

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

ISO New England Inc. and New England Power Pool	)	Docket No. ER10-787-000
New England Power Generators Association, Inc.)	
)	
v.	)	Docket No. EL10-50-000
)	
ISO New England Inc.)	
PSEG Energy Resources & Trade LLC, <i>et al.</i>)	
)	
v.	)	Docket No. EL10-57-000
)	
ISO New England Inc.)	

NEPGA'S THIRD BRIEF

Angela O'Connor
President
NEW ENGLAND POWER GENERATORS
ASSOCIATION, INC.
141 Tremont Street
Boston, MA 02111
(617) 902-2354

John N. Estes III
Paul F. Wight
Carl Edman
SKADDEN, ARPS, SLATE, MEAGHER & FLOM LLP
1440 New York Avenue, N.W.
Washington, DC 20005
(202) 371-7000

*Counsel for the New England Power Generators
Association, Inc.*

September 29, 2010

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

ISO New England Inc. and New England Power Pool	)	Docket No. ER10-787-000
New England Power Generators Association, Inc.)	
)	
v.	)	Docket No. EL10-50-000
)	
ISO New England Inc.)	
PSEG Energy Resources & Trade LLC, <i>et al.</i>)	
)	
v.	)	Docket No. EL10-57-000
)	
ISO New England Inc.)	

TABLE OF CONTENTS

Argument.....	9
I. Opponents of an Effective APR Exhibit Numerous Errors of Law and Economics	9
A. Capacity Markets Are Subject to the Exercise of Buyer Market Power	10
B. Load Misrepresents the Way the June/July APR Works.....	12
C. Absent Corrective Action in This Case, Self Supply Will Remain an Effective Tool for Market Manipulation	13
D. In Wholesale Power Markets Under the Commission’s Jurisdiction, States Have No More Right to Set Quantity than Price	14
E. Resources of Net Capacity Sellers Can Be OOM.....	16
F. A Fixed 20-Year Sunset Provision Is Not Justified	18
II. Competitive Auctions Require Competitive Bids—Actual or Proxy	19
A. Overview.....	19
B. The Economics of Capacity Markets Require a Two-Stage Analysis	22
C. The Going-Forward Cost Benchmark Is Gravely Flawed.....	24
D. The ISO-NE Benchmark Is Substantially Correct, but Still Contains Flaws	26

E. The Total Cost Benchmark Solves the Issues Inherent in the ISO-NE Benchmark	29
III. States Can Further Environmental and Other Policy Concerns Through a Plethora of Lawful Means	30
IV. All Zones Should Be Modeled, Subject to Appropriate Mitigation	33
A. ISO-NE’s Proposal to Model Additional Zones Should Be Approved.....	33
B. The Commission Should Reject ISO-NE’s Expansive New Mitigation Regime	35
1. The Proposed Mitigation Is Unlawfully Overbroad.....	35
2. We Agree with Load That ISO-NE Has Failed to Justify Using Past Reconfiguration Auction Results as a Proxy for Competitive De-List Bids	38
3. If De-List Bids Can No Longer Serve Their Original Purpose, a Demand Curve Will Be Necessary.....	39
V. An Accurate Estimate of the Cost of New Entry Will Continue to Play an Important Role in Any Market Design.....	40
VI. The Commission Should Approve the Modifications That NEPGA Has Supported in Time to Resolve This Case by March 1, 2011.....	44
Conclusion.....	49

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

ISO New England Inc. and New England Power Pool	)	Docket No. ER10-787-000
New England Power Generators Association, Inc.)	
)	
v.	)	Docket No. EL10-50-000
)	
ISO New England Inc.)	
PSEG Energy Resources & Trade LLC, <i>et al.</i>)	
)	
v.	)	Docket No. EL10-57-000
)	
ISO New England Inc.)	

NEPGA’S THIRD BRIEF

In our Second Brief, we observed that load had never offered any colorable—not to mention persuasive—defense of its effort to avoid effective mitigation of buyer market power. And we predicted that load *never will*, because “[t]here *is* no defense to the continued exercise of buyer market power, regardless of its form.” NEPGA Second Brief at 6 (emphasis in original). Load’s Second Briefs confirm our prediction.

In fact, given the nature of our mitigation proposal, load’s continued opposition offers the best possible evidence for our case. Our proposal regarding OOM resources does one thing and one thing only: it removes collateral price suppression. Under our proposal, OOM resources will clear in the capacity market, and be paid exactly the same price (if not higher) they would receive if we never imposed any OOM mitigation in the first place. In other words, the world is just as it would be if *load completely won* the OOM issue here, with one narrow, but important, exception: OOM resources no longer get to suppress the price that load pays for the rest of its capacity purchases. To fight this targeted mitigation scheme, as load so vigorously does, is to confess the intent to artificially suppress capacity prices. And that alone proves our case.

We have not, however, stopped with load's inevitable admission—its self-generated defeat. To the contrary we have marshaled an extraordinary array of the most highly qualified, and in some cases world-renowned, experts available—Professors Milgrom, Kalt, and McAdams, and Dr. Shanker and Mr. Stoddard—who uniformly and vigorously support our position. These submissions, along with our briefs, fully discharge our burden to prove that the OOM mitigation measure we support is just and reasonable, and that the proffered alternatives are not.

For its part, load offers Mr. Wilson and Dr. Wilson to carry its case on the OOM issue, with Mr. Wilson carrying the brunt of the burden of rebutting our experts. On qualifications alone, there is no contest here. And when we look to the substance of the competing expert submissions, Mr. Wilson and Dr. Wilson fare no better. In order to erase any possible doubt, however, we offer, at this stage, a final round of testimony from Professor McAdams, who rebuts the core of load's second round of expert submissions.

This leaves load resting precariously on a few legal arguments it makes on brief. The main impression these points leave, to anyone familiar with the historical backdrop here, is a distinct sense that “[i]t's *déjà vu* all over again.”¹ Load entities keep recycling the same arguments they have been making for many years. In the abstract, that would be fine; consistency often is admirable. But *here* load already has *lost* most of the arguments it makes. It nonetheless continues to make the same arguments, never even acknowledging its prior defeats—acting instead like they never even occurred,² and thus, perforce, never offering any reason why the outcome should be different this time.

¹ Yogi Berra uttered this memorable phrase after watching Mickey Mantle and Roger Maris repeatedly both hit home runs while batting back to back. Yogi Berra, *The Yogi Book* 30 (1998). Here, in contrast, load is reliving strikeouts, not home runs.

² Cf. *Monty Python and the Holy Grail* (EMI Films 1975) (The Black Knight, having lost his arms and his legs in a swordfight, seeks to continue the battle, insisting that “it's just a flesh wound.”).

For example, dating back to approximately 2002, both we and ISO-NE have argued that a sustainable capacity market needs to pay all suppliers, existing and new, the net cost of new entry (“CONE”), on average and over time. Both then and now, load has argued vociferously that existing suppliers have no right to recover anything more than their going-forward costs in the capacity market, with the cost of new entry being paid only to new entrants. *See, e.g.*, Supporters First Brief at 29; James Wilson Test. at 12:11–13:15; Supporters Second Brief at 43–36; James Wilson Supp. Test. at 22:1–12. But the Commission rejected load’s argument back in 2004, *see Devon Power LLC*, 109 FERC ¶ 61,154 (2004), *order on reh’g and clarification*, 110 FERC ¶ 61,315 at PP 42, 44–45 (2005), and the hearing order itself rests on the bedrock notion that price discrimination—the heart of load’s case—is unlawful and a poor market design attribute, *ISO New England Inc.*, 131 FERC ¶ 61,065 at PP 69–70 (“Hearing Order”), *order on reh’g and clarification*, 132 FERC ¶ 61,122 (2010) (“Rehearing Order”).

In addition, since approximately 2005, load has been arguing that capacity markets unlawfully infringe on state authority over resource procurement. *See Devon Power LLC*, Docket No. ER03-563-030, The Connecticut Parties’ Brief on Exceptions at 19–27 (July 15, 2005). In the current edition of this argument, we are told that mitigating OOM resources somehow invades the province of state authority. But the D.C. Circuit dispositively ruled, in 2009, that the Commission’s economic regulation of the New England capacity market does *not* trench upon valid state authority; it instead rests soundly on the Commission’s exclusive jurisdiction over wholesale power rates. *Conn. Dep’t of Pub. Util. Control v. FERC*, 569 F.3d 477, 481 (2009) (“*CDPUC*”), *cert. denied*, 130 S. Ct. 1051 (2010). That case fully disposes of load’s contrary contentions here, a point we made in our First Brief (at 54–58). If load interests

had a response, one would expect to see it in their Second Briefs. But they never directly address this disabling problem, implicitly conceding the point.

Following this same pattern of reiteration without rehabilitation, load complains that any OOM mitigation measure that actually works will somehow transform the capacity market into an overly-administrative mechanism that does not yield true market prices. Supporters First Brief at 21, 26, 34–38; EMCOS First Brief at 9; John Wilson Aff. ¶¶ 7–8; Supporters Second Brief at 16–17, 37–39; EMCOS Second Brief at 2, 6–9, 11; John Wilson Second Aff. ¶¶ 16, 18. But load has been complaining that any capacity market design it dislikes is overly “administrative” since at least 2004,³ and these contentions have not improved with age.

The current iteration of this claim focuses on the fact that effective mitigation of OOM resources involves setting competitive “benchmark” prices for such resources to offer into the market. According to load, this process is overly “administrative”—as if that were a pejorative term—and allegedly tilts auction outcomes away from true market outcomes.

³ See, e.g., Brief on Exceptions of Attorney General of the Commonwealth of Massachusetts, Attorney General of the State of Rhode Island and Rhode Island Division of Public Utilities and Carriers, New Hampshire Office of Consumer Advocate, Associated Industries of Massachusetts, NSTAR Electric & Gas Corporation, Strategic Energy LLC and The Energy Consortium, Docket No. ER03-563-030 (July 15, 2005), at 27–28 (arguing that “ISO’s LICAP proposal lacks most of the essential elements of a market and is, instead, an administrative construct that will provide price supports or guarantee cost recovery at specified levels”).

The Commission has rejected the notion that capacity auction prices established through the application of administratively determined price curves and mitigation measures do not reflect competitive market forces. As the Commission recently explained:

[I]t is not clear exactly what RPM Buyers are contending is the difference between the rates determined through the PJM auction and the rates produced in a competitive market. The single price auction employed by PJM simulates the rates produced in a competitive market in which the same price is paid to all suppliers based on the marginal cost of the least efficient supplier necessary to serve that market. Moreover, using the auction methodology produces rates that send more “appropriate price signals . . . to provide incentives to construct facilities necessary for regional reliability.”

Md. Pub. Serv. Comm’n v. PJM Interconnection, LLC, 127 FERC ¶ 61,274 at P 15 (2009) (quoting *PJM Interconnection, L.L.C.*, 117 FERC ¶ 61,331 at P 68 (2006)). The D.C. Circuit agrees, having previously explained that “the point of an auction mechanism like the Forward Market is to use a best approximation of demand and the power of competitive bidding to help locate that price.” *CDPUC*, 569 F.3d at 484.

This is a very strange argument for load to make. The Commission is an “administrative” agency, discharging its statutory duties under the Federal Power Act. In a fundamental sense, everything the Commission does is “administrative,” though the Commission’s regulatory policies have become more market-oriented over time.

What load seeks is for the Commission to focus the full weight of its “administrative” authority solely on the supplier side of the market, “administratively” determining the competitive level of offers that suppliers are required to submit in all organized markets, including the New England capacity market. Load has no problem whatsoever with that “administrative” exercise. But if the Commission dares to aim its regulatory power at *buyer* market power, suddenly any mitigation measure that actually works becomes “overly administrative.”⁴

Once again, load seeks to re-fight battles it already has lost. The Commission long ago confirmed the need to fully mitigate buyer market power, irrespective of intent, *see* NEPGA First Brief at 7 (listing precedent in this and several other markets). To be sure, mitigation of both buyers and sellers requires the application of some judgment to determine competitive levels of bids or offers. But load’s preferred alternative—allowing buyer market power to run amok—is hardly a “market” outcome, or at least not a market outcome sanctioned by federal law (or sustainable in the long run). Perhaps load’s alternative might be workable if Congress repealed the Federal Power Act and the antitrust laws as they apply to electric markets and let buyers and sellers conduct their business without any competition-related regulation. The resulting

⁴ Load’s tactic here is to protest that it is impossible for mitigation to perfectly recreate the precise outcome of fully competitive markets, so there is no basis for taking any action at all. Load thus seeks to make the perfect the enemy of the good. As everyone knows, however, it is wise counsel to avoid that outcome. And that advice is wiser still when the parties who purport to advocate the “perfect” are the very same parties who oppose the “good.” In reality, these parties want neither the “perfect” nor the “good”; they want the *status quo*, which is affirmatively “bad” when viewed from any perspective other than their own short-term parochial interest.

outcomes certainly would not be “administrative.” But that is not how the law works (nor, we suspect, is it what load really wants).

Given the statutory setting here, the best way to replicate competitive market outcomes is to “administratively” impose effective mitigation measures on both buyer and seller market power. Mitigating only the seller side, but not the buyer side, does not produce competitive or “true” market outcomes. It tilts prices *away* from competitive levels. And our mitigation proposal tilts prices *back toward* competitive levels. Load’s contrary position is nothing more than a broadside attack on all competitive bulk power markets, for they all depend on “administrative” market power mitigation to ensure workable competition. And these mitigation measures are simply a well-established variant of the Commission’s flexible statutory authority to set just and reasonable wholesale power rates.

There is one thing somewhat new in load’s Second Briefs. As we explained in our First and Second Briefs, load ultimately seeks the power to expropriate the sunk investment of existing suppliers in order to subsidize out-of-market procurement. NEPGA First Brief at 19–25; NEPGA Second Brief at 9–11. We were surprised, however, to see load *champion* its price suppression tactics, explaining that these tactics are needed in order to drive at least some existing suppliers out of business, thus reshaping the generation fleet in some fashion that is more to load’s liking. *See, e.g.*, Supporters Second Brief at 79. This candid admission of predatory conduct underscores the need for prompt and effective Commission action in this case.

In this same vein, we established in our First Brief that load entities have undertaken a series of actions expressly calculated to suppress capacity prices. In support, we offered not only the Connecticut OOM examples, but also the Synapse reports that create a new defined term to capture one particular type of price suppression: “DRIPE,” or “Demand Reduction Induced

Price Effect.” *See* NEPGA First Brief at 29–35. We read the second stage of load briefs with great interest, curious to see how load would respond. And we were quite surprised to find *nothing*; none of load’s Second Briefs even mention our “DRIPE” argument, much less seek to rebut it. This un rebutted argument proves, once again, that load simply cannot resist the incentive to artificially suppress prices, and will show amazing innovation to achieve that end. Given this powerful and apparently irresistible incentive, it is critical for the Commission to remove the *ability* of load to exercise market power.

Under the Federal Power Act and the United States Constitution, the Commission has exclusive jurisdiction to ensure that wholesale power prices are just and reasonable and not unduly discriminatory. States have no right to dictate wholesale price outcomes, pushing prices lower to choke the life out of existing suppliers. Decisions about whether to retire existing resources should be based on whether those resources are economical given expected future prices. And those expected price outcomes should be *just and reasonable*; they should *not* be *artificially suppressed by buyer market power*. Decisions about whether to build new renewable resources, an objective stressed in the load briefs, should be made based on the economics of those resources and potentially the policy goals of those who sponsor them. States are free to factor non-priced costs such as carbon into those decisions. But states should not be allowed to use such resources to suppress capacity prices across the entire market. If states “twist their decisions in order to reduce market prices” across the board, Milgrom Test. at 10:22, they will make facially inefficient resource procurement decisions.

Just and reasonable wholesale prices thus are the North Star of all commercial decision-making in the bulk power markets. Those prices should reflect fundamentals. When they do, everyone can make efficient decisions that benefit society as a whole. But if wholesale power

prices are, instead, skewed downward by the exercise of buyer market power, then everyone will make the *wrong* decisions. Suppliers that would be economic, absent buyer market power, will retire. Resources that would not be built, absent buyer market power, nevertheless will be built. And market participants will distrust future price outcomes, thinking, for good reason, that they are subject to future suppression. No one rationally will build without a long-term contract that insulates the resulting resource from future price suppression. Ratepayers thus will bear the full risk of owning all capacity resources, including the risk that technology will become outmoded. New environmentally friendly technologies will never be supported by market forces, because those forces will be supplanted by centralized, contract-based, state-run procurement. And we will lose the benefits that competition brings.

The Commission has, for many years, worked to improve the design of all organized markets so that they can, like the North Star, provide just and reasonable “True North” guidance to everyone. In order to achieve that goal in New England, the Commission needs to ensure that the market rules fully mitigate buyer market power. Otherwise everyone will be guided away from the True North of efficient outcomes that benefit society as a whole, toward inefficient outcomes that harm society as a whole. The mitigation proposal we, and ISO-NE, have proposed will guide the New England markets back towards True North, while the load proposals will not.

This includes fully mitigating so-called “Historical OOM.” No one has directly rebutted our arguments on this point, including the compelling distinctions between the case law load relies upon and the facts here. We therefore stand on our prior briefs.

Finally, we also address a few points raised by load related to ISO-NE’s proposal to model additional zones to set locational prices, ISO-NE’s new mitigation regime, the cost of new

entry estimate and a suggested process going forward to approve rule changes by the Commission's deadline of March 1, 2011.

ARGUMENT

I. *OPPONENTS OF AN EFFECTIVE APR EXHIBIT NUMEROUS ERRORS OF LAW AND ECONOMICS*

Since the present proceeding began on February 22, we have analyzed and argued the critical issues that must be addressed to ensure the long-term sustainability of the markets in numerous rounds of pleadings.⁵ These pleadings were supported by testimony from Professors Milgrom, Kalt and McAdams, and Dr. Shanker, Mr. Stoddard and Mr. Ungate.⁶ We respectfully submit that these presentations fully carry our burden on all issues, and persuasively establish that the positions of our adversaries are *not* just and reasonable.

⁵ Motion to Intervene and Protest of the New England Power Generators Association (Mar. 15, 2010) (“NEPGA Protest”); Complaint Requesting Fast Track Processing by New England Power Generators Association (Mar. 23, 2010); Motion for Leave to Answer and Answer of the New England Power Generators Association (Apr. 13, 2010) (“NEPGA Answer”); Request for Clarification or, in the Alternative, Rehearing of the New England Power Generators Association (May 24, 2010); Motion of the New England Power Generators Association for Disclosure of Evidence Held by ISO New England and its Internal Market Monitoring Unit (May 28, 2010); Opening Brief of the New England Power Association, Inc. (July 1, 2010) (“NEPGA First Brief”); Second Brief of the New England Power Generators Association, Inc. (Sept. 1, 2010) (“NEPGA Second Brief”).

