

## FUNDAMENTALS OF ENERGY REGULATION

By Jonathan A. Lesser & Leonardo R. Giacchino  
*Public Utilities Reports, Inc. 2014, 2d Edition*  
 Reviewed by Channing Strother\*

Written by two economists, *Fundamentals of Energy Regulation* will be useful to attorneys, students, and other professionals learning about or working in the field of energy regulation.<sup>1</sup> Among other things, Dr. Lesser is currently one of three deans for the Energy Bar Association's (EBA) Primer Program, and this text was suggested reference reading for the recent EBA Primer Series, *Electricity and Electric Rate Regulation: An Introduction*, held in Denver in December 2013.

This is the second edition, released December 15, 2013, with the first edition published in August 2006. The content is very up-to-date, which is a good thing in the fast evolving energy field.<sup>2</sup> There is, for instance, an excellent and timely discussion of the Federal Energy Regulatory Commission's (FERC) natural gas pipeline discount rate policy and its ongoing effects, something not seen outside legal briefs on the matter.<sup>3</sup> The authors in the "Preface to the Second Edition" note that for the second edition they have "expanded most of the chapters, including new material and case law on environmental regulation, additional material on reliability, . . . and expanded coverage of international issues."<sup>4</sup> A scan of the extensive footnotes and list of U.S. cases<sup>5</sup> indicates a good deal of updating with cases and other supporting materials published after the 2007 edition throughout.

The publisher touts this volume as "a complete introduction to the world of energy regulation."<sup>6</sup> But it goes well beyond an "introduction" on many topics,

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\* Mr. Strother is with Mogel & Sweet.

1. JONATHAN A. LESSER & LEONARDO R. GIACCHINO, *FUNDAMENTALS OF ENERGY REGULATION* (2d ed. 2013).

2. By contrast, James C. Bonbright, Albert L. Danielsen, and David R. Kamerschen's *Principles of Public Utility Rates*, said to be recently re-issued in "response to customer demand," was copyrighted 1988. JAMES C. BONBRIGHT ET AL., *PRINCIPLES OF PUBLIC UTILITY RATES* (Pub. Utils. Reports 2d ed. 1988). Likewise, Charles F. Phillips's *The Regulation of Public Utilities: Theory and Practice* was copyrighted 1993. CHARLES F. PHILLIPS, *THE REGULATION OF PUBLIC UTILITIES: THEORY AND PRACTICE* (3d ed. 1993). Leonard Saul Goodman's *The Process of Ratemaking*, consisting of two volumes and a total of 1,600 pages, was copyrighted 1998. LEONARD SAUL GOODMAN, *THE PROCESS OF RATEMAKING* (1998). However, Scott Hempling's *Regulating Public Utility Performance: The Law of Market Structure, Pricing and Jurisdiction*, published in 2013, is current and is a nice companion to this volume. SCOTT HEMPLING, *REGULATING PUBLIC UTILITY PERFORMANCE: THE LAW OF MARKET STRUCTURE, PRICING AND JURISDICTION* (2013). Among other things, Mr. Hempling's volume has a more specifically legal orientation, as do the Philips and Goodman volumes. See Jonathan Schneider, Book Review, *Regulating Public Utility Performance: The Law of Market Structure, Pricing and Jurisdiction*, 34 *ENERGY L.J.* 709 (2013).

3. LESSER & GIACCHINO, *supra* note 1, at 246. Discount rate methodologies are discussed at pp. 218-221.

4. *Id.* at xiii.

5. *Id.* at 444-49.

6. *Fundamentals of Energy Regulation*, FORTNIGHTLY, <http://www.fortnightly.com/fundamentals-energy-regulation> (last visited Apr. 17, 2014).

and it is particularly deep on the numerous items that go into a conventional cost-based ratemaking. The book is structured so that it can be used as a concise summary of law and policy while providing more comprehensive depth in the style of a legal hornbook. Added depth is provided by case studies and calculations—“challenging algebra,”<sup>7</sup> as described by the authors—in extended appendices. The book would lend itself well to classroom study, and the writing is well-crafted and concise.

