF CONCENTRATION

Electric Industry Restructuring

Mr. Johnson has extensive experience in the regulation of the electric power industry. Since coming to the Firm, he has been directly involved in restructuring the wholesale electric power pools in New York, New England, and the Mid-Atlantic states and in retail electric access issues in several state jurisdictions. In this connection, he has advised and represented clients engaged in federal,
regional, and state level proceedings on transmission access and pricing, market power, and other competitive issues. He has played a major role in the restructuring of the Northeast regional market, including being a voting representative in the New England Power Pool and a participant in negotiations involving the restructuring of the Northeast power markets, and in preparing major restructuring proposals for two of those Northeast ISOs. He also has played a major role in negotiating new standard generator interconnection procedures and interconnection agreements.

Regulatory Litigation

Mr. Johnson is an experienced litigator. He represents leading U.S. independent power producers on an ongoing basis in numerous proceedings before the FERC. Prior to coming to the Firm, he was lead litigation counsel to a wide variety of clients, in a wide variety of matters. He represented electric utility clients in two complex and protracted proceedings addressing the prudence of nuclear plant investments and licensing, in actions arising under the Federal Power Act. He represented the operator of a uranium mine and a manufacturer of auto parts in civil actions arising under the Superfund law, as well as a municipal utility district in state and federal permit proceedings under the Clean Water Act. He also assisted a major independent power producer in obtaining, and retaining, Qualifying Facility status for its plants under the Public Utility Regulatory Policies Act, and in litigating an enforcement action under the same Act.

As a government litigator, Mr. Johnson was lead counsel in several controversial nuclear reactor licensing cases, as well as counsel in whistleblower/enforcement and nuclear materials waste disposal proceedings under the Atomic Energy Act. As a special enforcement counsel to the Department of Energy, he brought and litigated numerous enforcement actions under the emergency oil price control regulations.

As an attorney with the Federal Communications Commission (FCC), Mr. Johnson played an important role in the development of telecommunication policies and programs to foster Universal Service and to realign regulatory policies to accommodate competition among local exchange carriers. He was counsel for the FCC in several disputes between cable operators and public utilities over pole attachment rates.

PROFESSIONAL ACTIVITIES

Mr. Johnson is a member of the District of Columbia, New York, and Maryland bars.
PUBLICATIONS


EDUCATION

Mr. Johnson received his B.A. from Cornell University (1964), and his J.D., cum laude, from Columbia University (1967), where he was an editor of the Columbia Journal of Law and Social Problems.

ATTORNEY ADVERTISING. Prior results do not guarantee a similar outcome.
Mark G. Lauby is the Vice President and Director, Reliability Assessments and Performance Analysis of the North-American Electric Reliability Corporation (NERC), joining NERC in January 2007. Mr. Lauby leads the electric reliability organization’s efforts to independently assess and report on the overall reliability, adequacy, and associated risks of the interconnected North American bulk power system.

Prior to joining NERC, Mr. Lauby worked since 1987 for the Electric Power Research Institute (EPRI) where he held a number of senior positions, including: Director, Power Delivery & Markets; Managing Director, Asia, EPRI International; and Manager, Power System Engineering in the Power System Planning and Operations Program. Mr. Lauby started his career in the electric industry at the Mid-Continent Area Power Pool (MAPP), in Minneapolis, Minnesota in 1979. His responsibilities included transmission planning, power system reliability assessment, and probabilistic evaluation.