⁶ NEPGA Protest, NEPGA Ex. 1, Affidavit of Roy J. Shanker Ph.D. on Behalf of New England Power Generators Association; NEPGA Protest, NEPGA Ex. 2, Affidavit of Robert B. Stoddard on Behalf of New England Power Generators Association; NEPGA Answer, NEPGA Supp. Ex. 1, Supplementary Affidavit of Roy J. Shanker Ph.D. on Behalf of New England Power Generators Association; NEPGA Answer, NEPGA Supp. Ex. 2, Supplementary Affidavit of Robert B. Stoddard on Behalf of New England Power Generators Association; NEPGA First Brief, NEPGA Ex. 1, Testimony of Roy J. Shanker Ph.D. on Behalf of New England Power Generators Association (“Shanker Testimony”); NEPGA First Brief, NEPGA Ex. 2, Testimony of Robert B. Stoddard on Behalf of New England Power Generators Association (“Stoddard Testimony”); NEPGA First Brief, NEPGA Ex. 3, Testimony of Christopher D. Ungate on Behalf of New England Power Generators Association (“Ungate Testimony”); NEPGA First Brief, NEPGA Ex. 4, Testimony of David L. McAdams Ph. D. on Behalf of New England Power Generators Association; NEPGA Second Brief, NEPGA Ex. 5, Testimony of Professor Paul R. Milgrom, Ph. D. on Behalf of New England Power Generators Association (“Milgrom Testimony”); NEPGA Second Brief, NEPGA Ex. 6, Testimony of Professor Joseph P. Kalt, Ph.D on Behalf of New England Power Generators Association (“Kalt Testimony”); NEPGA Second Brief, NEPGA Ex. 7, Supplementary Testimony of David L. McAdams Ph. D. on Behalf of New England Power Generators Association (“McAdams Supplementary Testimony”); NEPGA Second Brief, NEPGA Ex. 8, Supplementary Testimony of Roy J. Shanker Ph.D. on Behalf of New England Power Generators Association (“Shanker Supplementary Testimony”); NEPGA Second Brief, NEPGA Ex. 9, Supplementary Testimony of Robert B. Stoddard on Behalf of New England Power Generators Association (“Stoddard Supplementary Testimony”).

In this third and final stage of briefing, we will focus on several new (or enhanced) errors in load's September 1 submissions:

A. *Capacity Markets Are Subject to the Exercise of Buyer Market Power*

In the most recent filings, load interests for the first time make the remarkable claim that buyer market power cannot exist in capacity markets:

The strident invocation of the specter of “buyer-side market power” by NEPGA (NEPGA 1st Br. at 19–35) is even wider of the mark. NEPGA loses sight of the basic factual observation that “Buyers could not actually withhold demand since they are obliged to procure capacity for their full capacity requirements, so under-consumption, an inefficiency typically associated with monopsony, or large buyer's market power, is of no concern” (INTMMU Report filed in FERC Docket No. ER09-1282-000 at p. 43 n. 64).

Second Brief of Eastern Massachusetts Consumer-Owned Systems at 8 (Sept. 1, 2010) (“EMCOS Second Brief”); *see also* The Joint Filing Supporters' Second Brief at 11–12 (Sept. 1, 2010) (“Supporters Second Brief”) (dismissing “zeal to eliminate any opportunity for the exercise of buyer market power [as] misplaced” because “[b]uyers are already constrained by the FCM to purchase whatever capacity is needed”). This contention falls outside the realm of reasonable argument.

It is true that capacity buyers do indeed have only limited control over the quantity that must be cleared through the auction,⁷ a fact fatal to one of load's other arguments, *see infra* Section I.C. But withholding of *demand* is not the *only* means of exercising buyer market power. As the Commission has repeatedly held, an equally effective tool is *injection of uneconomic supply*. *See, e.g., N.Y. Indep. Sys. Operator, Inc.*, 122 FERC ¶ 61,211 at P 100 (accepting

⁷ While considered as supply in the auction clearing and subsequent market settlement, capacity buyers do have the ability to control the quantity of physical capacity supply procured through demand response resource submissions. In FCA #4, demand response offers reduced the level of physical capacity supply (generator and import capacity) cleared almost 10% below the Installed Capacity Requirement. Under the current rules, there is no assurance that such DR prices necessarily reflect the true price response of customers or the true cost of the measures to reduce demand.

proposal for “net buyer mitigation ... in order to prevent uneconomic entry that would reduce prices in the NYC capacity market below just and reasonable levels.”), *order on reh’g*, 124 FERC ¶ 61,301 (2008), *order on reh’g and clarification*, 131 FERC ¶ 61,170 (2010) (“*NYISO*”); *id.* at PP 28 & 104 & nn.55 & 56 (citing orders approving buyer market power mitigation measures in PJM and ISO-NE and noting that mitigation would not be limited to net-buyers); *Devon Power LLC*, 115 FERC ¶ 61,340 at P 114 (2006) (explaining that offers at prices below a resource’s long-term average costs, net of non-FCM market revenues, should be mitigated in order “to reset the clearing price to a level that would be expected in a competitive market”).

Equally unavailing is the EMCOS’s attempt to claim that the law prohibits the use of market power to elevate prices, but not the use of market power to suppress prices. According to the EMCOS:

[T]he purpose of the Federal Power Act is “to guard *the consumer* from exploitation” (*NAACP v. FPC*, 520 F.2d 432, 438 (D.C. Cir. 1975)) (emphasis supplied), and “... the prices at issue here are low prices, not high prices Congress ... saw [the antitrust laws] as a way of protecting consumers against prices that were too *high*, not too low And, the relevant economic considerations may be very different when low prices, rather than high prices, are at issue. (*Kartell v. Blue Shield of Massachusetts, Inc.*, 722 [sic] F.2d 922, 930–931 (1st Cir. 1984) (emphasis in original)).

EMCOS Second Brief at 8–9. We have previously discussed the equivalence of buyer and seller market power, and the need to equally prohibit the exercise of market power to raise *or lower* prices. *See* NEPGA Second Brief at 7; Kalt Test. at 10:7–12:2. And as we note again above, the Commission repeatedly has agreed.

Here we add only that the Supreme Court agrees as well. In its most recent authoritative opinion on predatory pricing, the Supreme Court explained as follows:

This similarity [between predatory-pricing and predatory bidding claims] results from the close theoretical connection between monopoly and monopsony. *See* *Kirkwood* 653 (describing monopsony as the “mirror image” of monopoly); *Khan v. State Oil Co.*, 93 F.3d 1358, 1361 (CA7 1996) (“[M]onopsony pricing ... is

analytically the same as monopoly or cartel pricing and [is] so treated by the law”), vacated and remanded on other grounds, 522 U.S. 3 ... (1997); *Vogel v. American Soc. of Appraisers*, 744 F.2d 598, 601 (CA7 1984) (“[M]onopoly and monopsony are symmetrical distortions of competition from an economic standpoint”); see also Hearing on Monopsony Issues in Agriculture: Buying Power of Processors in Our Nation’s Agricultural Markets before the Senate Committee on the Judiciary, 108th Cong., 1st Sess., 3 (2004). The kinship between monopoly and monopsony suggests that similar legal standards should apply to claims of monopolization and to claims of monopsonization. Cf. Noll, “Buyer Power” and Economic Policy, 72 *Antitrust L. J.* 589, 591 (2005) (“[A]symmetric treatment of monopoly and monopsony has no basis in economic analysis”).

Weyerhaeuser Co. v. Ross-Simmons Hardwood Lumber Co., 549 U.S. 312, 321–22 (2007).⁸ In addition, the Supreme Court recently rejected a similar buyer-protection argument—that the buyers are subject to a lower standard than sellers in seeking to modify contracts—in *Morgan Stanley Capital Group Inc. v. Pub. Util. Dist. No. 1*, 128 S.Ct. 2733, 2747–49 (2008). The EMCOS’s erroneous claim here should meet the same fate.

B. Load Misrepresents the Way the June/July APR Works

Dr. Wilson (and the EMCOS) claim that the ISO-NE’s benchmark approach “is based on the ISO’s premise *that each different resource type will have a different capacity price* in the New England capacity market.” EMCOS Second Brief, Second Affidavit of John W. Wilson ¶ 16 (“John Wilson Second Affidavit”) (emphasis added). According to Dr. Wilson:

From an economic perspective, this is simply not how competitive markets work. Farmers with more fertile land *do not get a different market price* for their corn than farmers with less fertile land. The *price per barrel for oil from a prolific reservoir* is no different than the per barrel price from a marginal reservoir. Likewise, while different generating technologies have different investment costs, different portions of those costs are energy-justified for each generation type. A KW of capacity from a simple cycle turbine at a particular time has the same market value as a KW of capacity from a combined cycle unit or from biomass at that time. Meters are blind to the generation source.

⁸ We note that *Weyerhaeuser*’s repudiation of the distinction between buyer and seller market power is not only more recent than *Kartell*, and by a superior court, but was also joined in full by Justice Breyer, the author of *Kartell*.

Id. ¶ 17 (quoted at EMCOS Second Brief at 11) (emphasis added).

This is misdirection. Dr. Wilson is not here criticizing the dual-pricing structure of the July APR—a superficially cogent, if ultimately unconvincing, argument, *see, e.g.*, Stoddard Supp. Test. at 8:14–9:8. He instead appears to be asserting that the June/July APR would compensate any resource on the basis of its associated benchmark. This is incorrect. The benchmark prices set the proxy *bids* in the APR auction. *See* NEPGA First Brief at 58–64; NEPGA Second Brief at 15–20. But no resources are paid as bid (either actual or proxy); they are paid one of the two clearing prices. We are not sure whether the confusion in Dr. Wilson’s discussion is intentional or not, but it is, by any measure, mistaken.

Sowing similar confusion, the Supporters claim as follows:

NEPGA apparently seeks to apply mitigation to any resource based on its costs—even for an inherently more expensive technology—*compared with* “the cost of new entry by the least expensive available new resource.” This would mean, for instance, that a more expensive solar resource *would be assessed against the significantly lower “benchmark” cost of a gas-fired turbine*, virtually ensuring that all renewable generation would be automatically classified as OOM.

Supporters Second Brief at 71 (emphasis added) (footnote omitted). Once again, this is *not* how the June/July APR would work. OOM determinations can be made on the basis of a comparison of a resource’s bid and the benchmark cost for *resources of that specific class*. *See* First Brief of ISO New England Inc. at 23–26, 29–32 (July 1, 2010). In the APR auction, the bids of OOM resources are substituted with the benchmark cost for *resources of that specific type*. *See id.* At no point does the proposed June/July APR ever compare or substitute any resource’s bid with the benchmark of a different resource type. The Supporters’ contrary assertion comes out of thin air.

C. Absent Corrective Action in This Case, Self Supply Will Remain an Effective Tool for Market Manipulation

The EMCOS argue that self-supply should be granted a blanket exemption from OOM scrutiny because it cannot be used as a tool of buyer market power exercise. *See* First Brief of

Eastern Massachusetts Consumer-Owned Systems at 7–8 (July 1, 2010); EMCOS First Brief, Affidavit of John W. Wilson ¶¶ 11–13; EMCOS Second Brief at 6–9; John Wilson Second Aff. ¶¶ 3–9. We have previously discussed the flaws in this position. *See* NEPGA Second Brief at 45–49; *see also* ISO-NE Second Brief at 19–24. In brief, this contention completely ignores the fact that self-supply can be achieved with new, uneconomic and unneeded resources. Adding a quantity of OOM self-supply to the FCA has exactly the same effect on FCA clearing price as adding the same quantity of other OOM resources. This means that exempting self-supply from OOM review would permit its use for artificial price suppression, with the same anti-competitive rewards as any other type of OOM resource, opening up a major gap in the mitigation structure.

The only existing limit on self-supply is that it be no larger than the buyer’s load. Hence, entities self-supplying cannot be net long because of the self-supply. But if such an entity were in fact net long, it would have an economic interest in *higher* prices, and would generally not be motivated to suppress prices. This “size” limitation does nothing to prevent the successful exercise of buyer market power, because it facially allows self-supply that leaves the owner net short, hence benefiting from *lower* prices, and hence incentivized to suppress prices. It is not, we submit, just and reasonable to leave such a large loophole in the design of the APR.

D. In Wholesale Power Markets Under the Commission’s Jurisdiction, States Have No More Right to Set Quantity than Price

As we have previously argued, *see, e.g.*, NEPGA Second Brief at 22–23, the parameters of the APR, including OOM status, are within the exclusive jurisdiction of the Commission because their only function is to determine jurisdictional capacity charges. In response, the Supporters contend that this “is not true” because the APR affects not only the *price* of capacity, but also the *quantity* of capacity. Supporters Second Brief at 78. This contention contradicts the governing precedent.

Even if we ignore whether the nominal distinction between capacity quantity and capacity price in a virtual good like capacity is legally cognizable in the abstract, this precise issue has already been resolved by the D.C. Circuit. In *CDPUC*, the court expressly rejected, on multiple grounds, the very same argument that “compelling LSEs to acquire a particular *amount* of capacity,” as distinct from the price, is outside the Commission’s exclusive jurisdiction. 569 F.3d at 483 (emphasis added). First, nothing in the Federal Power Act expressly or implicitly moved jurisdiction over “requiring LSEs to pay for a certain *amount* of capacity” from the Commission to the states. *Id.* (emphasis added)

Second, even if sections 207 and 215 clearly prohibited the Commission from requiring LSEs to obtain a particular *amount* of capacity, this isn’t the authority the Commission claims. Instead, the Commission claims authority to review the capacity charges that ISO-NE imposes on member utilities to ensure they are just and reasonable. *Because the ICR impacts those charges in two ways—by affecting the market clearing price for capacity in the Forward Market and by affecting the size of each LSE’s proportionate share of the ICR—the Commission claims authority to review it as an integral determinant of the transmission tariffs within its jurisdiction.* Petitioners point to nothing in the record to suggest that the Commission seeks authority to set a reliability requirement rather than to ensure that the capacity charges actually imposed by ISO-NE are fair to suppliers and consumers. That reasonable concerns about system adequacy might factor into the fairness of those charges is precisely what brings them within the heartland of the Commission’s section 206 jurisdiction, *see* § 824e(a).

Id. (emphasis added). Finally, “even if these statutory provisions could be read to prohibit the Commission from requiring LSEs to make adequate capacity purchases, and even if that is what the Commission is doing, this particular camel has long since entered—indeed, ransacked—the tent.” *Id.*

The *CDPUC* case was brought by a lead member of the Supporters—the Connecticut Department of Public Utility Control—and briefed and argued by the same counsel representing that party here. It thus was odd see that case unaddressed, and to see the same losing arguments reargued, without qualification, in the Supporters’ First Brief at 23–26. We did, however,

discuss the direct relevance of the *CDPUC* case in our First Brief (at 55). It thus is odder still—and a telltale sign of weakness—to see the Supporters once again ignore the point in their Second Brief. *Cf.* NEPGA Second Brief at 21–23 (“The Supporters’ contrary argument is entirely indistinguishable from the same argument some of them raised in the ISO-NE ICR case, which the Commission and the D.C. Circuit rejected.”); *id.* at 59–60 (“If this all sounds familiar to the Commission, it should; the Commission rejected substantially similar claims made by the same expert and some of the same lawyers in a complaint brought by load parties against PJM.”).

The Supporters argument also appear to rest on the following italicized language from the *CDPUC* case quoted below in context:

The “Installed Capacity Requirement” is misnamed because increasing it doesn’t actually “require” anyone to “install” any new “capacity” at all. State and municipal authorities retain the right to forbid new entrants from providing new capacity, *to require retirement of existing generators*, to limit new construction to more expensive, environmentally-friendly units, or to take any other action in their role as regulators of generation facilities without direct interference from the Commission.

CDPUC, 569 F.3d at 481. Read in context, that language plainly refers to the use, where otherwise lawful, of environmental or other state police power regulation to influence retirement decisions. It cannot possibly be read to authorize states to force retirements by artificially suppressing wholesale capacity prices, because the fundamental ruling in the case confirms the Commission’s exclusive jurisdiction over those price outcomes.

E. Resources of Net Capacity Sellers Can Be OOM

The Supporters assert that “NEPGA apparently recognizes—correctly—that net capacity sellers do not have an intent to suppress price and should not be treated as OOM.” Supporters Second Brief at 73. In fact, we never advanced such a baseless proposition. Nor can that proposition be rooted in economics or Commission precedent. And notably, at least one load entity seems to agree with us. *See* Second Brief of the Massachusetts Department of Public

Utilities at 19 (“Mass. DPU Second Brief”) (“[A] bright-line test that depends upon the intention of the parties would be very difficult to implement and to enforce” because “[t]he Commission is unlikely to be able to determine reliably the intention of the parties and the approach would invite gaming and litigation.”).

There is no guarantee that the bid of a resource owned by a nominal net seller will not be uncompetitively low. The owner may merely be mistaken or be pursuing some goals outside the market. And that alone is sufficient to suppress price levels. The more likely case, however, is that the nominal seller of a resource may do so under terms and conditions contractually dictated by the economic interests of a sponsor. This is in fact the most common type of OOM frequently described in previous filings. *See* NEPGA First Brief at 28–29; NEPGA Second Brief at 20–29. And here the nominal seller will quite likely be a net seller of capacity overall. Its contract counterparty will, however, almost certainly be a net buyer. A “net buyer” rule thus is riddled with possible avoidance strategies.

The Commission has squarely recognized this issue, expressly rejecting proposals to limit mitigation to net buyers, and finding that mitigation must be applied broadly to be effective. *See NYISO*, 124 FERC ¶ 61,301 at P 29. As the Commission has explained:

[These parties] all request that the Commission grant rehearing and not limit market power mitigation measures to net-buyers only. Essentially these parties note that the limitation is impractical to implement and would achieve little positive result. They argue that the limitation would give parties an incentive to create companies solely for the purpose of subsidizing uneconomic entry, or that governmental bodies could subsidize uneconomic entry under a public policy rationale. NYISO, in particular, emphasizes that limiting uneconomic entry mitigation measures to net buyers could undermine enforcement because buyers may behave strategically to avoid categorization as net buyers. NYISO also points out that the process for identifying net buyers is unclear and that this could also result in evasion of the mitigation measures. NYISO notes that “net buyer” could be defined a number of different ways, for example, as a single entity or as an entity including all affiliates that serve load. Such a definition would not consider generation affiliates that could construct uneconomic generation and

escape mitigation. NYISO also explains that contractual relationships could be undertaken to circumvent mitigation of uneconomic entry and that these would be extremely difficult to identify. For example, it asserts, a “contract for difference” might allow a buyer to subsidize uneconomic entry in a way that would not be apparent to NYISO. NYISO further emphasizes that if the Commission’s view that only “net buyers” have the incentive to engage in uneconomic entry is correct, the “net buyer” condition would be unnecessary since there would be no other sources of uneconomic entry.