Although the authors state, “the book is not a legal treatise by any stretch,”<sup>8</sup> the inclusion of significant footnoted citations not only to books, articles, court cases, and administrative orders and regulations, but also authority such as accounting principles, makes it a useful legal research starting point for a great many regulatory topics.

As a further value to its use as a research tool, the book includes within its “Select Bibliography” an extensive list of books and articles and an expertly collected list of important court and administrative cases and orders. For a volume this meaty and this serious, a true table of authorities complete with page numbers may have made for a more efficient research tool. However, the index, which is more complete than is often the case for legal tomes, lists many individual cases by name.<sup>9</sup>

As a bonus, the book has many more graphs, charts, tables, and diagrams, than any legal treatise or hornbook with which this reviewer is familiar. Those who have picked up a piece of chalk, a wet writer, or a pen to draw a flow chart or diagram to explain some aspect of ratemaking or other regulation may find a pre-developed one in this book. These items help the narrative and are generally well-explained and understandable, which is not always the case with such materials.<sup>10</sup>

Gray blocks of text are used to expound on particular topics relevant to the general topics being discussed as something in the nature of asides. While some of those boxes concern rather mundane, detailed asides, such as the intricacies of Mcf/mile cost allocations,<sup>11</sup> many others set out important and thought-provoking analyses and may tend to contain more of the authors’ opinions. This is particularly good material, and the style of presentation allows the authors to explain concepts in a tight linear manner, as any text book would try to do, giving examples and providing calculations and the like, but to break out of that mode to discuss particularly interesting matters that are less a part of the linear teaching. One could productively flip through this volume just reading the gray blocks.

The book is divided into two parts. The first part is entitled “Principles” and is just short of three-quarters of the book.<sup>12</sup> It is intended to “present[] the

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7. LESSER & GIACCHINO, *supra* note 1, at xiii.

8. *Id.*

9. As far as I know, this volume has not been made available in electronic format. Word search capability would be a useful function, as concepts and cases necessarily recur throughout the book. Also, sections of this book deserve to come up in Google or more specialized research search engines.

10. See, for example, Figure 5-2, “The Five-Step Procedure to Calculate Regulated Prices,” *id.* at 107, and Figure 5-3, “The Three Sets of Books,” *id.* at 111.

11. LESSER & GIACCHINO, *supra* note 1, at 245.

12. *Id.* at 1-303.

readers with all of the building blocks of energy regulation that come together to set regulated rates and tariffs, from first identifying and measuring costs, to the ultimate design of rates and tariffs.”<sup>13</sup> It starts with “A Brief History of Electric and Natural Gas Regulation,”<sup>14</sup> follows with “Economic Concepts of Regulation,”<sup>15</sup> and then follows with a series of chapters structured essentially on how cost-based rates are determined.<sup>16</sup> The authors explain the concept and “role of the revenue requirement;”<sup>17</sup> methods of measuring or estimating costs;<sup>18</sup> cost functionalization, classification, and allocation;<sup>19</sup> tariff and rate design;<sup>20</sup> and finish this part with “rate and tariff adjustment mechanisms.”<sup>21</sup> Along the way, ancillary matters, such as “regulatory accounting standards,”<sup>22</sup> and alternative regulatory schemes, such as “performance-based regulation”<sup>23</sup> and “yardstick competition,”<sup>24</sup> are given significant discussion.

Though cost-based rates in the conventional test period, operating costs, and rate of return sense are not as dominant as they once were, the authors’ approach proves to be an effective structure in which to discuss all utility ratemaking and regulation.

Part I, Chapter 1, “A Brief History of Electric and Natural Gas Regulation,”<sup>25</sup> provides a concise yet thorough recitation of how the electric and gas industries and their regulation developed in the United States, citing statutes, orders, and cases all along the way. It is an excellent starting point for understanding various electricity and natural gas developments over the past century, including many relatively recent developments, which also provides useful material to cite, all in a relatively few pages. It also provides a nice synthesis of how we got where we are, which is useful for even the seasoned practitioner, who might feel he or she actually lived through many of those developments. It is a great source for the citations and summaries of, in particular, the major FERC orders that have so significantly changed the natural gas and electric industries.<sup>26</sup>

In Part I, Chapter 2, the authors explain that “[i]n the natural gas and electric industries, . . . regulations are mostly concerned with the prices customers pay for services.”<sup>27</sup> They state that “[t]he fundamental economic goal of regulation is . . . *to mimic a competitive market outcome, even when the*

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13. *Id.* at xiii.