Mr. Lauby earned both his Bachelor of Electrical Engineering in 1980 and his Master of Science in Electrical Engineering in 1989 from the University of Minnesota. He is the author of over 100 papers on the subjects of power system reliability, expert systems, transmission system planning, and power system numerical analysis techniques. Mr. Lauby Chaired the International Electricity Research Exchange (IERE), is a Senior Member of the Institute of Electrical and Electronic Engineers (IEEE), and served as Chairman of a number of IEEE working groups. Mr. Lauby has been recognized for his technical achievements in many technical associations, including the 1992 IEEE Walter Fee Young Engineer of the Year Award.
Commissioner Cheryl A. LaFleur

Commissioner LaFleur has more than 20 years experience as a leader in the electric and natural gas industry. She retired in 2007 as executive vice president and acting CEO of National Grid USA, responsible for the delivery of electricity to 3.4 million customers in the Northeast. Her previous positions at National Grid USA and its predecessor New England Electric System included chief operating officer, president of the New England distribution companies and general counsel. Earlier in her career, she was responsible for leading award-winning conservation and demand response programs for customers.

Commissioner LaFleur is a frequent speaker on energy issues, particularly reliability and grid security, transmission planning, and enabling clean energy resources. She is a member of the NARUC Committees on Electricity and Critical Infrastructure.

Commissioner LaFleur has been a nonprofit board member and leader, serving as a trustee of Beth Israel Deaconess Medical Center in Boston, Worcester Polytechnic Institute, and several other organizations. In 2008, she served as CEO of the Steppingstone Foundation, an educational nonprofit in Boston. She has been honored by Bryant University, Women’s Business Boston, the Greater Boston Chamber of Commerce, and the YWCA of Central Massachusetts.

Commissioner LaFleur began her career as a lawyer at Ropes and Gray in Boston. She has a J.D. from Harvard Law School, where she was an editor of the Harvard Law Review, and an A.B. from Princeton University.

Commissioner LaFleur is married to William A. Kuncik, a retired attorney, and they are the parents of two grown children.
Mary N. Lehner

Federal Trade Commission
Bureau of Competition

Mary rejoined the Federal Trade Commission’s Bureau of Competition in 2008. She currently serves as a lead merger investigation attorney in the Mergers III Division, which is responsible for reviewing mergers and acquisitions in the oil and gas industries. Mary previously served as an attorney in the Bureau of Competition from 2002 to 2006. In addition to her government service, Mary has worked in private practice, most recently at Linklaters LLP in New York and previously at Vinson & Elkins LLP in Washington, DC.

While in private practice, Mary represented international and domestic clients in merger and non-merger investigations before the Federal Trade Commission and the Department of Justice, and counseled clients on the antitrust aspects of mergers and acquisitions, joint ventures, and other business arrangements.

She has litigated in federal, state, and administrative courts, and has experience in a wide range of industries, including energy, software, airlines, construction products, publishing, hospitals, and pharmaceuticals.

Mary is a 1998 graduate of the University of Chicago Law School and a 1995 graduate of the College of William & Mary. She is active in the Antitrust Section of the ABA, currently serving as a Vice-Chair of its Mergers & Acquisitions Committee.
Mark Lenczowski is a Managing Director and Assistant General Counsel for J.P. Morgan's Investment Bank. He advises the Rates and Global Commodities Groups on regulatory matters, and negotiates and drafts transactional documents for OTC derivatives transactions. He has worked on OTC derivatives since 1990 and joined J.P. Morgan in 2004. He also worked at International Finance Corporation as Senior Finance Officer. He is a graduate of Harvard College and the University of Illinois Law School.
Mr. Lindh was appointed General Counsel of the California Public Utilities Commission in June 2008, where he heads a staff of approximately 70 lawyers.

Mr. Lindh also serves as an adjunct law professor, teaching courses on energy law at the University of San Francisco School of Law and at Boalt Hall at the University of California, Berkeley.

Mr. Lindh is a 1985 honors graduate of the Georgetown University Law Center. He also holds a Master of Social Work Degree from the University of North Carolina at Chapel Hill, and an undergraduate degree in political science from the Pennsylvania State University.

Mr. Lindh recently completed a two-year term as President of the Western Chapter of the Energy Bar Association. He previously served a three-year term on EBA’s national Board of Directors.