Id. at P 28 (footnotes omitted). We quoted these same passages previously, NEPGA Second Brief at 30–32, further belying the Supporters’ claim that we concede that the net resources of net sellers cannot be OOM. The Commission has unambiguously rejected the net-buyer criterion not only because it is easily gamed but also because inefficient entry is to be discouraged regardless of intent.

In addition, load meets itself coming and going here. On one hand, the Supporters claim that resources owned by parties who sell more capacity than they buy could not be OOM. But this runs headlong into their allies’ claim that self-supply cannot be OOM because it is owned by parties who sell *less* capacity than they buy. *See supra* Section I.C. Load’s concept of what resources could be OOM appears to be an empty set.

F. A Fixed 20-Year Sunset Provision Is Not Justified

Load interests have, in their most recent filing, expressed reservations about the proposed 20-year sunset provision for receipt of the APR Price. *See, e.g.,* Mass. DPU Second Brief at 15–16. Though perhaps for different reasons, we agree that ISO-NE has not justified its proposed 20-year sunset provision. As Mr. Stoddard explained, the sunset provision as currently proposed is fundamentally confused regarding whether the prevailing price for competitive resources in the market ought to be the competitive APR Price (determined by competitive bids or proxy bids) or the FCA Price (which is subject to OOM manipulation). *See* Stoddard Supp. Test. at 14:14–17. The answer is the former: If the APR Price differs from the FCA Price, competitive existing

resources should receive the APR Price unless some reasoned and convincing explanation for the alternative is offered. *See id.* at 14:17–15:6. No such explanation has been offered for switching to the FCA Price merely because a fixed number of years has passed. There thus “should be no sunset provision.” *Id.* at 15:6–7.

Even if a sunset provision of some type were justified, a fixed-period market-wide sunset would result in particular, and entirely unnecessary, complications:

[T]he sunset rule sets up a problematic situation as the 20-year mark approaches. All of the resources that clear in FCA #5 will be sunsetted out of the APR Price for FCA #25. Assuming a low level of retirement, this could be a substantial fraction of the existing resources in the auction. Thus, loads will once again find it profitable to overbuild the market with OOM resources to suppress the capacity prices in FCA #25, knowing that this tranche of older resources will be exposed to the resulting price suppression effect.

Id. at 15:13–19. “It would be inappropriate to plant this time bomb in the FCM design.” *Id.* at 15:19–20.

II. COMPETITIVE AUCTIONS REQUIRE COMPETITIVE BIDS—ACTUAL OR PROXY

A. Overview

The Commission’s lodestar in the design of power markets, including capacity markets such as the FCM, is to achieve competitive outcomes. Competitive outcomes occur naturally where *all* market participants lack market power. When competition prevails, the auction outcomes will automatically achieve efficiency—the provision of the amount of capacity required for reliability (and to resolve the power market’s missing-money problem) at the lowest possible total cost and with an optimal distribution of resources—without the need for any mitigation of market power on either the seller side (reflecting bids and resulting prices that are too high) or the buyer side (reflecting bids and resulting prices that are too low). When market power is a factor, however—as it indisputably is in the FCM—mitigation becomes a necessity on both the supply side and the load side of the market. The purpose of this mitigation must be to

bring about the competitive *outcomes* that *would have occurred* absent the existence and exercise of market power.

The purpose of the June/July APR (as well as that of the previous, failed APRs) is to correct flaws inherent in the current structure and appropriately and effectively mitigate buyer market power.⁹ The June/July APR does so by determining an alternative APR Price that would have prevailed in the absence of the exercise of market power. The APR Price, like any auction clearing price, is determined by market participants' bids. For participants lacking market power themselves and uninfluenced by any sponsor or group with market power, the submitted bid may represent the competitive bid reflecting actual costs. But for participants with market power or who are offered Out-of-Market payments for participating in the auction, no such presumption attaches to the bid they submit. These bids bear no necessary relation to competitive cost-based bids and are hence essentially arbitrary. Therefore, in order to determine what the competitive APR Price would have been, it is necessary to replace these non-competitive bids with benchmark bids—the bids that would have been made by a rational, competitive resource in the absence of market power.

Getting the benchmark prices right is essential to the success or failure of an APR. If the benchmark prices are too low—for example, if they are below what competitive resources would have properly bid in a fully competitive market in the absence of any market power on either the demand or supply side—buyer market power can be exercised by offering resources below the competitive but above the benchmark prices, artificially suppressing the auction clearing price

⁹ Seller market power is of course already heavily and universally mitigated under the FCM tariff. *See* NEPGA First Brief at 13-15; NEPGA Second Brief at 37. While seller-side mitigation is outside the scope of this discussion of the APR, we note that opponents of an effective APR have made no attempt to reconcile their fervent support for seller-side mitigation—indeed increasing seller-side mitigation, *see infra* Section IV.B—with their denunciations of “administered prices” and mistrust of the IMM’s judgment when it comes to buyer-side mitigation. *See* Supporters Second Brief at 16-17, 37-39; EMCOS Second Brief at 6-9, 11.

without triggering the APR. Alternatively, if OOM resources are offered at a price below their already-too-low benchmark price, the APR may be triggered, but the resulting APR Price can still be artificially suppressed through the too-low benchmark. In either case, the exercise of buyer market power will have successfully suppressed capacity prices. Only accurate benchmark prices can insulate the APR Price from the exercise of buyer market power.

One set of benchmark prices—levelized 40-month avoidable cost—was set forth in the filings of ISO-NE and its IMM (“ISO-NE Benchmark”). ISO-NE First Brief at 29–31; September 1, 2010 Brief of the Internal Market Monitor for ISO New England Inc. at 16–19 (Sept. 1, 2010) (“LaPlante Brief”). Load’s recent filings and testimony have attacked the ISO-NE Benchmarks as not reflecting true competitive bidding. *See, e.g.*, The Joint Filing Supporters’ First Brief at 37 (July 1, 2010) (“Supporters First Brief”); Supporters Second Brief at 33–37; Supporters Second Brief, Exhibit DPUC-27, Supplemental Testimony of James F. Wilson in Support of Second Brief of Joint Filing Supporters at 21:14–22:12 (“James Wilson Supplemental Testimony”). In particular, Mr. Wilson argues that rational bidders would offer capacity at their going-forward cost at the time of the FCA and that this ought to be the appropriate benchmark (“Going-Forward Cost Benchmark”):

To estimate a “competitive” clearing price, it is most important to reflect the lower end of the reasonable range of offer prices. ... Each year there is a broad range of offer prices for new supply, as low as net going-forward cost for some potential suppliers up to the highest offers that may exceed long-run average cost. The lower offers reflect resources that may already have “sunk” investment cost, or may be under contract, or whose owners may be quite optimistic about future revenue prospects and are willing to accept any price above net going-forward cost this year.

James Wilson Supp. Test. at 25:19–26:5; *see also* Supporters First Brief, Exhibit DPUC-3, Direct Testimony of James F. Wilson in Support of First Brief of Joint Filing Supporters at 12:5–13:7 (“James Wilson Testimony”).

In response to this argument, we submit additional testimony by Professor McAdams. *See Second Supplementary Testimony of David L. McAdams Ph.D. on Behalf of New England Power Generators Association*, attached as NEPGA Exhibit 10 (“McAdams Second Supplementary Testimony”). Professor McAdams draws on his deep knowledge of his principal area of expertise—game theory and specifically auction theory—to set forth the fundamental economics of capacity markets. *Id.* at 12:16–16:12. He logically derives the appropriate mitigation, including the benchmark prices, that will result in APR Auction unsuppressed by OOM payments. *Id.* at 16:14–20:17. He then demonstrates the fundamental error of Mr. Wilson’s argument. *Id.* at 21:2–26:16. He also clarifies a few ambiguities in the proposed ISO-NE Benchmark and sets forth an alternative Total Cost Benchmark that avoids some of the pitfalls created by the ISO-NE Benchmark. *Id.* at 29:8–31:6, 27:2–29:7.

B. The Economics of Capacity Markets Require a Two-Stage Analysis

The fundamental insight of Professor McAdams is that in order to properly understand incentives and competitive outcomes in capacity markets, it is necessary to look not only to the conduct in the auction itself, but also to the conduct that precedes the auction. In auction theory parlance, the FCM is a *two-stage game*.

The *first* stage precedes each FCA. In this pre-FCA stage,

every potential new resource has (i) the opportunity to contract with load and (ii) the opportunity to incur some of the costs of new entry (“pre-investment”). Such a contract can serve to commit that resource to enter the FCM and/or commit it to incur some of the costs of new entry prior to the FCA. Such a contract could also specify what that resource will bid in the FCA but, to emphasize that load need not control OOM bids in order to suppress such bids, I will restrict attention to contracts in which each contracted resource is free to bid in the FCA according to its own self-interest. Of course, such self-interest is shaped by the terms of the OOM contract that has been signed.

Id. at 12:21–13:8 (footnote omitted). The conduct of the parties in this stage is guided by a separate set of incentives:

A resource has an incentive to sign an OOM contract with load exactly when such a contract *mutually* benefits itself and load, when each subsequently acts in its rational self-interest. For example, since entry into the FCM is unprofitable for *inefficient* OOM, such resources must be subsidized to enter. However, load will be willing to provide such a subsidy, but only if such OOM entry sufficiently suppresses load's auction payments. In other words, load is willing to induce inefficient OOM to enter exactly when doing so is *mutually* profitable for load and that inefficient OOM.

McAdams Second Supp. Test. at 13:9–16.

The *second* stage is the FCA itself. This is the only stage even considered in load's superficial analysis. In this second stage:

Each resource in the FCA decides what to bid. The FCA Rules then determine (i) which resources clear, (ii) which resources are designated as “OOM” (and “carried-forward OOM”) for the purpose of computing prices now and in future periods, and (iii) what each clearing resource is paid.

Id. at 13:17–20. Incentives in this second stage are straightforward. As Professor McAdams explains:

Regardless of the Benchmark Rule, each potential new resource in the FCA has an incentive—more precisely, a “weakly-dominant strategy”—to submit an equilibrium bid reflecting the costs of new entry that it has not yet incurred or committed to incur. Similarly, each existing resource has an incentive to submit an equilibrium bid reflecting the costs of continued operation that it has not yet incurred or committed to incur. For this reason, it is straightforward to analyze how bidders will behave in the FCA, *given* their decisions in the Contracting Stage.

Id. at 14:8–14. The bidding in the second (or FCA) stage therefore crucially depends on the conduct in the first (or contracting) stage. “The real ‘action’ occurs *before* the FCA, in the Contracting Stage.” *Id.* at 14:14–15.

Professor McAdams fully analyzes the expected outcomes of *both stages* under the June/July APR under Mr. Wilson's preferred Going-Forward Cost Benchmark, the ISO-NE Benchmark (levelized 40-month cost of new entry), and our proposed Total Cost Benchmark. *Id.* at 21:1–26:16, 29:9–31:6, 27:2–29:7. The results are clear. Professor McAdams's proposal gets

the answer precisely right. ISO-NE's proposal generally performs well but is vulnerable to a specific price-suppression strategy. And Mr. Wilson's proposal is, in fact, *designed to fail*.

C. The Going-Forward Cost Benchmark Is Gravely Flawed

While our July 1 testimony already lays bare the errors in Mr. Wilson's position, Professor McAdams's third round of testimony removes all room for doubt.¹⁰ Mr. Wilson argues in favor of the Going-Forward Cost Benchmark on the following basis:

[E]ven merchant capacity resources that receive no subsidies and have no bilateral contracts may nevertheless be offered into the FCA at low prices. For instance, a resource that is already under construction at the time of the FCA may rationally, competitively, and legitimately stay in the descending clock auction at prices down to the level of its net going-forward or opportunity cost.

James Wilson Test. at 10:8–12. The Going-Forward Cost Benchmark fails to adequately protect the FCM against exercise of market power because it ignores the first stage of the FCM game. *See id.* at 21:1–26:16. “[T]he Going-Forward Benchmark *egregiously fails* to correct for the price-suppressing effect of OOM entry.” *Id.* at 21:8–9.

OOM entry can have a long-lasting price-suppressing effect. Indeed, an OOM resource that has entered the FCM uncompetitively will suppress the FCA Clearing Price paid to new resources *until such time as it would have competitively entered the FCM*. If this price-suppressing effect is not corrected *for this full length of time*, such OOM resources will also suppress the APR Price paid to existing resources. However, by design, the Going-Forward Cost Benchmark only attempts to correct the price-suppressing effect of an OOM resource *until such time as it would have competitively continued to operate in the FCM*. Once a carried-forward OOM resource's going-forward cost of continued

¹⁰ Professor McAdams also points out some other misstatements in Mr. Wilson's supplementary testimony: (1) Mr. Wilson argues that Professor McAdams' initial testimony failed to consider issues of seller market power and its potentially perverse results, but as Professor McAdams notes he expressly bracketed that subject in his initial testimony and Mr. Wilson's parade of hypothetical horrors appears to lack any factual basis. *See* McAdams Second Supp. Test. at 32:20–33:10. Indeed, some seem to be even without even a *theoretical basis*, such as the argument that suppliers could force a triggering of the APR by sponsoring their own OOM resources. *See* Supporters Second Brief at 32-35 (citing James Wilson Test.). Perhaps suppliers could, but why would they? The APR merely restores prices to levels they would be absent OOM; making the APR work harder does not profit suppliers and sponsoring OOM can be expensive, as load knows. (2) Mr. Wilson's argues that Professor McAdams failed to consider the issue of OOM payments motivated by legitimate policy objectives unrelated to price suppression, but Professor McAdams devoted much of his supplementary testimony to this subject. *See id.* at 33:11–34:5.

operation (commonly called “to-go cost”) falls below the FCA Clearing Price, it is no longer designated as OOM. This essentially *guarantees* that the price-suppressing effect of OOM entry will not be fully corrected!

Id. at 21:19–22:5; *see also* Shanker Test. at 64:3–5 (“What Mr. Wilson has observed is akin to noting that the laws of physics apply to a bullet after it is fired, while ignoring who pulled the trigger, what they were aiming for, and their reasons for shooting.”).

Professor McAdams shows, with the help of some numerical examples, that this “reasoning ... is incomplete and Mr. Wilson’s basic conclusions fail to hold up under closer inspection.” McAdams Second Supp. Test. at 23:13–14; *see id.* at 23:1–26:16.

[I]t is rational and competitive *in the FCA* to ignore costs already sunk at the time when formulating one’s bid. However, it is not rational and competitive *in the FCM as a whole* to sink costs when doing so will induce one to enter at a loss. For this reason, Mr. Wilson’s attempted assault on 40-month cost not only misses the mark—it boomerangs back to undermine his own central premise that it is rational to bid less than 40-month cost. Indeed, the only time that it is rational to incur *deferrable* costs prior to the FCA, that induce one to bid less than one’s 40-month cost of new entry, is when a bid equal to that 40-month cost would also have cleared!

Id. at 24:2–25:8. The root of this error is Mr. Wilson’s (unstated) assumption that all parties would bid into the actual FCA in exactly the same fashion as they would into a hypothetical “Competitive FCA,” in which their bids had not been contaminated by incentives created in the first stage of the FCM game, outside of, and prior to, the FCA.

A fundamental error of Mr. Wilson’s reasoning in support of the Going-Forward Cost Benchmark is to assume that all costs borne prior to the *actual* FCA would have been borne prior to a Competitive FCA. In other words, Mr. Wilson’s argument only makes sense under the assumption that load will not induce any resources to enter the FCM that would not have entered anyway in a competitive market. Given load’s active and clearly-stated interest in sponsoring and continuing to sponsor new resources that would not have otherwise cleared in the FCA, this assumption is demonstrably counterfactual.

Id. at 26:9–26:16 (footnote omitted).

As a consequence, the Going-Forward Cost Benchmark provides multiple avenues for load to suppress the APR Price. *See* McAdams Second Supp. Test. at 21:17–23:5. For any resource, the Going-Forward Costs will be lower than the price that it would have required to enter the FCM. Mr. Wilson himself notes that “going-forward costs ... may be zero.” James Wilson Supp. Test. at 13:21. He thus concedes that the Going-Forward Cost benchmark may result in practically no mitigation of excessively low offers reflecting buyer market power. For with a benchmark of price of zero, OOM resources can exercise their artificial price suppression power without any restraint and without ever triggering the APR. And even with a benchmark merely close to zero, OOM resources would only suffer *de minimis* restraints: These resources either could suppress prices by bidding the too-low benchmark price, and avoid triggering the APR, or could just continue to bid zero, confident in the knowledge that the too-low benchmark price will ensure that the APR Price will be suppressed almost as far as if the APR had not been triggered at all. In either case, the APR will have failed to protect capacity prices from the exercise of buyer market power. “The Going-Forward Cost Benchmark *has no* hope of fully correcting the price-suppressing effect of OOM entry.” McAdams Second Supp. Test. at 21:12–13. As correcting the price-suppressing effect of OOM entry is the principal purpose of the APR, adopting the Going-Forward Cost Benchmark would render the APR hopelessly ineffective.

D. The ISO-NE Benchmark Is Substantially Correct, but Still Contains Flaws

As Professor McAdams explains, the ISO-NE Benchmark—the levelized 40-month avoidable cost—can in many circumstances achieve competitive results free from the artificial price suppression effects of OOM resources. *See* McAdams Second Supp. Test. at 29:9–31:6. The ISO-NE Benchmark demonstrably achieves this outcome—given one crucial unstated assumption, discussed below—as Professor McAdams rigorously proves. *See* NEPGA Exhibit 10-B (Proof of the ISO-NE Benchmark Theorem).

There is a potential ambiguity regarding the formulation the ISO-Benchmark in Mr. LaPlante's brief. *See* LaPlante Brief at 20–22. Mr. LaPlante proposes that “benchmark offers should be based on the incremental cash flows to a project.” *Id.* at 21. An unreasonable interpretation of this standard would be that if an OOM resource commits all the required resources for a project before the FCA, it would incur no further incremental cash flow expenses, and could therefore bid zero without triggering the APR! Neither we nor Professor McAdams believe that Mr. LaPlante would endorse such an absurd line of reasoning. *See* McAdams Second Supp. Test. at 25:20–26:1. Indeed, Mr. LaPlante also refers to “the relevant cash flows are those that *can* be avoided.” LaPlante Brief at 21 (emphasis added). We understand Mr. LaPlante to include all *avoidable* costs, regardless of whether any particular resource *avoided* them before any particular FCA, and hope that he will clarify his views on this issue.