14. *Id.* at 3 (chapter 1).

15. *Id.* at 17 (chapter 2).

16. *Id.* at 105-303 (chapters 5-8).

17. *Id.* at 45 (chapter 3).

18. *Id.* at 105 (chapter 5).

19. *Id.* at 175 (chapter 6).

20. *Id.* at 207 (chapter 7).

21. *Id.* at 269 (chapter 8).

22. *Id.* at 192-95.

23. *Id.* at 83-89.

24. *Id.* at 89-93.

25. *Id.* at 3-43.

26. *See also id.* at 248-50 (specifically, one the above-mentioned gray blocks, titled “The Evolution of Transmission Pricing in the US”).

27. *Id.* at 17.

*underlying market is not competitive.*"<sup>28</sup> This analysis is thought-provoking for a regulatory lawyer, who may not be used to thinking of regulatory principles as based on economic principles. The authors do recognize that regulatory goals also include non-economic factors in service to the overall concept of the "public interest," from universal access to electricity to renewable resources.<sup>29</sup> A prevalent theme in the book is what happens when "economic goals" and other public policy goals clash.

Chapter 2 goes on to provide explanations and economic critiques of familiar "key economic principles," such as "prudence," "used and useful," "just and reasonable," "the regulatory compact," "regulatory discretion," and "arbitrary and capricious." As the authors themselves often demonstrate, these are often not purely "economic" principles, but often involve other matters thought to be related to the public interest. The authors explain that "revenue requirements underlie all regulatory structures."<sup>30</sup>

As referenced above, from there the chapters in Part I generally follow the development of a conventional cost-based rate case, with alternative approaches and ancillary matters, such as accounting, explained along the way. All aspects of cost-based ratemaking are given a rather thorough discussion, from how a reasonable rate of return on ratebase is determined to how mileage is incorporated into cost allocation and rate design for natural gas pipelines.

Part II of the book is entitled "Extensions and Applications" and is intended to explore a number of particular energy regulation "topics that have been the focus of more recent regulatory and policy efforts."<sup>31</sup> This second part of the book does not contain so much "extensions and applications" of the specific ratemaking methodologies set out in Part I of the book. That is the role of, and is aptly done in, the appendices to each of those Part I more ratemaking-focused chapters, which provide detailed applications of rate methodologies. What is extended and applied in Part II of the book are the broader economic principles the authors set out as underlying energy regulation. The topics are: "Market Power in the Electric and Natural Gas Industries,"<sup>32</sup> "Dealing with Uncertainty,"<sup>33</sup> "Environmental Regulation of the Energy Industry,"<sup>34</sup> "Energy Markets and Electric System Reliability,"<sup>35</sup> and "Regulation and Reform in International Markets."<sup>36</sup> The authors note that this second edition omits Chapter 14 of the first edition, which was devoted to predictions of what the future holds, because their "crystal ball" turned out to be "cracked" and "[p]oliticians' limitless creativity for undermining regulatory fundamentals is far beyond our powers of divination."<sup>37</sup> Each of these Part II topics is well-covered, even though the chapters are not necessarily lengthy.

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28. *Id.* at 19.

29. *Id.*

30. *Id.* at 57.

31. *Id.* at 305.

32. *Id.* at 307 (chapter 9).

33. *Id.* at 331 (chapter 10).

34. *Id.* at 357 (chapter 11).

35. *Id.* at 387 (chapter 12).

36. *Id.* at 417 (chapter 13).

37. *Id.* at xiii-xiv.