Mr. Lindh also is a long-time member of the Conference of California Public Utility Counsel, and was recently elected to that organization’s Board of Directors.

Mr. Lindh has published several articles in the *Energy Law Journal* on issues of federal and state jurisdiction in the electricity and natural gas industries.

Mr. Lindh has been a lawyer in the energy field for 25 years, in a variety of settings, in Washington, D.C., and in San Francisco. He has worked in private practice, in the Law Department at Pacific Gas and Electric Company, and in the Office of the Solicitor at the Federal Energy Regulatory Commission. From 1996-1998, he served as General Counsel of Pacific Gas Transmission Company, a major interstate natural gas pipeline.

Mr. Lindh was the law clerk to the Solicitor General of the United States, in the U.S. Department of Justice, during the Supreme Court’s 1984-1985 Term.

Mr. Lindh is a member of the State Bar of California and also a member (currently on inactive status) of the District of Columbia Bar. He is admitted to practice before the Supreme Court of the United States and the United States Courts of Appeals for the District of Columbia, Second, Fourth, Fifth, Seventh, Ninth and Tenth Circuits.
Martin Livingston is a Managing Director in the Global Energy and Project Finance Group at WestLB AG in New York, focusing on originating, arranging, and executing limited and non-recourse project financings in power and other industrial sectors in the Americas. He has 20 years’ experience in structured and project finance, having led multiple stand-alone and portfolio project financings totaling billions of dollars for a wide range of clients. His most recent transaction was as a joint lead arranger and joint bookrunner on the $422-million construction and term loan financing of the 512-MW Bayonne power project in the New York/New Jersey region. Prior to joining WestLB, Mr. Livingston served as Managing Director in the structured and project finance group at Credit Agricole where he led major project financings in both the bank and private placement markets for various major independent power producers in the U.S. Mr. Livingston started his career in the project and structured finance group of Deutsche Bank in New York. Mr. Livingston received his master’s degree in foreign service and international business diplomacy from Georgetown University and his B.A. (magna cum laude) from Beloit College.
Janice Moore is a Partner of the Pierce Atwood law firm in Washington, D.C., where she is a member of the Energy and Business practice groups. Her practice involves physical and financial transactions for various energy commodities and risk management activities in international and domestic markets as well as structured products and derivatives. She offers a unique advantage to the firm's clients based on her many years of experience as in-house counsel for the companies who are major players in these markets. She has advised clients on all aspects of managing commodity and other risks in domestic and international trading transactions, such as credit risk and foreign exchange (FX) exposures, renewable energy, carbon credits, emission allowances. She has drafted and negotiated ISDA Master Agreements and related documentation, credit support agreements, netting and collateral arrangements, as well as standard and non-standard contract forms for long-term power purchase agreements, fuel supply contracts, and other physical purchases and sales. She has negotiated contracts in the Philippines, Singapore, Guam, Korea, Japan, India, Vietnam, Brazil, and England. She is a frequent writer and speaker on topics involving various aspects of trading and risk management activities.

Ms. Moore graduated from Goucher College, *cum laude*, and received her J.D. degree from the University of Richmond with numerous honors. Ms. Moore is admitted in Virginia and the District of Columbia.
Mr. Morrison manages the Regulatory Issues Division of NRECA’s Government Relations Department, where he oversees a staff of professionals representing NRECA and its members on matters relating to federal and state utility regulation, power supply and delivery, and cooperative-law issues. Since joining NRECA in 1998, Mr. Morrison has focused extensively on issues relating to wholesale market design, power supply and delivery, industry restructuring, renewable energy, energy efficiency, distributed generation, and the smart grid.

In 1993, Mr. Morrison earned his MPP, from the John F. Kennedy School of Government and his JD, magna cum laude, from Harvard Law School. Mr. Morrison earned his BA summa cum laude from UCLA in 1989. Mr. Morrison has also clerked for the Honorable A. Raymond Randolph on the D.C. Circuit, served as counsel to the U.S. Senate Committee on Labor and Human Resources, and represented cooperatives and other clients before the Federal Energy Regulatory Commission, Congress, and the courts with the firm of Paul, Hastings.