Second, we are concerned that the proposed benchmark process will allot excessive and unnecessary discretion to the IMM and potentially even OOM bidders. *See* McAdams Second Supp. Test. at 31:9–32:13. It is proposed that the IMM will “use an incremental project cost standard instead of a total project cost standard in those circumstances in *which a participant submitting a below-the-benchmark offer believes such an offer is appropriate.*” LaPlante Brief at 22 (emphasis added). As Professor McAdams points out:

[This is an] invit[ation] to bidders to make a case that it is “appropriate” for benchmark prices to reflect only those remaining costs that those resources have not already incurred—or committed to incur—prior to the FCA. Under such a discretionary rule, market outcomes could depend dramatically on the quality of the IMM's judgment.

Id. at 31:18–22. While such discretion might, in practice, be properly cabined, that is not guaranteed. And a free grant of exemptions from the APR would render it a dead letter.

Nor is it necessary to inject this discretionary process. In his testimony, Professor McAdams:

established that the exercise of such discretion is unnecessary. In fact, one of the most attractive features of the ISO-NE Benchmark—or, even more so, the Total Cost Benchmark—is that it limits the need for the IMM to exercise discretion. Under the Going-Forward Cost Benchmark, the IMM must determine what costs are “reasonably incremental,” a standard that requires inspection of the circumstances of each individual resource. Under the ISO-NE Benchmark, by contrast, the IMM needs only to determine what costs are “deferrable” *in principle*—even if such costs are not always deferred in practice.

Id. at 32:6–13. Adopting a strict, no-exceptions form of the ISO-NE Benchmark will not result in any identifiable malfunction of the capacity markets, as Professor McAdams showed. *See* McAdams Second Supp. Test. at 29:9–31:6; NEPGA Exhibit 10-B. This renders the grant of discretion to side-step the APR entirely unnecessary, potentially dangerous, and administratively burdensome.

Finally, there is a serious problem with the ISO-NE benchmark’s loophole for “out-of-merit long-lead-time resources.” Professor McAdams defines these resources as ones “for which (i) entry into the FCM is *unprofitable on the basis of total cost* but (ii) entry requires that enough costs be sunk prior to the FCA that, at the time of the FCA, entry is *profitable on the basis of the “40-month cost”* that can be paid after the FCA.” McAdams Second Supp. Test. at 6:14–17.

Such resources would

not enter the FCM in a competitive market, because entry is unprofitable on a total-cost basis. Thus, if load can induce out-of-merit long-lead-time resources to enter the FCM *without triggering the APR*, then load will suppress the APR Price without violating the tariff. To see that such a scheme is feasible under the ISO-NE Benchmark, suppose that load were to provide sufficient out-of-market subsidies to induce an out-of-merit long-lead-time resource to sink the pre-FCA costs required for entry. Since this resource finds entry to be profitable on the basis of its *remaining* costs at the time of the FCA, its Benchmark offer under the ISO-NE Benchmark (or under the Going-Forward Cost Benchmark) will be low enough for this resource to clear *while evading OOM designation*.

Id. at 6:22–7:8.

For a resource to fall into the “out-of-merit long-lead-time” category it must fulfill multiple requirements. It must have a legitimately required long-lead time. As noted above, a

resource that artificially sunk costs before it had to would not escape mitigation even under the ISO-NE Benchmark as proposed. It must be uncompetitive on a total-cost basis. A long lead-time resource that would have been economic on a total-cost basis—for example, an economic nuclear plant or an economic resource requiring transmission or interconnection investments before the FCA—would also not fall into this category. And it must economic on the basis of the 40-month levelized avoidable cost (*i.e.*, the ISO-NE Benchmark).

Such a resource would not have entered on the basis of expected market payments, but it would nevertheless escape any OOM mitigation. Regardless of how common such resources are at present, load has shown a dogged determination to use any loophole in the APR to artificially suppress prices. The Commission therefore should adopt the Total Cost Benchmark set forth by Professor McAdams, because it is structured to stymie any market-power scheme that employs out-of-merit long-lead-time resources to evade mitigation.

E. The Total Cost Benchmark Solves the Issues Inherent in the ISO-NE Benchmark

Professor McAdams proposes an alternative Total Cost Benchmark that closes the “out-of-merit long-lead-time” loophole in the ISO-NE Benchmark (as well as addressing any ambiguity in the definition of incremental costs). *See* McAdams Second Supp. Test. at 27:2–29:7.

Professor McAdams rigorously proves that, unlike the ISO-NE Benchmark, the Total Cost Benchmark will result in competitive prices in the presence of “out-of-merit long-lead-time” resources. *See* NEPGA Exhibit 10-A (Proof of the Total Cost Benchmark Theorem). He “conclude[s] that the Total Cost Benchmark fully corrects (but does not over-correct) for the price-suppressing effect of OOM entry.” McAdams Second Supp. Test. at 28:14–15. Moreover, he establishes that *no other benchmark* can “fully correct[] (but ... not over-correct) for the price-suppressing effect of OOM entry.” McAdams Second Supp. Test. at 28:14–15. “Any

other Benchmark Rule will sometimes induce an equilibrium APR Price that is either higher or lower than the Competitive FCA Price.” *Id.* at 28:18–19. The Commission therefore should adopt this targeted modification to ISO-NE’s proposed APR.

III. STATES CAN FURTHER ENVIRONMENTAL AND OTHER POLICY CONCERNS THROUGH A PLETHORA OF LAWFUL MEANS

A main strand of argument throughout the load briefs is that, under the Federal Power Act, the states retain the sovereign right to make and implement policy on the type and placement of generation resources to be constructed within their borders, including the right to favor some types of new generation, such as renewables or natural gas, over others, such as coal or oil. *See* Supporters’ First Brief at 23–26, 28–30; Supporters Second Brief at 27–28, 67–70, 79–80, 111–18.

Nothing in any of the numerous pleadings we have submitted here challenges the power of states to make policy choices about whether to build new generation within their borders and, if so, what type to build. Nor do we quarrel with the economic rationales offered by the states for these policies. *See* Supporters First Brief at 21–22 & nn.76–77, 25–26, 27–28; Supporters First Brief, Exhibit DPUC-3, Direct Testimony of James F. Wilson in Support of First Brief of Joint Filing Supporters at 12:1–6, 14:2–3 (“James Wilson Testimony”); Supporters Second Brief, Exhibit DPUC-22, James F. Wilson, Forward Capacity Market CONEfusion at 9, 16, 17–18 (June 2010); Supporters Second Brief at 27–28, 66–69, 79–80; James Wilson Supp. Test. at 32:8–33:4. The states’ judgments on these issues may or may not be correct, but those judgments are within the realm of state authority.

We instead rest our opposition to the load’s and states’ argument on the indisputable proposition that however lawful or justified the states’ *ends* may be, there is one *means* they cannot use to pursue those ends: the use of buyer market power or market manipulation to

artificially suppress prices in the wholesale electric markets under the Commission’s exclusive jurisdiction. And this is no idle thought, for the states freely admit they seek to suppress capacity prices in order to force the retirement of privately owned New England generation resources that they disfavor. *See* Supporters Second Brief at 6 (describing as the “only legitimate concern” that “price signals that would motivate less efficient, less desirable capacity resources to retire have been significantly muted”); *id.* at 7 (claiming that FCM “prop[s] up old, dirty, uneconomical existing generating units by continuing to subsidize them”); *id.* at 35 (attacking June/July APR because “existing resources—including, for example, obsolete, undesirable, polluting units—will receive no price signal to retire”); *id.* at 79 (attacking June/July APR for “encourag[ing] continued operation of undesirable generators that states have decided as a matter of public policy should be retired”).¹¹

The states have a plethora of legal methods available to pursue their policy choices. For example, they can purchase and shut down disfavored generators. If generator owners do not wish to sell, the states can—within the limits of their own constitutions and laws—condemn the

¹¹ The only attempt, however indirect, Supporters make to address our criticisms of their DRIPE program to use demand response to artificially suppress capacity price is to egregiously misquoting our statements:

It is not accurate, as NEPGA contends, that “any effort to [invest in] demand response” “will only exist (intentionally) when the goal is to artificially suppress capacity prices.”

Supporters Second Brief at 68 (claiming to quote NEPGA First Brief at 57). However, turning to the original of the phrase Supporters elide as “invest in” shows that our actual words were “overpay for.” “Invest in” is neither appreciably shorter than “overpay for,” nor is it in Standard English usage considered a synonym—though if Supporters sincerely considered these two phrases to be equivalent, much of their states’ fiscal situation would be explained. We can only restate that NEPGA has no objections to competitive demand response participating in energy markets on equal terms. *See, e.g.,* NEPGA First Brief at 29 (“suppliers have long supported demand response participation as an important piece of the overall market design”); *id.* at 35 (reaffirming demand response’s “role in the FCM” and calling for APR to prevent “legitimate, market-based demand response [from] d[ying] on the vine.”); *id.* at 57 (same). Beyond that, the APR leaves states free to subsidize even uneconomic demand response with only one limitation: They cannot use their market power to artificially suppress capacity prices to fund their subsidy.

plants and take possession regardless of the owners' wishes.¹² They can refuse to issue construction permits to any new plants of disfavored types. They can exercise existing environmental authority in ways that may affect retirement decisions.

The one thing they *cannot* do is precisely what they claim the right to do here. They cannot force retirements by exercising market power to artificially suppress wholesale price outcomes that are subject to this Commission's exclusive jurisdiction. This is unjust and unreasonable by any measure.

It also is a blunt tool that will not yield the outcome the states seek. If capacity prices are artificially suppressed, this may inflict particular harm on the newer, more efficient, and more environmentally benign members of the existing generation fleet, because they often face higher going-forward costs than older units. *See* Boston Gen. Companies Second Brief at 6 (noting that "any number of other New England generators, *including owners of highly efficient and environmentally-friendly units* like those owned by Mystic Development and Fore River, will be hearing the grim reaper's scythe rapping on their doors before long") (emphasis added). It also inflicts particular harm on demand response. This tactic would be unlawful whether or not it succeeded in revamping the make-up of the generation fleet as load apparently desires. But the fact that it fails at that mission is yet another reason to reject the entire endeavor.

In sum, an effective APR that limits the use of buyer market power is an unequivocal necessity. An APR that permits the states to shield OOM resources from OOM treatment can never be effective. And an effective APR, such as we propose, does *nothing* to interfere with the states' policy choices or any *lawful* methods of pursuing these choices. To its credit, the

¹² Of course this would force the states to directly confront a reality that they wish to circumvent via the exercise of market power: establishing the fair market value of the resources in question. The states are effectively seeking to use market power in the wholesale power markets to seize assets without the due process and compensation that would result from a lawful exercise of their eminent domain powers.

Massachusetts Department of Public Utilities agrees, stating, in its Second Brief (at 19), that “there is nothing in the existing FCM rules, the Rules Changes Filing or the Revised FCM Proposal that prevents states from pursuing public policy initiatives.”

IV. ALL ZONES SHOULD BE MODELED, SUBJECT TO APPROPRIATE MITIGATION

Perhaps because of the simultaneous filing deadlines for all of the parties, there may have been some confusion about our position on ISO-NE’s proposal to model additional zones. We support ISO-NE’s proposal. We do, however, continue to oppose its expansive new mitigation regime.

A. ISO-NE’s Proposal to Model Additional Zones Should Be Approved

ISO-NE apparently thinks that our First Brief opposed ISO-NE’s plans to model additional zones. This is incorrect. We support ISO-NE’s proposal as it was detailed in ISO-NE’s First Brief. See NEPGA Second Brief at 53. In our Second Brief, however, we did offer one modification to that proposal. We proposed that when a de-list bid is rejected for reliability reasons, ISO-NE should investigate and “potentially creat[e] sub-zones” to resolve the constraint. See NEPGA Second Brief at 53–54. We did not say that a new sub-zone should automatically be created.¹³

In its Second Brief, ISO-NE concurs that it is “amenable to examining whether it would be appropriate following a de-list bid rejection to model the revealed constraint within the zonal configuration used in the subsequent auction.” Second Brief of ISO New England Inc. at 37 (Sept. 1, 2010). ISO-NE and NEPGA thus also agree on this issue.

¹³ In our First Brief, NEPGA sponsored testimony from Dr. Shanker and Mr. Stoddard, who both addressed this issue. Dr. Shanker offered an ideal remedy for when a de-list bid is rejected, which would be to stop the auction in process and model the identified constraint. Mr. Stoddard offered the proposal that NEPGA offered as a compromise remedy, which is to let the auction proceed and to seek to model the identified constraint in the following auction.

Load parties nonetheless argue that it is unnecessary to model additional zones because, in their view, after the changes approved in the Hearing Order, “no discernable problem remains.” Supporters Second Brief at 47; *see also* Mass. DPU Second Brief at 20 (same). This notion is demonstrably false. *First*, the Commission is already on record favoring modeling wherever possible. Hearing Order at P 134 (“The Commission believes that it is important to model zones wherever possible to set appropriate locational prices.”). *Second*, locational pricing issues continue to arise even in the latest auction, FCA #4. Even with the new rules in effect for FCA #4, Vermont Yankee’s de-list bid was rejected by ISO-NE for reliability reasons, but there still was no zonal price separation. *See* Stoddard Supp. Test. at 5:18–6:16; *ISO New England Inc.*, Docket No. ER10-2477-000, Attachment B, Forward Capacity Auction Results Filing, Affidavit of Stephen J. Rourke at 25:6–13 (Aug. 30, 2010). That is the very definition of a locational modeling problem, and notwithstanding the most recent rule changes, it continues to be unresolved. *Contra* Second Brief of the Connecticut Municipal Electric Energy Cooperative, Massachusetts Municipal Wholesale Electric Company, and New Hampshire Electric Cooperative, Inc. at 14 n.25 (Sept. 1, 2010) (“Public Systems Second Brief”).

The Supporters’ witness, Mr. Wilson also repeats claims that market results in PJM allegedly show that locational pricing does not work. James Wilson Supp. Test. at 65:18–66:5. We have already fully rebutted this claim, demonstrating among other things that the Commission itself previously rejected a nearly identical analysis from Mr. Wilson. *See* NEPGA Second Brief at 59–62. Mr. Wilson’s core conclusion after analyzing PJM’s RPM markets is that gaming is preventing new entry. Yet Mr. Wilson repeats earlier testimony that “the two most recent clearing prices under PJM’s RPM capacity construct were the equivalent of \$0.50/kW-month and \$0.84/kW-month.” James Wilson Supp. Test. at 73:21–22; *citing* Wilson

Test. at 23:22–23. It is instructive to contrast (a) these very low clearing prices with (b) the Commission’s recently-approved much higher value for the cost of new entry in the same region: \$9.06/kW-month. *See* NEPGA First Brief at 88–89; *see also* Wilson Test. at 23:14–18 (admitting that “[t]he applicable Net CONE values [in PJM] were over 16 times and 11 times higher than these clearing prices”). As Dr. Shanker demonstrated, it is much more likely that any lack of new entry under PJM’s RPM construct is a result of clearing prices at levels up to *16 times* lower than the cost of new entry—to use Mr. Wilson’s statistic—than systemic market manipulation. *See* Shanker Supp. Test. At 16:14–30:22. Mr. Wilson’s contrary testimony is fatally flawed on its face.

B. The Commission Should Reject ISO-NE’s Expansive New Mitigation Regime

NEPGA fully agrees that zonal modeling requires appropriate market power mitigation. *See* NEPGA Second Brief at 55–58 (multiple experts confirming that zones should be modeled and market power mitigated). ISO-NE’s new mitigation proposal on the table here, however, is far too over-reaching. It would impose \$1/kW-month review of bids on everyone, everywhere, all of the time, without any showing of structural market power or any attempt to mitigate only when necessary.

In our Second Brief, we detailed the numerous manifest flaws with ISO-NE’s expansive new mitigation regime. *See* NEPGA Second Brief at 64–75. Neither ISO-NE nor any load party has raised any new argument to justify it. In fact, their arguments reveal that the effect of this mitigation regime would essentially be to write dynamic de-list bids out of the tariff.

1. The Proposed Mitigation Is Unlawfully Overbroad

ISO-NE’s proposed mitigation tips far out of balance. And the Supporters would skew things even farther. For example, Supporters witness Dr. Blumsack proposes to mitigate even manifestly competitive bids. *See* Supporters First Brief, Exhibit DPUC-23, Direct Testimony of

Seth Blumsack, Ph.D on Behalf of First Brief of the Joint Filing Supporters at 7:12–16 (July 1, 2010); Supporters First Brief, Exhibit DPUC-23, Supplemental Testimony of Seth Blumsack, Ph.D on Behalf of the Joint Filing Supporters at 20:6–12 (July 1, 2010) (“Blumsack Supplemental Testimony”). In fact, according to the Supporters, “an existing resource has an ability to offer non-competitive bids at levels only slightly above zero.” Supporters Second Brief at 57. Professor McAdams has already fully rebutted these claims. *See* McAdams Supp. Test. at 39:13–41:3.

Dr. Blumsack’s latest testimony sets forth the types of dynamic de-list bids that he believes require market monitor review and mitigation:

- no de-list bid above \$1/kW-month should be permitted to set price (Blumsack Supp. Test. at 6:14–7:2 (not opposing ISO-NE’s mitigation proposal));
- no pivotal de-list bid even below \$1/kW-month should be permitted to set price (*id.* at 7:9–11:12);
- no resource with a *de minimis* market share (less than 5 percent) should be considered non-pivotal and permitted to set price even if it bid below \$1/kW-month (*id.* at 13:16–15:7);
- no resource with only a single unit that has no portfolio to benefit from withholding should be considered non-pivotal and permitted to set price even if bid below \$1/kW-month (*id.* at 15:8–18:10); and
- no *non-pivotal* de-list bid should be permitted to set price (*id.* at 18:11–20:12).

To repeat this list is to refute it.

On top of all of this, the Supporters also opine that a pivotal supplier test should not “include all resources merely because they have qualified to participate in the capacity auction.” Supporters Second Brief at 85. This makes no sense. The entire point of the *Forward Capacity Market* is to permit new resources to contest the prices offered by existing resources. That is why the auctions are held *three years forward*. If new resources were not competitors, there would be no reason to hold the auctions in advance. But under the FCM, the expectation was

that new resources would set the price whenever supply was needed. The Supporters hypothesize a scenario where “perhaps in explicit or implicit collusion with others,” existing suppliers would qualify fake new resources and offer them above cost with the expectation that they would not clear but that they would make existing resources non-pivotal. Supporters Second Brief at 85. This scenario is contrived and highly unlikely, but if it were to occur it would be easy for the market monitor to detect. Possibilities this remote cannot justify an expansive new mitigation regime.