The book focuses primarily on electricity and natural gas regulation,<sup>38</sup> which should be a good fit for many EBA members; although, it also includes material from other regulated industries from time to time, from oil pipeline ratemaking to regulation of milk prices in Puerto Rico.<sup>39</sup> Moreover, although the primary focus is the United States, there are numerous references to and descriptions of regulation in other countries throughout the book, some of which are detailed. For example, there is a comprehensive discussion of the yardstick competition approach to ratemaking and more specifically the model company method within that approach that has been used in various Latin American countries.<sup>40</sup> The final, sixteen-page chapter covers “Regulation and Reform in International Markets,” a succinct overview of a potentially broad topic.<sup>41</sup> While this volume would serve as an introduction to utility ratemaking anywhere in the world, it is not the *tour de force* of ratemaking, much less energy regulation, worldwide that it is of utility ratemaking in the United States.

Though the authors claim not to have a crystal ball, they provide an excellent chapter on regulatory attempts to deal with future uncertainty, among other things, drawing a tight definitional distinction between “risk,” which utilities are expected to reasonably have to face, and “uncertainty,” which they may not.<sup>42</sup> In Chapter 10, Dealing with Uncertainty, the authors offer reasons why uncertainty has greatly increased for regulated natural gas and electric companies and their regulators while explaining why dealing effectively with uncertainty is crucial to the public interest.<sup>43</sup> They offer generally unfavorable critiques of current ratemaking methods for addressing uncertainty, concluding they often “consign valuable information, which is readily available, to the dustbin” and “[w]hatever the uncertainty, the worst way to deal with it is to ignore it.”<sup>44</sup> The authors contend more information is available that should be looked at and that regulation is better at coming up with a variety of scenarios that could take place than at analyzing the likelihood of any particular scenario.<sup>45</sup> The current energy scene is rife with uncertainty, and this chapter presents a worthy approach to thinking about that uncertainty in the context of economic regulatory principles.

Though largely objective in their presentation, the authors do not shrink from some strong opinions. They strongly favor incremental over rolled-in pricing, on the grounds that the latter cannot send an appropriate price signal for

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38. *Id.* at 1.

39. *Id.* at 71 n.56.

40. *Id.* at 89-93, 239. A variant of a model company approach is used in the United States by the Surface Transportation Board (STB) for setting maximum rates for railroad coal hauling, where there is “an absence of effective competition from other rail carriers or modes of transportation for the transportation” the particular route and the carrier is thus said to exert “market dominance.” *See, e.g., AEP Texas N. Co. v. Surface Transp. Bd.*, 609 F.3d 432 (D.C. Cir. 2010). There, the model company is a hypothetical company serving only the routes over which market dominance is exerted. This approach has been advanced at the STB most often, as in *AEP*, by electric utilities shipping millions of tons of coal annually from a small number of mines to a small number of coal-fired generating stations.

41. LESSER & GIACCHINO, *supra* note 1, at 417.

42. *Id.* at 332 n.1.

43. *Id.* at 331-56.

44. *Id.* at 356.

45. *Id.* at 334.

expansion.<sup>46</sup> And they are critical of subsidies, whether through tax policy or must-purchase obligations for renewable generation.<sup>47</sup> Yet they in each case provide good descriptions of how various concepts have been applied and the rationales therefor, whether or not they agree with them.

One could nitpick as to what is not covered. There is not much mention of the Western energy crisis, and, say, the collapse of Enron, and related topics. Commodity Futures Trading Commission asserted jurisdiction over energy trading is not discussed. As noted, electric reliability is specifically covered, but not pipeline safety. But in context, these might not be considered gaps. This would not be a book to look to determine specific reporting and registration requirements, and it does not purport to be, even though it cites a lot of law, regulation, and cases for energy regulation concepts. Gas-electric coordination is referenced in Chapter 10, "Dealing with Uncertainty," but specifics of gas-electric coordination currently being taken up, for instance by the FERC, are not discussed in detail.

Overall, this book is an excellent text on ratemaking that also covers many other energy regulation topics in a very useful and easily accessible manner for the practitioner or student. It contains much straight ahead teaching material that does an excellent job of explaining some very difficult topics and includes valuable citational support throughout. But interspersed is enough opinion and discussion of various topics on a less teaching-oriented basis to keep things lively. There is even dry humor, not something one expects in a textbook. All in all, this second edition presents a wealth of information in 433 pages, and presents it very well.

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46. *Id.* at 250-55.

47. *E.g., id.* at 375-76.