Mr. Morrison and his wife Barbara Burgess live on a tiny farm in rural Virginia with their sons Abraham and Samuel and too many animals.
Biography for

Diana L. Moss, Ph.D.

Diana Moss is Director and Vice President of the American Antitrust Institute (AAI). An economist, Dr. Moss has managed projects for AAI involving antitrust, M&A, regulatory reform, network access, and systems competition. Her industry expertise includes electricity, petroleum, agriculture, airlines, telecommunications, and sports. Before joining AAI in 2001, Dr. Moss was a senior staff economist at the FERC where she coordinated competition analysis in electricity merger cases. From 1989 to 1994, she consulted in private practice in the areas of regulation and antitrust at the National Economic Research Associates and Putnam Hayes and Bartlett. Dr. Moss has spoken widely on various topics on antitrust and regulation, testified before Congress, and appeared before state and federal regulatory commissions. She has published articles in a number of economic and legal academic journals, including: American Economic Review, Journal of Industrial Organization, World Bank Economic Review, Energy Law Journal, and the Antitrust Bulletin. She has also published in the Electricity Journal, Legal Times, and The Deal and is editor of Network Access, Regulation and Antitrust (2005). Dr. Moss is Adjunct Faculty in the Department of Economics and Interdisciplinary Telecommunications Program at the University of Colorado at Boulder. She holds a M.A. degree from the University of Denver and a Ph.D. from the Colorado School of Mines.

Contact Information:

Diana L. Moss, Ph.D.
Vice President and Senior Fellow
American Antitrust Institute
phone: 720-233-5971
e-mail: dmoss@antitrustinstitute.org
web: www.antitrustinstitute.org
Lauren H. O'Donnell
Federal Energy Regulatory Commission

Lauren O'Donnell is the Director of the Division of Gas – Environment and Engineering with the Federal Energy Regulatory Commission's Office of Energy Projects. Lauren graduated from Ball State University with a Bachelor’s degree in Geology and has been with the Commission since 1979.

Lauren was one of the principal developers of the Commission’s pre-filing process for interstate natural gas pipelines and LNG facilities and has managed the evolution of the process since 2002. In addition, Lauren played a significant role in defining and implementing the Commission’s responsibilities under the Energy Policy Act of 2005. Specifically, she was responsible for the development of the regulations for Coordinating the Processing of Federal Authorizations (Order 687) and the negotiated the Memorandum of Understanding with the Department of Defense regarding coordination on the review of LNG facilities.
Susan Olenchuk focuses on natural gas regulatory, policy and transactional matters; pipeline safety; compliance, audits, and enforcement; and hydroelectric licensing.

In her natural gas practice, Ms. Olenchuk advises on an array of federal regulatory compliance and policy matters arising under the Natural Gas Act and the Natural Gas Policy Act (NGPA) in administrative proceedings before the Federal Energy Regulatory Commission (FERC) and in appellate litigation before the courts of appeals. Representing clients in rulemakings, pipeline rate and tariff proceedings, and pipeline certificates and construction projects, Ms. Olenchuk provides experienced assistance to both regulated pipelines and customers in understanding and implementing regulatory policies and requirements, particularly as they affect interstate natural gas transportation and storage services, including services provided under Section 311 of the NGPA.

Ms. Olenchuk is experienced in counseling natural gas pipelines and electric utilities on implementation and compliance issues arising under FERC’s affiliate Standards of Conduct. She assists clients in auditing and evaluating internal processes and procedures and in developing workable and effective compliance plans and training materials that reflect best practices, conform with regulatory guidance and mandates, and achieve corporate objectives.