In short, our opponents favor mitigation so heavy-handed that de-list bids would no longer serve any purpose. But Commission and judicial precedent prohibit expansive mitigation without specific findings that market power exists and can be exercised by the individual resource at issue. *See* NEPGA Second Brief at 75–76 & nn.22–24 (listing cases). Even then, mitigation must be tailored to balance the risk of over-mitigation against the risk of under-mitigation. As the Supporters argue in another context, “[t]he Commission may not adopt a proposed solution without evidence that there is a problem that needs to be fixed, and it may not adopt an overbroad, generic fix ‘for a problem that exists only in isolated pockets.’” Supporters Second Brief at 52 (citing *Associated Gas Distribs. v. FERC*, 824 F.2d 981, 1019 (D.C. Cir. 1987)) (other citation omitted). The Supporters quote this in support of their argument that zones should not be modeled, but of course, modeling only *permits* prices to separate. It does not mandate that they will separate. The Supporters’ statement is actually far more worthily applied to defeat ISO-NE’s expansive new mitigation proposal.

Finally, load’s mitigation arguments are hopelessly one-sided. Supplier de-list bids would be mitigated basically to zero in virtually all circumstances. At the same time, load seeks to avoid any meaningful mitigation of buyer market power. *See* Shanker Supp. Test. at 10:11–

11:20 (explaining that load’s proposal to use net going-forward cost as a benchmark for offers from OOM resources is “meaningless”); McAdams Second Supp. Test. at 22:4–5 (the Going-Forward Cost Benchmark “*guarantees* that the price-suppressing effect of OOM entry will not be fully corrected”). And as the IMM correctly points out, it will indeed be the rare case going forward—especially if load’s proposed benchmark is put in place—when load will again expressly state and document its intent to suppress price outcomes. *See* LaPlante Brief at 3. Load’s unbalanced approach is neither just nor reasonable nor sustainable.

2. *We Agree with Load That ISO-NE Has Failed to Justify Using Past Reconfiguration Auction Results as a Proxy for Competitive De-List Bids*

We agree with at least some of the load parties that there is no basis to use results from the reconfiguration auctions as a proxy for competitive de-list bids. The Supporters argue as follows:

ISO-NE also has offered no rationale for or evidence to support using recent results in annual reconfiguration auctions as a basis for setting the thresholds for permitting unrestricted Dynamic De-List Bids. The reconfiguration auctions have included only a small fraction of the non-ISO-NE supply, have cleared very little capacity, and may clear at prices that reflect a short-term problem so that they may not be representative of competitive results in New England. ISO-NE has offered no justification for using those results, and it represented to stakeholders on July 22, 2010, that it does not intend to use the results of future reconfiguration auctions to set the threshold.

Supporters Second Brief at 58 (footnotes omitted). We agree that ISO-NE has failed to justify this aspect of its case.

We previously provided evidence showing that the proposed \$1/kW-month threshold—which is based on the reconfiguration auctions—was too low and could not be justified. *See* NEPGA Second Brief at 65–67. The final prices from more recent reconfiguration auctions further support this conclusion. Clearing prices in the last few months for the current Commitment Period (2010-11) have been as follows:

June 2010:	\$1.99/kW-month
July 2010:	\$2.25
August 2010:	\$2.18
September 2010:	\$1.96
October 2010:	\$0.98

See ISO New England Inc., Monthly FCM Events, Capacity Commitment Period 2010-2011, http://www.iso-ne.com/markets/othrmkts_data/fcm/cal_results/ccp11/mra11/index.html. Mr. Stoddard already explained why it is incorrect to base a competitive proxy on the *lowest* clearing price from the reconfiguration auctions. See Stoddard Supp. Test. at 28:4–13. These more recent results further confirm that reconfiguration auctions routinely clear at levels twice as high as ISO-NE’s proposed \$1/kW-month proxy. It is unjust and unreasonable to claim that a de-list bid above \$1/kW-month must be reviewed for mitigation when that resource could routinely sell in the reconfiguration auctions for twice that amount. Moreover, capacity obligations can be, and have been, resold bilaterally outside of reconfiguration markets, and ISO-NE has not provided prices associated with these transactions.

3. *If De-List Bids Can No Longer Serve Their Original Purpose, a Demand Curve Will Be Necessary*

Finally, the IMM argues that it would be unreasonable to “allow dynamic de-list bids to be entered at a threshold of eighty percent of CONE.” IMM Brief at 22 (initial caps omitted). We have also previously discussed this issue, demonstrating that ISO-NE’s new mitigation regime would fundamentally change the purpose of dynamic de-list bids. See NEPGA Second Brief at 67–69. Under the original design, the ability to offer a dynamic de-list bid at levels up to 80 percent of CONE was intended as a rough substitute for a demand curve—which states and consumers vehemently oppose—to permit prices to approximate CONE on average and over

time, as is required under any properly functioning market. *See id.* The IMM wholly ignores this design feature in arguing that it is unjust and unreasonable to permit an 80 percent threshold. As we have argued, however, if the ability to dynamically de-list is essentially going to be eliminated, a demand curve becomes essential. *See id.* at 69, *citing* Stoddard Supp. Test. at 3:20–4:2.

V. *AN ACCURATE ESTIMATE OF THE COST OF NEW ENTRY WILL CONTINUE TO PLAY AN IMPORTANT ROLE IN ANY MARKET DESIGN*

In our past pleadings, we have explained the continuing importance of the cost of new entry of a peaking unit to the market, and we have provided an updated estimate of those costs (a value that we called “true” or “actual” CONE, as opposed to the current administratively set and artificially low CONE in FCM). *See* NEPGA First Brief at 87–97; Ungate Test. *passim*; NEPGA Second Brief at 77–82. Mr. Stoddard also explained several of the assumptions that NEPGA and Mr. Ungate used to estimate CONE. *See* Stoddard Test. at 82:1–99:20. Load has raised a few isolated challenges to these arguments, and we respond as follows:

The EMCOS and Dr. Wilson attack some of the assumptions that Mr. Stoddard supported and that Mr. Ungate used in his updated CONE estimate. EMCOS Second Brief at 9–10; John Wilson Second Affidavit ¶¶ 11–14. Dr. Wilson claims that we analyzed too large a peaker, should have analyzed an existing site instead of a new site, and utilized a “wholly unrealistic capital cost” structure. While the type of resource and siting assumptions are not set in stone, similar assumptions are used in other regions in estimating CONE. These assumptions thus are representative. And Mr. Stoddard recommended capital cost assumptions that would apply to building a new *merchant* unit, which is supposed to be what FCM would support, rather than a contracted unit. Stoddard Test. at 88:6–92:18. Parties may bicker about these inputs and

assumptions, but that is why we made them transparent, and we submit that they are just and reasonable.

The fact that different assumptions may be used does not, however, mean that it is impossible to develop an estimate of CONE, as some parties suggest. *See* EMCOS Second Brief at 9–10; Supporters Second Brief at 90. It is difficult to see how this task could be impossible when the Commission has been approving CONE estimates in other regions for years.

And, *contra* Supporters Second Brief at 91, we also have already explained why DR and plant upgrades cannot sustain a market over the long term and should not be used to estimate CONE. *See* Stoddard Test. at 85:7–88:5. CONE thus appropriately is based on the cost of a new peaker.

The Supporters contend that the FCM is not designed to result in payments over time that average out to CONE, but instead should only “rise to the level necessary to clear sufficient capacity when new capacity is needed.” Supporters Second Brief at 90 (quoting Wilson Test. at 18:20–21). But this is a non sequitur. As long as buyer market power is fully mitigated, the “level necessary to clear sufficient capacity when new capacity is needed” will, in fact, *equal* the *actual cost of new entry*. That is the very definition of actual “CONE.” While an estimate of CONE is used for some purposes in the FCM, including mitigation decisions, that does *not* mean that the FCM design will force the market to clear at this level. The market will clear at the actual cost of new entry when new entry is needed—provided that we have fully mitigated market power.

To the extent the Supporters are quarrelling even with this basic principle, they once again are fighting a battle they already lost. In approving relevant aspects of the FCM settlement, the D.C. Circuit held as follows:

[T]he fact that cost of new entry is used to kick off the auction does not mean that it is relevant only for that purpose. If anything, the reliance on cost of new entry as a starting point of the Forward Market auction underscores its relevance to appropriate rates: it is used to commence the auction because it approximates reasonable compensation for existing as well as new generators. *See* [*Devon Power LLC*, 115 FERC ¶ 61,340 at 62,326 (2006)]. *FERC sets rates to ensure both that existing generators are adequately compensated and that prices support new entry when additional capacity is needed.* *See, e.g.,* Recording of Oral Arg. at 1:02:34–1:03:01, 1:09:30–1:10:35. As FERC therefore noted, cost of new entry is “a key factor in determining appropriate rates for capacity” and was central to the demand curves under the locational installed capacity market as well as the Forward Market design. [*Devon Power LLC*, 117 FERC ¶ 61,133 at 61,718 (2006)]; *cf. Elec. Consumers Res. Council v. FERC*, 407 F.3d 1232, 1235, 1237–38 (D.C. Cir.2005) (upholding FERC’s approval of a demand curve that sets prices based on the annualized cost of a new peaker plant); *New York Indep. Sys. Operator, Inc.*, 117 FERC ¶ 61,086 at 61,443 n.7 (2006) (“In a competitive market, prices should reach equilibrium at or near to the levelized net cost of new entry.”). We conclude that it was reasonable for the Commission to look to cost of new entry as a basis of comparison in its review of the transition payments.

Me. Pub. Utils. Comm’n v. FERC, 520 F.3d 464, 473–74 (D.C. Cir. 2008) (emphasis added), *rev’d in part on other grounds sub nom., NRG Power Mktg. v. Me. Pub. Utils. Comm’n*, 130 S. Ct. 693 (2010). Load should not now be heard to claim that CONE is irrelevant under FCM.

Similarly, the Supporters resurrect their old argument that FCM should not pay the true cost of new entry because the locational forward reserves market is designed for that purpose. *See* Supporters Second Brief at 91. But the Commission has squarely rejected this argument. *See, e.g., Devon Power LLC*, 115 FERC ¶ 61,340 at P 167 (“[M]arkets for capacity and operating reserves are separate, distinct and non-duplicative.”) (quoting *New England Power Pool*, 115 FERC ¶ 61,175 at P 78, *reh’g denied*, 117 FERC ¶ 61,106 (2006)). The Supporters ignore this inconvenient fact.

In addition, the Maine PUC errs in claiming that “FCM clearing prices” are “a much truer estimate of the cost of new entry.” New entry is being paid higher prices outside the market that reflect actual CONE while existing resources are left to recover suppressed payments in the “market.” CONE, meanwhile, has fallen to ridiculously low levels because it is automatically

adjusted to reflect recent FCM clearing prices. For all of these reasons, we provided an updated estimate of the true cost of new entry.

We do not disagree with some of ISO-NE's proposals to replace CONE in the tariff with other fixed values. *See* NEPGA Second Brief at 78–80 (opposing two tariff changes related to CONE but supporting the remainder). But even so, the true cost of new entry will still retain a role in any market design simply because it is the measure of what the markets must recover on average and over time to be sustainable in the long run. *See id.* at 80–82.

Finally, we note that load's one-sided and self-serving proposals also extend to the values proposed to be substituted for CONE in the tariff. When the review of supplier bids is involved, the Supporters argue that CONE “needs to be close to the expected FCA clearing price,” because clearing prices are likely to be low for years to come and this will ensure that more supplier bids are reviewed and mitigated. Supporters Second Brief at 60. But for the mitigation of buyer bids to determine whether they are in-market or OOM, the Supporters propose an exception. *See id.* In the case of buyers, they want fewer bids to be reviewed and mitigated so they propose a higher threshold—one de-linked from artificially suppressed clearing prices. There is no justification for this blatantly discriminatory treatment. The decision whether a bid is in-market or OOM should be reviewed with identical rigor to any decision to mitigate a supplier offer. Indeed, as this Commission previously has found, supplier-side and buyer-side mitigation must be balanced to protect against artificially inflated prices and artificially suppressed prices. *See NYISO*, 122 FERC ¶ 61,211 at P 1. This core tenet must be applied with equal force to the New England capacity markets if they are to be sustainable over the long run.

VI. *THE COMMISSION SHOULD APPROVE THE MODIFICATIONS THAT NEPGA HAS SUPPORTED IN TIME TO RESOLVE THIS CASE BY MARCH 1, 2011*

Load interests once again argue that the current rules should be upheld with no changes and the complaints dismissed, with stakeholders left the option to consider whether any additional changes are really necessary, with or without Commission deadlines. *See, e.g.*, Public Systems Second Brief at 19. They also argue that any further Commission action would be impossible because the record has not been developed enough in this hearing. *See id.* And they repeatedly claim that *stakeholders* should decide what changes should be considered and adopted.

Load has been making these arguments throughout the case, and we thoroughly addressed them in our Second Brief (at 82–93). In sum, we support an early Commission order as soon as possible on the merits of the June/July APR and the other proposals that NEPGA has supported with complete record evidence. The more specific that order is, the less chance there will be for the stakeholder process—which is dominated by load interests—to water down the rules or delay implementation, both of which would manifestly benefit load, at least in the short term, but harm the markets and consumers over the long run. The Commission should stick to the goal it established, which is to resolve all of these issues by March 1, 2011.

We provide this brief additional response to highlight some of the manifest errors in load’s logic:

First, the Public Systems argue that nothing is wrong with the FCM and that you “don’t fix what isn’t broken.” Public Systems Second Brief at 2. They claim that “[t]he FCM has attracted large quantities of new resources.” *Id.* at 3. This is misleading. It is true that *something* has attracted large quantities of new resources, but it was not FCM clearing prices. Many new resources, and *all* new generation resources, are relying on out-of-market payments. *See* Stoddard Supp. Test at 19:1–22:22; Stoddard Test. at 38:4–43:7. This nearly unfettered

ability to price discriminate is what is really attracting large quantities of new resources, not the FCM itself.

The Public Systems similarly proclaim that OOM entry had no effect on FCM prices in the first three auctions, apparently reasoning from this—erroneously—that there is no urgency to do anything about OOM entry. *See* Public Systems Second Brief at 3. We are arguing on rehearing that a substantial amount of the entry that were originally classified as in-market were actually OOM and should have been designated as such. These resources should be re-examined and potentially reclassified and mitigated in future auctions. But even if OOM entry had no effect on past auction prices, that does not justify failing to mitigate it in the future.

Second, APR reforms and other new proposals should be resolved on the record developed in this hearing process. This will not undercut any party's due process rights. The hearing record is more than sufficient to uphold our proposals in this proceeding, and to the extent load entities chose not to respond to the evidence in this case, that was their tactical decision. Having made that choice, their complaints at this stage ring hollow. This is a *hearing*, not merely an “information gathering” exercise. You ignore or sidestep opposing evidence at your own peril.

The EMCOS argue—curiously—that the June/July APR and other proposals included in the July 1 First Briefs came “at [sic] point in a proceeding too late to permit informed response by other parties.” EMCOS Second Brief at 5. They omit the fact that ISO-NE actually presented a detailed summary of its proposal on June 15—prior to the July 1 deadline First Briefs. Numerous parties, including NEPGA, managed to fully respond to ISO-NE's new proposal in their First Briefs. And surely the EMCOS are aware that the Commission provided them the opportunity to file a Second Brief—since they filed one—as well as a Third Brief on September

22, which they also filed. EMCOS have also sponsored three affidavits from Dr. Wilson. They do not explain how two opportunities to respond to the July 1 First Briefs setting forth the June/July APR somehow leaves them without the ability to submit an “informed response.”

The Public Systems make a similar claim that “it is unreasonable for ISO-NE to develop major new market redesign proposals on the fly, within the context of a paper hearing *convened to evaluate an entirely different proposal.*” Public Systems Second Brief at 25 (emphasis added); *see also* Supporters Second Brief at 19–20 (arguing that “further rate change filings are barred outright”). But of course the Commission expressly invited new proposals in this proceeding in its Hearing Order. *See* Hearing Order at P 21(a) (“The Filing Parties [ISO-NE and NEPOOL] must submit briefs addressing our questions, either supporting their prior proposal, *or making new proposals.*”) (emphasis added). These due process arguments should be rejected out of hand.

Third, load interests should not be given yet another opportunity to obfuscate and delay true reforms. The stakeholder process is dominated by net purchasers of capacity. They have had several previous opportunities to be reasonable about mitigating their own market power and permitting locational pricing, and they have failed every time to take these issues seriously. To them, nothing is wrong and nothing needs to be fixed. They believe in price discrimination, notwithstanding a host of Commission decisions specifically prohibiting the very behavior they are engaged in. *See, e.g.,* Shanker Test. at 7:17–9:3 (citing Commission precedent and concluding that “price discrimination among competitive supply is inefficient and in the long run will increase costs”).

This load-dominated super-majority wants nothing more than for these issues to be delegated back to them, because they know that they can then control, limit and delay any true reform, just as they have in the past on these very same issues. Net-purchaser interests should

not receive any further opportunities to stonewall resolution of these critical market mitigation issues. The Commission should, instead, resolve these issues in wake of the paper hearing, with compliance filings to be made by ISO-NE to implement the Commission's order.

This leaves us with a related argument that the Commission already has rejected: the notion that the original FCM settlement and the more recent Joint Filing must be considered as inviolate packages, with the alteration of any single component forever destroying some fragile balance. *See, e.g.*, Mass. DPU Second Brief at 5–6. The Commission correctly rejected that claim in the Rehearing Order. *See* Rehearing Order at PP 21–24 (requiring the Commission to approve rules “as a whole without modifications’ . . . would defenestrate the Commission’s independent obligation under section 205 to examine each filing presented to it and determine whether the provisions of that filing are just and reasonable”). Load makes a half-hearted attempt to sidestep this prior ruling, *see, e.g.*, Mass. DPU Second Brief at 6 n.16, but these efforts should be set aside as well. This all-or-nothing approach is designed to preserve past gains that load entities achieved as a result of their dominant super-majority status. The Commission routinely requires that revisions be made to Section 205 filings, and Section 206 complaints, to achieve a structure that meets the just and reasonable requirement. It must fulfill its statutory requirements to do that here.

Finally, if, against our express recommendation, the Commission determines that stakeholders should decide what rules will be approved as a result of this proceeding, it should reject out of hand any outcome that largely shuts out the generation sector and large swaths of the supplier sector (or, more specifically, net sellers of capacity). Notably, , for example, no net seller of capacity supported the Joint Filing. *See* Rehearing Order at P 21 (“[W]hile many parties supported the filing, a significant number did not, including the entire generation sector and

much of the supplier sector.”) With the future viability of the New England capacity market at stake, the Commission should not countenance any further tyranny of the majority, but should exercise its authority to review the elements of any proposal to ensure that they are just and reasonable.

CONCLUSION

The three stages of briefing in this case now are at an end. NEPGA¹⁴ submits that when the dust settles in the wake of the third round, its positions have been thoroughly explained and supported by the great weight of evidence, while load's opposing views have remained insubstantial, unsupported, and incapable of prevailing in any well-reasoned Commission decision. Indeed, many of load's primary contentions are expressly contrary to binding precedent and have previously been rejected, including earlier in the history of the New England capacity market. We therefore respectfully request that the Commission approve the modifications we have proposed to ISO-NE's original filing in this case—modifications that, on the critical OOM issues, are, in almost all instances, also proposed by ISO-NE itself—and reject the contrary positions of load.

Respectfully submitted,

/s/

John N. Estes III
Paul F. Wight
Carl Edman
SKADDEN, ARPS, SLATE, MEAGHER & FLOM LLP
1440 New York Avenue, N.W.
Washington, DC 20005
(202) 371-7000
*Counsel for the New England Power Generators
Association, Inc.*

Angela O'Connor
President
NEW ENGLAND POWER GENERATORS
ASSOCIATION, INC.
141 Tremont Street
Boston, MA 02111
(617) 902-2354

September 29, 2010

¹⁴ The comments contained in this filing represent the position of NEPGA as an organization, but not necessarily the position of any particular member with respect to any statement, concept, issue or position expressed herein.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

ISO New England Inc. and New England Power Pool	)	Docket No. ER10-787-000
New England Power Generators Association, Inc.)	
)	
v.	)	Docket No. EL10-50-000
)	
ISO New England Inc.)	
PSEG Energy Resources & Trade LLC, <i>et al.</i>)	
)	
v.	)	Docket No. EL10-57-000
)	
ISO New England Inc.)	

*SECOND SUPPLEMENTARY TESTIMONY OF DAVID L. MCADAMS PH.D.
ON BEHALF OF NEW ENGLAND POWER GENERATORS ASSOCIATION*

SEPTEMBER 29, 2010

1 Correcting the record on this matter is essential, as the success or failure of APR reform
2 hinges critically on getting benchmark prices right.

3 In addition, the theory of benchmark prices developed here helps to resolve
4 certain ambiguities in the most recent testimony of the Internal Market Monitor (IMM),
5 Mr. LaPlante,⁴ and avoid disastrous potential misconstruction.

6 Q WHAT IS THE PURPOSE OF THIS SUPPLEMENTARY TESTIMONY?

7 A There have been several rounds of exchanges between the parties to this proceeding.
8 Underlying the status quo is a proposal by ISO-NE to calculate an “APR Price” based on
9 the use of proxy or “Benchmark” offers for units that are determined to be out-of-market
10 (“OOM”). There has been controversy between the parties as to whether the ISO-NE’s
11 characterization of the Benchmark is correct. The purpose of this testimony is to resolve
12 this controversy through formal economic analysis of each party’s Benchmark proposal.

13 Q PLEASE DESCRIBE THE BENCHMARK PROPOSALS THAT YOU WILL
14 ANALYZE IN THIS TESTIMONY.

15 A ISO-NE has proposed a Benchmark (“ISO-NE Benchmark”) for each OOM resource that
16 reflects the *annuity* payment (*i.e.*, the annual amount, to be received every year for that
17 resource’s operational lifetime) that would generate a present value equal to the (net)
18 costs of new entry.

19 Load’s expert Mr. James Wilson rejects the ISO-NE Benchmark, arguing instead
20 that any rational bidder will ignore its sunk costs and only offer into the auction at a price
21 that reflects its *annual* (*i.e.*, one-year) going-forward costs. Although Mr. Wilson does
22 not offer any specific proposal, his testimony supports the notion of Benchmark offers

⁴ September 1, 2010 Brief of the Internal Market Monitor for ISO New England Inc. (Sept. 1, 2010) (“LaPlante Brief”).

1 equal to going-forward costs at the time of the FCA (“Going-Forward Cost Benchmark”).
2 NEPGA’s expert Dr. Roy Shanker in turn rejected Mr. Wilson’s preferred Going-
3 Forward Cost Benchmark. Dr. Shanker argued that the Going-Forward Cost Benchmark
4 will fail to achieve the APR’s objective of correcting the price-suppressing effect of
5 OOM entry, since OOM resources will no longer be designated as OOM once they have
6 sunk enough costs to clear at going-forward cost. Dr. Shanker recommended the use of a
7 Benchmark based on the levelized cost of new entry, similar to the ISO-NE’s annuity
8 value.

9 Finally, I will consider a “Total Cost Benchmark,” in which OOM resources’
10 Benchmark offers reflect all costs of new entry, no matter whether incurred before or
11 after the FCA. The Total Cost Benchmark has not been proposed by any party to this
12 proceeding, as far as I am aware. However, the Total Cost Benchmark emerges from my
13 analysis as a credible candidate to achieve the objective of fully correcting (but not over-
14 correcting) for the price-suppressing effect of OOM entry.

15 Q WHAT DO YOU MEAN BY “THE ISO-NE BENCHMARK”?

16 A Formal economic analysis of any Benchmark proposal requires that the proposed method
17 of computing Benchmark offers be completely specified. Unfortunately, ISO-NE has not
18 provided complete details on its proposed Benchmark, leaving some specifics as “rules of
19 implementation.” Thus, my analysis will be based on an *interpretation* of how ISO-NE
20 proposes to compute Benchmark offers. This interpretation is based on my reading of
21 ISO-NE’s briefs, the September 1, 2010 comments of the Internal Market Monitor, and
22 input from counsel and other experts. In particular, my interpretation is that ISO-NE
23 proposes to use a “Levelized 40-Month Cost Benchmark.” (Later, I will define the

1 meaning of “levelized costs” and “40-month costs.”) If this interpretation is not correct,
2 then of course my formal analysis must be modified in order to reach valid conclusions
3 about the actual ISO-NE Benchmark. Bearing this in mind, I have written this testimony
4 with an eye to illustrating *principles* of Benchmark analysis that can be applied to any
5 Benchmark proposal.

6 Q ON WHAT BASIS WILL YOU JUDGE EACH BENCHMARK PROPOSAL?

7 A I will judge each Benchmark proposal on the basis of whether it corrects (but does not
8 over-correct) for the price-suppressing effect of OOM entry. In other words, when this
9 Benchmark is applied within the context of the July APR, will the resulting APR Price be
10 equal to the “Competitive FCA Price” that would have prevailed in a competitive market
11 absent OOM entry?

12 For a forceful and authoritative discussion of why it is essential that the APR fully
13 correct for the price-suppressing effect of OOM entry—even if some such OOM entry
14 provides efficiency benefits—see the collective September 1, 2010 testimony of
15 Professors Milgrom, Kalt, and myself.

16 Q PLEASE DESCRIBE THE METHOD BY WHICH YOU WILL ANALYZE EACH OF
17 THESE PROPOSALS.

18 A I will apply standard equilibrium analysis to a model of the Forward Capacity Auction
19 (“FCA”). Most other analyses of the FCA in this proceeding have been limited by their
20 *implicit assumption* that bidders’ incentives in the FCA do not depend on the rules of the
21 FCA. My more complete analysis here will endogenize bidders’ incentives in the FCA
22 by considering their *pre-auction* incentives to make investments and/or sign contracts
23 that cause them to incur (or commit to incur) some of the costs of new entry prior to the

1 FCA. As I will show, this richer framework—with pre-FCA “investments” and
2 “commitments” as well as FCA bidding—is essential to sort through the (direct and
3 indirect) effects of different Benchmark proposals on market outcomes.

4 Q PLEASE SUMMARIZE YOUR MAIN CONCLUSIONS.

5 A Analysis of my model of the FCA leads to three main conclusions, which can be
6 summarized as follows:

- 7 1. *The Going-Forward Cost Benchmark proposed by load’s expert egregiously fails*
8 *to fully correct for the price-suppressing effect of OOM entry.*
- 9 2. *The Levelized 40-Month Cost Benchmark proposed by ISO-NE can fully correct*
10 *(but not over-correct) for the price-suppressing effect of OOM entry, under*
11 *certain conditions.*
- 12 3. *The Total Cost Benchmark fully corrects (but does not over-correct) for the price-*
13 *suppressing effect of OOM entry.*

14 Q WHAT DO YOU MEAN WHEN YOU SAY THAT THE GOING-FORWARD COST
15 BENCHMARK “EGREGIOUSLY FAILS”?

16 A One can imagine Benchmark Rules that are well-conceived conceptually, but that do not
17 *exactly* correct for the price-suppressing effect of OOM entry. In fact, it is reasonable to
18 expect that the ISO-NE Benchmark or the Total Cost Benchmark—although *in theory*
19 capable of fully and exactly correcting for the price-suppressing effect of OOM entry—
20 will in practice not perfectly correct the APR Price.

21 By contrast, the Going-Forward Cost Benchmark has *no hope* of fully correcting
22 the price-suppressing effect of OOM entry. Indeed, the Going-Forward Cost Benchmark
23 seems designed (i) to minimize the APR’s correction of the price-suppressing effect of
24 OOM and (ii) to provide multiple avenues by which load can suppress the APR Price
25 *without violating the tariff*. Further, as I will explain, Mr. Wilson’s reasoning in favor of
26 the Going-Forward Cost Benchmark depends on an implicit assumption that load will not

1 induce any resources to enter the FCM that would not have entered anyway in a
2 competitive market. However, since the states have argued that they have a vital public-
3 policy interest to induce certain new resources to enter the FCM that would not be able to
4 clear in the FCA, this assumption is demonstrably counterfactual.

5 Q WHAT ARE THE “CERTAIN CONDITIONS” UNDER WHICH THE ISO-NE
6 BENCHMARK FULLY CORRECTS (BUT DOES NOT OVER-CORRECT) FOR THE
7 PRICE-SUPPRESSING EFFECT OF OOM ENTRY?

8 A The ISO-NE Benchmark can fully correct (but not over-correct) for the price-suppressing
9 effect of OOM entry, but only if load does not use out-of-market subsidies to induce what
10 I shall call “out-of-merit long-lead-time resources” to enter the FCM. So, the ISO-NE
11 Benchmark fully corrects for the price-suppressing effect of OOM entry if (i) there are no
12 out-of-merit long-lead-time resources or (ii) for some reason, load does not provide OOM
13 subsidies to such resources.

14 An “out-of-merit long-lead-time resource” is one for which (i) entry into the FCM
15 is *unprofitable on the basis of total cost* but (ii) entry requires that enough costs be sunk
16 prior to the FCA that, at the time of the FCA, entry is *profitable on the basis of the “40-
17 month cost”* that can be paid after the FCA (*i.e.*, during the 40-month forward period
18 between the FCA and the start of the obligation period). For this to occur, any out-of-
19 merit long-lead-time resource must employ a technology that requires significant lead-
20 time to develop, such that a material fraction of the costs must be invested more than 40
21 months prior to the commercial on-line date.

22 Out-of-merit long-lead-time resources would not enter the FCM in a competitive
23 market, because entry is unprofitable on a total-cost basis. Thus, if load can induce out-

1 of-merit long-lead-time resources to enter the FCM *without triggering the APR*, then load
2 will suppress the APR Price without violating the tariff. To see that such a scheme is
3 feasible under the ISO-NE Benchmark, suppose that load were to provide sufficient out-
4 of-market subsidies to induce an out-of-merit long-lead-time resource to sink the pre-
5 FCA costs required for entry. Since this resource finds entry to be profitable on the basis
6 of its *remaining* costs at the time of the FCA, its Benchmark offer under the ISO-NE
7 Benchmark (or under the Going-Forward Cost Benchmark) will be low enough for this
8 resource to clear *while evading OOM designation*.

9 Q WHY DOES THE TOTAL-COST BENCHMARK FULLY CORRECT (BUT NOT
10 OVER-CORRECT) FOR THE PRICE-SUPPRESSING EFFECT OF OOM ENTRY?

11 A Entry by a resource with out-of-market subsidies will suppress the price below the
12 competitive level, absent mitigation, if and only if that resource would not have cleared in
13 a competitive market absent OOM subsidies. In a competitive market absent OOM
14 subsidies, the only resources that clear are those that *profitably* clear, and the only
15 resources that profitably clear are those whose *total cost* is low enough for entry to be
16 profitable at the Competitive FCA Price. So, any resource that would have cleared in a
17 competitive market absent OOM subsidies must have a total cost of new entry—and
18 hence Total Cost Benchmark—less than the Competitive FCA Price. Thus, OOM
19 subsidies to *in-merit* resources, that would have entered the FCM even without OOM
20 subsidies, do not have any effect on which resources clear and hence do not affect the
21 market-clearing price. At the same time, since each such resource's Total Cost
22 Benchmark is less than the Competitive FCA Price, the Total Cost Benchmark will not
23 artificially inflate the APR Price by mistakenly designating an in-merit resource as OOM.

1 On the other hand, OOM subsidies to *out-of-merit* resources, that would not have
2 entered the FCM absent OOM subsidies, have the potential to lower the APR Price below
3 the price that would have prevailed in a competitive market absent OOM entry.
4 However, under the Total Cost Benchmark, entry by out-of-merit resources does not
5 suppress the APR Price. To see why, suppose that load were to induce some resource to
6 enter the FCM that would not have otherwise entered in a competitive market absent
7 OOM subsidies. Since this resource would not have entered competitively, its total cost
8 of new entry—and hence its Total Cost Benchmark—must exceed the Competitive FCA
9 Price. Thus, if such a resource is induced to bid less than the Competitive FCA Price and
10 enter the FCM, it will trigger the APR and be designated as OOM, and have its price-
11 suppressing effect fully corrected.

12 Q PLEASE SUMMARIZE YOUR CONCLUSIONS ON THE THREE BENCHMARK
13 APPROACHES.

14 A The Total Cost Benchmark, described in more detail below, is the benchmark that best
15 aligns the price outcome of the FCA with the price that would have occurred in a fully
16 competitive auction. ISO-NE's proposed Levelized 40-Month Cost Benchmark is a close
17 second by this standard, provided that there is little or no subsidization of out-of-merit
18 long-lead-time resources that would have a material fraction of their total costs incurred
19 more than 40 months ahead of the Commitment Period. In sharp contrast to these two,
20 the *only* condition under which Mr. Wilson's Going-Forward Cost Benchmark results in
21 an APR price matching the competitive clearing price is when there is no OOM entry—
22 that is, the Going-Forward Cost Benchmark will be entirely ineffective in its intended
23 role.

1 Q HOW IS THE REST OF THIS TESTIMONY ORGANIZED?

2 A Section 2 describes the model of the FCA that I will use in this testimony and defines
3 terms that will be needed in the analysis. Section 3 considers the baseline case of the
4 “Competitive FCA” absent OOM subsidies, in which all resources make competitive
5 investment and bidding decisions. Section 4 then provides my equilibrium analysis:
6 Section 4-A analyzes the ISO-NE Benchmark, while Section 4-B analyzes the Going-
7 Forward Cost Benchmark. Section 5 concludes with some other comments.

8 Q PLEASE SUMMARIZE THESE OTHER COMMENTS.

9 A In Section 5-A, I will argue that the APR can fully correct for the price-suppressing effect
10 of OOM entry without the need for the extensive exercise of IMM discretion. In Section
11 5-B, I will comment further on the testimony of Mr. Wilson. In Section 5-C, I conclude
12 with some further discussion of the model used here.

13 *SECTION 2: MODEL & DEFINITIONS*

14 Q WHAT IS THE PURPOSE OF THIS PART OF YOUR TESTIMONY?

15 A This section describes in more detail the model of the FCA that I will use in later
16 analysis, and defines several terms.

17 *SECTION 2-A: DEFINITIONS*

18 Q WHAT TERMS DO YOU NEED TO DEFINE?

19 A Before describing the model in more detail, I will define and discuss several terms in
20 order to make my testimony as clear and precise as possible. These terms include:

- 21 1. “forward market;”
- 22 2. “deferrable costs;”
- 23 3. “40-month cost;”
- 24 4. “going-forward cost;”

- 1 5. “total cost;” and
2 6. “equilibrium bid in the FCA.”

3 Other important terms will defined at the end of Section 2-B, including:

- 4 7. “equilibrium in the FCM;”
5 8. “Competitive FCA Price;”
6 9. “out-of-merit long-lead-time resource;” and
7 10. “price-suppressing effect of OOM entry.”

8 Q WHAT DO YOU MEAN BY “FORWARD MARKET”?

9 A In a “forward market,”⁵ transactions specify the terms of *future* trade. By contrast, in a
10 “spot market,” transactions specify the terms of *immediate* trade. The time at which
11 forward contracts are signed in a forward market is the “forward contracting date.” The
12 period of time between the forward contracting date and delivery is the “forward period.”
13 The FCA is a “40-month-forward market,” in which capacity supply obligations
14 (“CSOs”) are procured 40 months prior to the start of the obligation period.⁶

15 Q WHAT ARE A RESOURCE’S “DEFERRABLE COSTS”?

16 A “Deferrable costs” are any costs that would, in the normal course of business, be incurred
17 after the FCA.

⁵ In finance, the term “forward market” has the more specialized meaning of an over-the-counter financial market—as opposed to “futures markets” that are centralized exchanges—for contracts specifying terms of future trade.

⁶ The 40-month forward period of the FCA is designed to reduce the “sunk cost risk” that a resource may incur significant costs prior to the FCA but not be able to recover those costs, and to reduce the market-price volatility that tends to arise in the face of substantial sunk cost risk.

1 Q WHAT IS A RESOURCE'S "40-MONTH COST"?

2 A A potential new resource's "40-month cost of new entry" is its (net⁷) cost of new entry,
3 when accounting for all of its deferrable costs. Similarly, an existing resource's "40-
4 month cost of continued operation" is the expected unprofitability of continued
5 operations, again when accounting for all of its deferrable costs.

6 Q WHAT IS A RESOURCE'S "LEVELIZED 40-MONTH COST OF NEW ENTRY"?

7 A A resource's "levelized 40-month cost of new entry" is the *minimal annuity payment*⁸
8 that that resource demands at the time of the FCA in order to commit to provide capacity
9 reserves at the start of the obligation period, if it has not incurred (or committed to incur)
10 any deferrable costs prior to the FCA. In other words, a resource's levelized 40-month
11 cost of new entry is the minimal annual payment that it would demand *now and forever*
12 to enter the market through the FCM, whereas its (un-levelized) 40-month cost of new
13 entry is the minimal annual payment that it would demand *now*, given the expected
14 stream of auction payments in future years.

15 Q WHAT IS A RESOURCE'S "GOING-FORWARD COST"?

16 A A potential new resource's "going-forward cost of new entry" is its cost of new entry,
17 when accounting only for those costs that it has not actually incurred prior to the FCA.
18 Similarly, an existing resource's "going-forward cost of continued operation" is the
19 expected unprofitability of continued operations, again accounting only for those costs
20 that have not been incurred prior to the FCA.