Ms. Olenchuk also counsels oil and gas pipelines with respect to pipeline safety issues and policies under the Pipeline Safety Act. She assists pipelines in ensuring compliance and in developing appropriate strategies in response to enforcement actions. In addition, she helps gas pipelines obtain Special Permits from the Pipeline and Hazardous Materials Safety Administration (PHMSA) to enable the use of new technology and improved materials in the design and construction of new pipelines.
Sonny Popowsky has served as the Consumer Advocate of Pennsylvania since 1990 and has worked at the Office of Consumer Advocate (OCA) since 1979. He was the President of the National Association of State Utility Consumer Advocates (NASUCA) from 1996 to 1998 and was previously Chairman of the NASUCA Electric Committee. He served on the Board of Trustees of the North American Electric Reliability Council (NERC) from 1997 to 2001 and the NERC Stakeholders Committee from 2001 to 2006. He also served on the Board of Directors of the North American Energy Standards Board (NAESB) and is currently a member of the Keystone Energy Board. In 2010, Mr. Popowsky was appointed by Department of Energy Secretary Steven Chu to the DOE Electricity Advisory Committee. He was also selected to serve on the Stakeholder Steering Committee of the DOE-sponsored Eastern Interconnection Planning Collaborative. In 1988, he briefed and argued the landmark United States Supreme Court case of *Duquesne Light Company v. Barasch*, in which the Court upheld the position of the OCA that two Pennsylvania utilities had no constitutional right to charge consumers for the costs of four cancelled nuclear power plants. Mr. Popowsky graduated Cum Laude from Yale University and received his J.D. Cum Laude from the University of Pennsylvania Law School, where he was a member of the Law Review and was elected to the Order of the Coif. Between college and law school, Mr. Popowsky worked as a newspaper reporter for the Press of Atlantic City, New Jersey. Prior to joining the OCA, he was an Associate at the Philadelphia law firm of Pepper, Hamilton and Scheetz from 1977-1979.
Raj G. Rao

Raj G. Rao is President and Chief Executive Officer of Indiana Municipal Power Agency (IMPA). He is also President and Chief Executive Officer of IMPA Service Corporation (ISC). Mr. Rao joined IMPA in October 1983 as Director of Engineering and served in that capacity until he was employed as President in 1986. IMPA’s assets exceed $1.5 Billion, and IMPA provides its 53 members with the lowest wholesale electric rates in Indiana.

Mr. Rao has served on the Board of Directors of the American Public Power Association and was past Chairman of TAPS, a national association of utilities seeking open transmission access. He was instrumental in bringing various public power and cooperative organizations together to participate in Prairie State Generation Company with a total investment of over $5 Billion. He is currently serving as Chairman of the Board of the Prairie State Generating Company.

Mr. Rao is a registered Professional Engineer in the State of Indiana and also holds a Master of Business Administration degree.
Susan L. Sakmar
Adjunct Professor of Law
University of San Francisco School of Law

Originally from Michigan, Professor Sakmar is licensed to practice law in California and currently is an Adjunct Professor at the University of San Francisco School of Law where she teaches a seminar on the World Trade Organization (WTO).

Prior to teaching, Ms. Sakmar was an associate in the commercial litigation department at the San Francisco law firm of Bronson, Bronson, & McKinnon where she represented clients in a variety of complex litigation cases.

She has also worked in the oil industry as an accountant for Chevron Corporation in San Francisco, California and has served on a number of environmental boards, including Board Chair for the Jane Goodall Institute.

Professor Sakmar’s current research is focused on energy law and the environment and she has published and presented numerous papers on these subjects. She is also writing a book on The Globalization of Liquefied Natural Gas (LNG) that will be published in 2011 by academic publisher Edward Elgar Ltd.

She holds an LL.M. from Georgetown University Law Center, Washington, DC, a J.D., cum laude, from the University of San Francisco School of Law, San Francisco, CA., and a business degree (B.Sc.) from the University of Colorado, Boulder, CO.