⁷ All cost measures (including total costs) that I discuss in this testimony are *net of expected earnings* from the sale of energy, ancillary services, and other non-capacity products.

⁸ An "annuity payment" is a fixed payment that is received every year during a resource's operational lifetime.

1 Q WHAT IS A RESOURCE'S "TOTAL COST OF NEW ENTRY"?

2 A A potential new resource's "total cost of new entry" is its cost of new entry, when
3 accounting for *all* costs, no matter when they may be incurred.

4 Q WHAT ARE "EQUILIBRIUM BIDS" IN THE FCA?

5 A The "equilibrium bid" of a potential new resource is its cost of new entry, when
6 accounting only for those costs that it has not actually incurred *or committed to incur*
7 prior to the FCA.⁹ Similarly, the equilibrium bid of an existing resource is its cost of
8 continued operation, when accounting only for those costs that it has not actually incurred
9 *or committed to incur* prior to the FCA. Thus, for instance, a potential new resource that
10 has voluntarily incurred (or committed to incur) some deferrable costs of new entry prior
11 to the FCA will submit an equilibrium bid that is strictly less than its 40-month cost of
12 new entry. Similarly, any OOM resource that has committed to enter the FCM prior to
13 the FCA—but has not yet incurred any entry costs at the time of the FCA—will submit
14 an equilibrium bid that is strictly less than its going-forward cost of new entry.

15 *SECTION 2-B: MODEL DETAILS*

16 Q PLEASE DESCRIBE YOUR MODEL OF THE FCA.

17 A The FCA is a *bidding game*¹⁰ embedded within the FCM. Thus, any complete model of
18 the FCA must also model the "larger game" of the FCM. I will model each period of the
19 FCM as a two-stage "FCM Game."

20 **Stage 1 of the FCM Game: Contracting / Pre-Investment.** At the beginning of
21 each period, before the FCA, every potential new resource has (i) the opportunity to

⁹ In my First Testimony, I showed that each bidder has an incentive—technically, a "weakly-dominant strategy"—to submit such equilibrium bids in the FCA under the July APR. Furthermore, this conclusion applies regardless of the Benchmark Rule.

¹⁰ "Game" is the standard term in economics and applied mathematics to refer to any strategic interaction.

1 contract with load¹¹ and (ii) the opportunity to incur some of the costs of new entry (“pre-
2 investment”). Such a contract can serve to commit that resource to enter the FCM and/or
3 commit it to incur some of the costs of new entry prior to the FCA. Such a contract could
4 also specify what that resource will bid in the FCA but, to emphasize that load need not
5 control OOM bids in order to suppress such bids, I will restrict attention to contracts in
6 which each contracted resource is free to bid in the FCA according to its own self-
7 interest. Of course, such self-interest is shaped by the terms of the OOM contract that has
8 been signed.

9 *Incentives in the Contracting Stage:* A resource has an incentive to sign an OOM
10 contract with load exactly when such a contract *mutually* benefits itself and load, when
11 each subsequently acts in its rational self-interest. For example, since entry into the FCM
12 is unprofitable for *inefficient* OOM, such resources must be subsidized to enter.
13 However, load will be willing to provide such a subsidy, but only if such OOM entry
14 sufficiently suppresses load’s auction payments. In other words, load is willing to induce
15 inefficient OOM to enter exactly when doing so is *mutually* profitable for load and that
16 inefficient OOM.

17 **Stage 2 of the FCM Game: FCA.** Each resource in the FCA decides what to
18 bid. The FCA Rules then determine (i) which resources clear, (ii) which resources are
19 designated as “OOM” (and “carried-forward OOM”) for the purpose of computing prices
20 now and in future periods, and (iii) what each clearing resource is paid.

¹¹ Other third-parties could also contract with some resources and influence their FCA bids. I focus on load (and allied interests) because I am unaware of any example of any other sort of third-party engaging in the FCM in this way.

1 Rules in the FCA: My analysis assumes that the Commission will adopt the July
2 APR; hence, that new resources will receive the FCA Clearing Price and that existing
3 resources will receive the APR Price.¹² Within the context of the July APR, I will
4 consider the effect on equilibrium FCM outcomes of two Benchmark Rules: the “Going-
5 Forward Cost Benchmark Rule,” in which each OOM resource’s Benchmark is set equal
6 to its going-forward cost; and the “ISO-NE Benchmark,” in which each OOM resource’s
7 Benchmark is set equal to its levelized 40-month cost of new entry.

8 Incentives in the FCA: Regardless of the Benchmark Rule, each potential new
9 resource in the FCA has an incentive—more precisely, a “weakly-dominant strategy”—to
10 submit an equilibrium bid reflecting the costs of new entry that it has not yet incurred or
11 committed to incur. Similarly, each existing resource has an incentive to submit an
12 equilibrium bid reflecting the costs of continued operation that it has not yet incurred or
13 committed to incur. For this reason, it is straightforward to analyze how bidders will
14 behave in the FCA, *given* their decisions in the Contracting Stage. The real “action”
15 occurs before the FCA, in the Contracting Stage.

16 Q WHAT DO YOU MEAN BY “EQUILIBRIUM IN THE FCM”?

17 A In my analysis, I will assume that the players in the FCM Game—every potential new
18 resource, every existing resource, and load—will adopt strategies that constitute an
19 “equilibrium” of that game. In a single-stage game, players’ strategies constitute a “Nash
20 equilibrium” when every player’s strategy is a best response (*i.e.*, maximizes that player’s
21 expected profit) given the strategies chosen by others. In a *multi-stage* game such as the

¹² In fact, ISO-NE has proposed that resources revert back to receiving the FCA Clearing Price after 20 years in the FCM. My analysis can be easily adapted to accommodate this detail, which I ignore here for the sake of simplicity.

1 FCM Game, the standard equilibrium concept is that of “subgame-perfect equilibrium.”
2 In a subgame-perfect equilibrium, every player’s strategy *in every stage of the game* is a
3 best response given the strategies chosen by others.¹³

4 Q WHAT IS THE “COMPETITIVE FCA PRICE”?

5 A The “Competitive FCA Price” is the equilibrium FCA price that would obtain in a
6 hypothetical scenario *without OOM contracts*, in which all resources decide, on a
7 merchant basis, (i) when to incur or commit to incur the costs of new entry (if new) or of
8 continued operation (if existing) and (ii) what to bid in the FCA. Throughout the
9 analysis, the Competitive Price will be denoted by P^* . The Competitive FCA Price will
10 serve as my measure of whether a Benchmark Rule fully corrects (but does not over-
11 correct) for the price-suppressing effect of OOM entry.

12 Q WHAT IS AN “OUT-OF-MERIT LONG-LEAD-TIME RESOURCE”?

13 A An “out-of-merit long-lead-time resource” is any resource whose (i) total cost of new
14 entry is greater than P^* but whose (ii) 40-month cost of new entry is less than P^* . Absent
15 OOM subsidies, an out-of-merit long-lead-time resource would not competitively enter
16 the FCM. However, should it be induced to sink all pre-FCA investments that are
17 necessary to enter the FCM, such a resource will then have an incentive to enter the FCM
18 *at a loss*.

19 Q WHAT IS THE “PRICE-SUPPRESSING EFFECT OF OOM ENTRY”?

20 A Absent OOM entry, competitive resources decide whether to enter the FCA on the basis
21 of the presumption that other resources will only enter if entry is profitable. In particular,
22 anticipating the Competitive FCA Price P^* , all resources with total cost less than P^* will

¹³ For more discussion and a formal definition of subgame-perfect equilibrium, see Andreu Mas-Colell, Michael Whinston & Jerry Green, *Microeconomic Theory* ch. 9.B (1995).

1 (in equilibrium) make the pre-FCA investments necessary to enter the FCM, and then bid
2 in the FCA so as to clear at P^* . On the other hand, if competitive resources anticipate
3 that some OOM resources will be subsidized to enter the FCM unprofitably, their
4 subsequent competitive decisions (in equilibrium) will anticipate and generate an FCA
5 Clearing Price $P^{FCA} < P^*$ paid to new resources and an APR Price P^{APR} paid to existing
6 resources. The equilibrium APR Price P^{APR} depends on the Benchmark Rule that is in
7 place and on the set of OOM resources. I will say that a Benchmark “fully corrects (but
8 does not over-correct) for the price-suppressing effect of OOM entry” if $P^{APR} = P^*$
9 regardless of which resources are induced to enter as OOM. This is essential, since
10 subsidizing some particular type of resource could result in an APR Price $P^{APR} < P^*$, then
11 load would have a perverse incentive to induce such resources to enter the FCM, in order
12 to suppress the APR Price.

13 SECTION 3: COMPETITION ABSENT OOM CONTRACTS

14 Q WHAT IS THE PURPOSE OF THIS PART OF YOUR TESTIMONY?

15 A In later analysis, I will judge the performance of each proposed Benchmark Rule on the
16 basis of whether it fully corrects for the price-suppressing effect of OOM entry, resulting
17 in an APR Price equal to the “Competitive FCA Price” of P^* . In this section, I will
18 discuss the “competitive behavior” that determines P^* within the context of my model.
19 First, it is helpful to provide some more general background discussion of *competitive*
20 forward markets.

21 Q WHAT IS A “COMPETITIVE FORWARD MARKET”?

22 A The activity surrounding any forward market can be viewed as unfolding in three phases:
23 (i) pre-market, (ii) market, and (iii) post-market. A “competitive forward market” is one

1 in which all investments in the pre-market and all transactions in the market are
2 competitive.

3 In the pre-market, each seller decides whether to make “investments” in
4 preparation for the forward market; at the time of the market, such investments are sunk
5 and hence at-risk if the forward market price is not high enough. A pre-market
6 investment is only “competitive” if it is profitable, *i.e.*, if the forward market price P is
7 *anticipated* to be high enough to cover the sunk cost of investment.

8 In the market, each seller decides whether to trade at the forward market price P .
9 A seller’s decision to trade is only “competitive” if it is profitable on a going-forward
10 basis, *i.e.*, if P is high enough to cover that seller’s *remaining un-incurred costs* of
11 meeting the terms of trade at the forward transaction date.¹⁴

12 In the post-market, any seller that chose to trade in the market will incur its
13 remaining un-incurred costs.

14 Q HOW DOES THE FORWARD PERIOD AFFECT COMPETITIVE OUTCOMES?

15 A Consider the extreme case of a spot market, in which the forward period has zero length.
16 To the extent that meeting the terms of trade requires sellers to make costly investments
17 prior to the forward transaction date, any seller will enter the spot market with substantial
18 “at-risk” sunk costs. In a competitive spot market, each seller’s decision to incur such
19 costs would have been made competitively, on the basis of that seller’s *expectations*
20 about what the spot-market price would be. However, if the spot-market price turns out
21 to be lower than expected, the seller will not be able to recover its sunk investment costs.
22 Because of this risk, sellers may only be willing to invest when the spot-market price is

¹⁴ Such “remaining costs” account for the possibility that the seller may be able to “re-trade” and pay someone else to meet the terms of trade on its behalf.

1 expected to cover those sunk costs *and* offer a large enough premium to compensate for
2 spot-market price risk.

3 By participating in a forward market rather than a spot market, resources can
4 decide whether to trade at the forward transaction date *before* sinking all of their
5 investment costs. Furthermore, for resources that must decide whether to invest even
6 prior to the forward market, forward markets can serve to reduce the risk—relative to
7 spot markets—that the cost of such investments will not be recovered. This can reduce
8 the internal rate of return necessary to justify such investments.

9 In the FCM, the 40-month forward period provides ample time for at least some
10 resources (*e.g.*, “peakers” and demand-side resources) to incur essentially all of their
11 costs of new entry after the FCA. The flexible availability of such peakers in turn
12 reduces the risk faced by other, longer lead-time units (*e.g.*, a combined-cycle unit) when
13 deciding prior to the FCA whether to invest. In particular, the availability of peakers to
14 enter or exit the FCM dampens the effect of unexpected events on the FCA Price,
15 allowing longer lead-time units to more confidently assess the profitability of their *pre-*
16 *FCA* decision to enter the FCM. This can reduce the risk premium demanded by longer
17 lead-time units, reducing the total cost of meeting the Net ICR.

18 As discussed in Section 5-C, the analysis here abstracts from the possibility of
19 “unexpected events” between the FCA and a resource’s (prior) decision to sink
20 investment costs. However, it is important to bear in mind that longer lead-time
21 resources can face substantial uncertainty about whether they will be able to recover their
22 full cost in the auction. The risk premia associated with such uncertainty are part of such
23 resources’ “total cost of new entry.”

1 Q PLEASE ELABORATE. WHAT DO YOU MEAN BY “COMPETITIVE”?

2 A My usage of the word “competitive” here is subtly different than its most common usage
3 in this proceeding. Typically, the phrase “competitive bidding” is used to describe bids
4 submitted *during the FCA* that are consistent with price-taking behavior. Perhaps the
5 most important point of my testimony is that the presence of “competitive bidding” does
6 *not* imply that the FCA is competitive! In fact, “competitive bidding” can be consistent
7 with a pattern of anti-competitive conduct perpetrated *before the FCA*.¹⁵

8 In my usage, the FCA is “competitive” only when bidders’ decisions *before and*
9 *during* the FCA are consistent with individual profit-maximization. In particular, in the
10 (hypothetical) scenario that I shall refer to as the “Competitive FCA,” (i) every resource
11 views itself as a price-taker in the FCA, when deciding both what to bid during the
12 auction and what costs to incur prior to the auction, and (ii) there are no out-of-market
13 subsidies.

14 Q WHAT PRE-INVESTMENTS WILL RESOURCES *CHOOSE* TO MAKE PRIOR TO
15 THE AUCTION, IN THE “COMPETITIVE FCA”?

16 A In the Competitive FCA, absent OOM entry, all clearing resources expect to be paid the
17 “Competitive FCA Price” of P*. Thus, any resource with *total* cost greater than P* will
18 choose not to make any costly investments prior to the FCA, since such investment
19 expenses would be unrecoverable. On the other hand, resources with total cost less than
20 P* expect to be able to recover all of their costs, whether these costs are incurred prior to
21 or after the FCA. In particular, (i) resources with total cost less than P* will incur all
22 costs that *must* be incurred prior to the FCA in order to provide reserve capacity during

¹⁵ See *infra* Section 4-A for a more in-depth discussion.

1 the obligation period and (ii) such resources may incur some (or all) costs that could be
2 deferred until after the FCA.

3 Q HOW WILL RESOURCES BID IN THE FCA, ABSENT OOM CONTRACTS?

4 A At the FCA, each resource will evaluate whether to commit to enter the FCM on the basis
5 of its *un-incurred* costs; any investment expenses are sunk and will be treated as such.
6 Thus, each resource in a Competitive FCM absent OOM contracts will bid according to
7 its “competitive going-forward cost.”

8 Q WHAT DO YOU MEAN BY “COMPETITIVE GOING-FORWARD COST”?

9 A A resource’s going-forward cost in the FCA depends on the investment decisions that it
10 made prior to the FCA. A resource’s “competitive going-forward cost” is the going-
11 forward cost that it would have *if* it had chosen to make the same pre-FCA investments
12 that it would have made in a competitive market absent OOM entry. As I discussed
13 above, the only resources that will competitively invest to enter the FCM are those that
14 expect to be profitable at the Competitive FCA Price of P*. Such resources will have
15 competitive going-forward cost less than their total cost but—since both their competitive
16 going-forward cost and their total cost are less than P*—the price would remain P* if all
17 such resources bid their total cost instead of their going-forward cost.

18 *SECTION 4: BENCHMARK ANALYSIS*

19 Q WHAT IS THE PURPOSE OF THIS PART OF YOUR TESTIMONY?

20 A In this section, I will analyze the Going-Forward Cost Benchmark advocated by
21 Mr. Wilson, the ISO-NE Benchmark proposed by ISO-NE, and the Total Cost
22 Benchmark.

1 *SECTION 4-A: GOING-FORWARD COST BENCHMARK*

2 Q PLEASE SUMMARIZE THE FINDINGS OF THIS SECTION.

3 A I demonstrate and discuss the failure of the “Going-Forward Cost Benchmark” to fully
4 correct for the price-suppressing effect of OOM entry.5 Q DOES THE GOING-FORWARD COST BENCHMARK ADVOCATED BY
6 MR. WILSON FULLY CORRECT FOR THE PRICE-SUPPRESSING EFFECT OF
7 OOM ENTRY?8 A No, it does not. Indeed, for reasons that I will explain, the Going-Forward Cost
9 Benchmark *egregiously fails* to correct for the price-suppressing effect of OOM entry.10 Q WHAT DO YOU MEAN WHEN YOU SAY THAT THE GOING-FORWARD COST
11 BENCHMARK “EGREGIOUSLY FAILS”?12 A The Going-Forward Cost Benchmark has *no hope* of fully correcting the price-
13 suppressing effect of OOM entry. Indeed, the Going-Forward Cost Benchmark seems
14 *designed* (i) to minimize the APR’s correction of the price-suppressing effect of OOM
15 and (ii) to provide multiple avenues by which load can suppress the APR Price *without*
16 *violating the tariff*.17 Q WHY DO YOU SAY THAT THE GOING-FORWARD COST BENCHMARK HAS
18 “NO HOPE” OF FULLY CORRECTING THE APR PRICE?19 A OOM entry can have a long-lasting price-suppressing effect. Indeed, an OOM resource
20 that has entered the FCM uncompetitively will suppress the FCA Clearing Price paid to
21 new resources *until such time as it would have competitively entered the FCM*. If this
22 price-suppressing effect is not corrected *for this full length of time*, such OOM resources
23 will also suppress the APR Price paid to existing resources. However, by design, the
24 Going-Forward Cost Benchmark only attempts to correct the price-suppressing effect of

1 an OOM resource *until such time as it would have competitively continued to operate in*
2 *the FCM*. Once a carried-forward OOM resource's going-forward cost of continued
3 operation (commonly called "to-go cost") falls below the FCA Clearing Price, it is no
4 longer designated as OOM. This essentially *guarantees* that the price-suppressing effect
5 of OOM entry will not be fully corrected!

6 Q WHY DO YOU SAY THAT THE GOING-FORWARD COST BENCHMARK
7 "PROVIDES MULTIPLE AVENUES BY WHICH LOAD CAN SUPPRESS THE APR
8 PRICE WITHOUT VIOLATING THE TARIFF"?