Contact Information

USF School of Law
2130 Fulton Street
San Francisco, CA 94117

sakmar@usfca.com
mobile: 415-272-4691
John E. Shelk
President and Chief Executive Officer
Electric Power Supply Association

John Shelk is President and CEO of the Electric Power Supply Association, the national trade association representing competitive wholesale electricity suppliers. He is responsible for overall management and strategic direction, including legislative affairs, regulatory policy and public affairs. He served as counsel to the House Energy and Commerce Committee on several energy and environmental matters, including the Clean Air Act Amendments of 1990 and what became the Energy Policy Act of 1992. John earned a J.D. degree with honors from Georgetown University and an A.B. degree in American Government, also from Georgetown, where he was elected to Phi Beta Kappa and selected as a George F. Baker Scholar.
Andrew K. Soto is Senior Managing Counsel for Regulatory Affairs at the American Gas Association, representing AGA's natural gas distribution member companies before the Federal Energy Regulatory Commission, the Commodity Futures Trading Commission, and other Federal agencies and U.S. courts. Mr. Soto advises member companies on regulatory and legislative developments that affect gas utility interests and advocates on their behalf on a broad range of policy issues, primarily involving the regulation of physical and financial natural gas markets.

Before joining AGA, Mr. Soto was counsel in the law firm of Sutherland Asbill & Brennan LLP, where he advised clients on regulatory policy developments and compliance in several energy industries including natural gas. Prior to that, Mr. Soto was Senior Legal Advisor to Chairman Pat Wood, III, of the Federal Energy Regulatory Commission. While there, Mr. Soto advised the chairman on the full gamut of issues before the Commission. Prior to joining the Chairman's staff, Mr. Soto represented FERC in complex appellate litigation before U.S. Courts of Appeals in all areas of Commission regulation.

Mr. Soto was previously in private practice at Ball Janik, LLP, and Newman & Holtzinger, PC, and worked in the Office of Administrative Law Judges, U.S. Department of Labor. Mr. Soto received a J.D. from Villanova University School of Law and a B.A. from Franklin & Marshall College.
Jeff Wiese serves as the Associate Administrator for Pipeline Safety for the Pipeline and Hazardous Materials Safety Administration (PHMSA) in the U.S. Department of Transportation. In this capacity, Mr. Wiese leads PHMSA’s overall efforts to improve the design, construction, operation and maintenance, and emergency response planning for the Nation’s energy pipeline transportation system. Previously, Mr. Wiese served as PHMSA’s Director of Program Development for pipeline safety where he led inspection, damage prevention, community engagement, and safety research programs.
Chad Zamarin, Vice President of Engineering for NiSource Gas Transmission & Storage

Chad Zamarin is Vice President of Engineering for NiSource Gas Transmission & Storage. His responsibilities include overall maintenance and regulatory compliance of NiSource’s interstate pipeline system and related facilities. His team is also responsible for the effective deployment of growth capital dollars for system expansion projects.

In his role at NGT&S, Zamarin has provided direction and leadership for restructuring the company’s Integrity Management Program, building and strengthening relationships with PHMSA, and implementing infrastructure enhancements to the pipeline system. Zamarin joined NGT&S in 2009 as director of integrity management. Prior to his joining NGT&S, Zamarin held positions at Duke Energy Gas Transmission, Panhandle Eastern, General Electric and most recently Colonial Pipeline.

Zamarin has been an active leader in industry initiatives including the advancement of pipeline design, operating and maintenance standards, integrity management programs, federal regulations for pipeline safety, and industry best practices. He served as the Liquids Pipeline Industry Lead for Renewable Fuels, served on the Advisory Board of the National Renewable Energy Laboratory and has been an active member of numerous API, INGAA, AOPL, ASME and PRCI standards and initiatives committees.

Zamarin has a Bachelors degree in Metallurgical Engineering from Purdue University and a Masters in Business Administration from the University of Houston.