9 A *First*, under the Going-Forward Cost Benchmark, OOM entry will have a price-
10 suppressing effect on the APR Price. The reason for this was explained in the last Q&A:
11 the price-suppressing effect of OOM is only corrected for a *portion* of the period in
12 which prices are suppressed. This is the most obvious avenue by which the Going-
13 Forward Cost Benchmark allows load to suppress the APR Price without violating the
14 tariff. *Second*, load has a perverse incentive to induce resources to undertake inefficient
15 investments that will *shrink the window of time* in which the APR is triggered. In
16 particular, load stands to gain by signing OOM contracts that induce resources to incur
17 costs earlier than is most efficient. For example, if load induces a potential new resource
18 to break ground on its facility prior to the FCA, then any costs that become sunk by virtue
19 of this early activity will not be included in its Going-Forward Cost Benchmark. If
20 enough such deferrable costs are incurred prior to the FCA, an out-of-merit resource
21 sponsored by load can thereby escape detection as OOM and evade all correction of its
22 price-suppressing effect.

1 Q ON WHAT BASIS DID LOAD EXPERT MR. WILSON ADVOCATE THE GOING-
2 FORWARD COST BENCHMARK?

3 A While Mr. Wilson did not advance any specific proposal regarding how to compute
4 benchmark prices, his comments can be interpreted as endorsing the Going-Forward Cost
5 Benchmark:

6 [E]ven merchant capacity resources that receive no subsidies and have no
7 bilateral contracts may nevertheless be offered into the FCA at low prices.
8 For instance, a resource that is already under construction at the time of
9 the FCA may rationally, competitively, and legitimately stay in the
10 descending clock auction at prices down to the level of its net going-
11 forward or opportunity cost.¹⁶

12 Q IS MR. WILSON'S REASONING HERE CORRECT?

13 A The reasoning here is incomplete and Mr. Wilson's basic conclusions fail to hold up
14 under closer inspection. Before proceeding, I should make it clear that Mr. Wilson's goal
15 with this quote was to argue *against* the ISO-NE Benchmark, which is based on the
16 (levelized) 40-month cost of new entry. After all, since he claims that a bidder who—for
17 some mysterious, unspecified reason—had chosen to incur before the FCA some costs
18 that might have been deferred until afterwards might *then* “rationally, competitive, and
19 legitimately” bid lower than the ISO-NE Benchmark *in the FCA*, he contends that the
20 ISO-NE Benchmark must be uncompetitively high. In fact, upon closer inspection, the
21 example advanced in this quote strengthens the case *in favor* of using Benchmarks based
22 on the levelized 40-month cost of new entry. The easiest way to make this point is with a
23 simple numerical example.

¹⁶ James Wilson Supp. Test. at 10:7–12.

1 **Simple Example:** Consider a potential new resource having 40-month cost equal
2 to \$12¹⁷ that needs to bid less than P to clear. Suppose that, prior to the FCA, this
3 resource decides to start construction and sinks \$6. In the FCA itself, this resource's
4 competitive bid will be $\$12 - \$6 = \$6$. There are three possibilities for what could happen
5 next, depending on the clearing price P:

6 *Unprofitable, not in FCM.* If P is less than \$6, the resource will fail to clear and
7 lose its sunk cost of \$6.

8 *Unprofitable, in FCM, designated as OOM.* If P is between \$6 and \$12, the
9 resource will clear and be designated as OOM but wish that it had not started
10 construction early. (It loses $\$12 - P$ whereas, if it had not started construction
11 early, it would have bid \$12, not cleared, and lost nothing.)

12 *Profitable, in FCM, not designated as OOM.* If P is greater than \$12, the resource
13 will clear at its bid of \$6 but also would have cleared with a bid equal to its 40-
14 month cost of \$12. The resource earns profits of $P - \$12$ and is not designated as
15 OOM. Note that, in this case, the resource's Benchmark is irrelevant.

16 In this example, Benchmarks equal to the 40-month cost of new entry (i) have no effect
17 when this resource's decision to start construction early is rational but (ii) perfectly
18 correct for the price-suppressing effect of this decision when it is irrational—and
19 potentially anti-competitive—to begin construction ahead of the FCA.

20 Put differently, this example illustrates the essential point that so-called
21 “competitive bids” can be part of an anti-competitive pattern of conduct. True, it is

¹⁷ For purposes of exposition here, I use small, unqualified dollar values. The actual figures for capital expenditures are of course many orders of magnitude larger and must be converted to per-kW-month figures for purposes of bidding. This shorthand has no effect on the generality of the results that I derive.

1 rational and competitive *in the FCA* to ignore costs already sunk at the time when
2 formulating one's bid. However, it is not rational and competitive *in the FCM as a whole*
3 to sink costs when doing so will induce one to enter at a loss. For this reason,
4 Mr. Wilson's attempted assault on 40-month cost not only misses the mark—it
5 boomerangs back to undermine his own central premise that it is rational to bid less than
6 40-month cost. Indeed, the only time that it is rational to incur *deferrable* costs prior to
7 the FCA, that induce one to bid less than one's 40-month cost of new entry, is when a bid
8 equal to that 40-month cost would also have cleared!

9 Q PLEASE ELABORATE. HOW CAN SO-CALLED "COMPETITIVE BIDS" BE
10 CONSISTENT WITH A PATTERN OF ANTI-COMPETITIVE CONDUCT?

11 A The FCA is a bidding game, and resources' *equilibrium* bids in that game are
12 "competitive" in a certain sense. However, the FCA is just one element of the FCM, and
13 competitive bids in the FCA can arise from anti-competitive conduct *outside* of the
14 auction. For example, consider a resource that has signed a bilateral OOM contract with
15 load that effectively commits it to enter the FCM. Such a resource's equilibrium bid—
16 what load interests might describe as "rational" and "competitive"—is zero! Indeed,
17 since this resource is committed to incur all its 40-month costs, some might even argue
18 that this zero bid reflects the "reasonably considered incremental"¹⁸ costs that the IMM
19 has been proposed to use as benchmark price.¹⁹

20 Of course, this line of reasoning is absurd and I do not suggest that Mr. LaPlante
21 meant to interpret his proposed "reasonable incremental costs" standard in this obviously

¹⁸ LaPlante Brief at 21.

¹⁹ "[The IMM proposes] to use an incremental project cost standard instead of a total project cost standard in those circumstances in which a participant submitting a below-the-benchmark offer believes such an offer is appropriate." LaPlante Brief at 22.

1 perverse manner. However, if one accepts the wrong and deeply flawed notion that
2 competitive *bidding* alone equals competitive conduct, there is no reason to stop short of
3 this absurdity. A new resource’s competitive bid in the FCA will be based on something
4 less than its total cost whenever it has *already incurred or committed to incur* some of its
5 40-month costs. If one wrongly equates competitive bidding with competitive conduct,
6 then it is equally appropriate to lower a nuclear power plant’s Benchmark to reflect its
7 already-sunk construction costs at the time of the FCA, as it is to lower the Benchmark of
8 an OOM resource because its OOM contract commits it to enter the FCM!

9 A fundamental error of Mr. Wilson’s reasoning in support of the Going-Forward
10 Cost Benchmark is to assume that all costs borne prior to the *actual* FCA would have
11 been borne prior to a Competitive FCA. In other words, Mr. Wilson’s argument only
12 makes sense under the assumption that load will not induce any resources to enter the
13 FCM that would not have entered anyway in a competitive market. Given load’s active
14 and clearly-stated interest in sponsoring and continuing to sponsor new resources that
15 would not have otherwise cleared in the FCA,²⁰ this assumption is demonstrably
16 counterfactual.

²⁰ The states have argued that they have a vital public-policy interest to induce certain new resources to enter the FCM that would not be able to clear in the FCA. While the states have advanced this public-policy argument as if it supports their “right” to insist that the FERC not correct the price-suppressing effects of state-sponsored OOM, this argument actually underscores the urgent necessity of APR reform—and of getting benchmark prices right. (See Professor Milgrom’s testimony for a particularly clear discussion of this essential point. NEPGA Second Brief, NEPGA Ex. 5, Testimony of Professor Paul R. Milgrom, Ph. D. on Behalf of New England Power Generators Association at 9.)

1 *SECTION 4-B: TOTAL COST BENCHMARK*

2 Q PLEASE SUMMARIZE THE FINDINGS OF THIS SECTION.

3 A I will prove and discuss why a Total Cost Benchmark fully corrects (but does not over-
4 correct) for the price-suppressing effect of OOM entry, a result that I will formulate as
5 the “Total Cost Benchmark Theorem.”

6 **Total Cost Benchmark Theorem:** *Under the Total Cost Benchmark, the equilibrium*
7 *APR Price equals the Competitive FCA Price, i.e., $P^{APR} = P^*$.*

8 Q HAVE YOU PROVIDED A PROOF OF THIS RESULT?

9 A Yes. The proof is included in NEPGA Exhibit 10-A.

10 Q CAN YOU PLEASE PROVIDE AN INTUITIVE SKETCH OF THE PROOF?

11 A Yes. The Theorem can be broken down into two parts. Under the Total Cost
12 Benchmark, the APR Price is (i) not “too high” (*i.e.*, the equilibrium APR Price is not
13 inflated above the Competitive FCA Price) and (ii) not “too low” (*i.e.*, the equilibrium
14 APR Price is not suppressed below the Competitive FCA Price).

15 *First*, consider whether the Total Cost Benchmark could lead to an APR Price that
16 exceeds the Competitive FCA Price. Such price-inflation could happen under the Total
17 Cost Benchmark only if (i) some resource would have bid less than P^* in the Competitive
18 FCA but (ii) that resource has a Total Cost Benchmark greater than P^* . Entry into the
19 FCM is only profitable—and hence only competitive—if the entering resource expects to
20 be paid enough in the FCA to cover its *total* cost of new entry. Thus, any resource that
21 would have bid less than P^* in the Competitive FCA must have total cost less than P^* . If
22 one were to replace such a resource’s competitive bid (less than P^*) with its total cost of
23 new entry (also less than P^*), doing so will therefore *not* artificially inflate the market-
24 clearing price. Since this reasoning applies to all in-merit resources that would have

1 cleared in the Competitive FCA, we conclude that the Total Cost Benchmark will not
2 artificially inflate the equilibrium FCA Price.

3 *Second*, consider whether the Total Cost Benchmark could lead to an APR Price
4 that is less than the Competitive FCA Price. Such price-suppression could happen under
5 the Total Cost Benchmark only if (i) some resource would have bid more than P^* in the
6 Competitive FCA but decides to bid less than P^* in the actual FCA (because of an OOM
7 contract) and (ii) that resource has a Total Cost Benchmark less than P^* so that its price-
8 suppressing effect is not corrected. Consider any resource that would have bid more than
9 P^* in the Competitive FCA. Such *failure* to enter the FCM is only competitive if that
10 resource's total cost of new entry is greater than P^* . In particular, such a resource must
11 have Total Cost Benchmark greater than P^* . Thus, if it were to enter the FCM on the
12 basis of out-of-market subsidies, then the price-suppressing effect of its OOM entry
13 would be corrected by under the Total Cost Benchmark.

14 All together, we conclude that the Total Cost Benchmark fully corrects (but does
15 not over-correct) for the price-suppressing effect of OOM entry.

16 Q DO ANY OTHER BENCHMARK RULES FULLY CORRECT (BUT NOT OVER-
17 CORRECT) FOR THE PRICE-SUPPRESSING EFFECT OF OOM ENTRY?

18 A Surprisingly, no. Any other Benchmark Rule will sometimes induce an equilibrium APR
19 Price that is either higher or lower than the Competitive FCA Price. Suppose first that
20 the Benchmark for a resources is greater than its Total Cost. If the Competitive FCA
21 Price P^* lies between the Benchmark and Total Cost, then entry is competitive for this
22 resource, since P^* is greater than Total Cost. However, because the Benchmark is greater
23 than P^* , this resource would be incorrectly categorized as OOM and the resulting APR

1 Price would be artificially inflated above P*. Suppose next that the Benchmark is less
2 than Total Cost. If the Competitive FCA Price P* lies between the Benchmark and Total
3 Cost, then entry is uncompetitive for this resource since P* is less than Total Cost.
4 However, because the Benchmark is less than P*, any uncompetitive entry by this
5 resource would evade categorization as OOM. Thus, load has an incentive to provide
6 out-of-market subsidies to this resource that induce it to enter the FCM at a loss, since
7 doing so will suppress the APR Price below P*.

8 *SECTION 4-C: ISO-NE BENCHMARK*

9 Q PLEASE SUMMARIZE THE FINDINGS OF THIS SECTION.

10 A I will prove and discuss why the ISO-NE Benchmark can, under certain conditions, fully
11 correct (but not over-correct) for the price-suppressing effect of OOM entry. I will
12 formulate this result as the “ISO-NE Benchmark Theorem.”

13 **ISO-NE Benchmark Theorem:** *Suppose that there are no out-of-merit long-lead-time*
14 *potential resources²¹ in the FCM. Then, under the ISO-NE Benchmark, the equilibrium*
15 *APR Price equals the Competitive FCA Price.*

16 Q HAVE YOU PROVIDED A PROOF OF THIS RESULT?

17 A Yes. The proof is included in NEPGA Exhibit 10-B.

18 Q PLEASE PROVIDE INTUITION FOR THE ISO-NE BENCHMARK THEOREM.

19 A There are two important steps to the reasoning behind this result.

- 20 1. The ISO-NE Benchmark, based on each resource’s *levelized* 40-month cost of
21 new entry, induces the same equilibrium APR Price as a 40-Month Cost
22 Benchmark based on *un-levelized* 40-month costs of new entry.

²¹ See *supra* at 6 (definition of an “out-of-merit long-lead-time resource.”)

1 2. The 40-Month Cost Benchmark induces the same equilibrium APR Price as
2 the Total Cost Benchmark.

3 In light of the Total Cost Benchmark Theorem (discussed earlier), these steps
4 together establish that, if there are no out-of-merit long-lead-time resources, the ISO-NE
5 Benchmark fully corrects (but does not over-correct) for the price-suppressing effect of
6 OOM entry. I will focus here on providing intuition for the second step. (The first step,
7 relating levelized and un-levelized costs, is more technical.) So, for the rest of the
8 discussion here, suppose that each resource's Benchmark is equal to its (un-levelized) 40-
9 month cost of new entry.

10 *First*, if there are out-of-merit long-lead-time resources, such a 40-Month Cost
11 Benchmark may not fully correct for the price-suppressing effect of OOM entry. By
12 definition, an out-of-merit long-lead-time resource is one whose (i) total cost of new
13 entry exceeds P^* , so that it would not competitively enter the FCM, but whose (ii) 40-
14 month cost of new entry is less than P^* , so that it would have an incentive to bid less than
15 P^* and enter the FCM *after* incurring the sunk cost of the pre-FCA investments that are
16 necessary to enter the FCM. Load can induce out-of-merit long-lead-time resources to
17 enter the FCM by providing OOM subsidies that cover the cost of their pre-FCA
18 investments. Further, if load were to do so, the 40-Month Cost Benchmark would fail to
19 categorize these resources as OOM, thereby providing no correction whatsoever of their
20 price-suppressing effect. This is why the ISO-NE Benchmark Theorem only holds under
21 the extra assumption that there are no out-of-merit long-lead-time resources in the FCM.

22 *Second*, suppose now that there are no out-of-merit long-lead-time resources. In
23 this case, any resource that is unprofitable on the basis of total costs will also be

1 unprofitable on the basis only of 40-month costs. Consequently, subsidizing a resource's
2 pre-FCA investments is not enough to induce it to enter the FCM. Furthermore, since
3 every out-of-merit resource that would not have entered in the Competitive FCA has 40-
4 month-cost greater than P*, any out-of-merit resource that is induced to enter the FCM on
5 the basis of out-of-market subsidies will be correctly categorized as OOM, and its price-
6 suppressing effect on the APR Price will be fully corrected.

7 *SECTION 5: OTHER COMMENTS*

8 *SECTION 5-A: ON IMM DISCRETION*

9 Q WHAT DO YOU MEAN BY “IMM DISCRETION”?

10 A The IMM “lacks discretion” if its method to compute a resource’s benchmark price
11 depends on objective, context-independent characteristics of that resource. In its
12 comments, the IMM proposes to give itself substantial discretion when determining
13 benchmark prices.

14 [The IMM proposes] to use an incremental project cost standard instead of
15 a total project cost standard *in those circumstances in which a participant*
16 *submitting a below-the-benchmark offer believes such an offer is*
17 *appropriate.*²²

18 In other words, the IMM proposes to invite bidders to make a case that it is
19 “appropriate” for benchmark prices to reflect only those remaining costs that those
20 resources have not already incurred—or committed to incur—prior to the FCA. Under
21 such a discretionary rule, market outcomes could depend dramatically on the quality of
22 the IMM’s judgment.

23 For instance, an (admittedly absurd but ultimately economic) case could be made
24 that it is “appropriate” for OOM resources to have benchmark prices equal to zero, since

²² LaPlante Brief at 22 (emphasis added).

1 such resources have committed to enter the FCM and hence have “competitive bids”
2 equal to zero. Even if the IMM is wise enough to reject such arguments, it may be very
3 difficult to divine which (say) decisions to *start construction early* were driven by
4 legitimate considerations of cost savings, and which were driven by a desire to lower
5 auction payments by lowering benchmark prices.

6 In this testimony, I have established that the exercise of such discretion is
7 unnecessary. In fact, one of the most attractive features of the ISO-NE Benchmark—or,
8 even more so, the Total Cost Benchmark—is that it limits the need for the IMM to
9 exercise discretion. Under the Going-Forward Cost Benchmark, the IMM must
10 determine what costs are “reasonably incremental,” a standard that requires inspection of
11 the circumstances of each individual resource. Under the ISO-NE Benchmark, by
12 contrast, the IMM needs only to determine what costs are “deferrable” *in principle*—even
13 if such costs are not always deferred in practice.

14 *SECTION 5-B: ON OTHER COMMENTS BY MR. WILSON*

15 Q WHAT ADDITIONAL COMMENTS DO YOU HAVE ON MR. WILSON’S
16 TESTIMONY?

17 A In his supplemental testimony, Mr. Wilson offered several attempted criticisms of my
18 First Testimony. There is little need to respond on a point-by-point basis, but some
19 general comments may be helpful to readers trying to sort through Mr. Wilson’s attacks.

20 *First*, Mr. Wilson argues that I did not consider certain perverse incentives that
21 might arise under the July APR. Indeed, in my First Testimony, I was clear to state that
22 my focus was on (hypothetical) scenarios in which all bidders lack market power. Thus,
23 it is somewhat disingenuous for Mr. Wilson to criticize my testimony on the basis that I
24 did not consider market-power issues. Many sorts of *conceivable* inefficient behaviors

1 can arise as a result of the exercise of market power, especially in complex markets such
2 as the FCM. Thus, Mr. Wilson’s list of strange behaviors that might conceivably arise—
3 such as generators seeking to *suppress* the FCA Clearing Price²³—should not surprise or
4 especially concern the Commission. As far as I am aware, none of Mr. Wilson’s
5 hypothetical scenarios has any demonstrable connection to the real world. Should such
6 behaviors someday arise as a practical concern, then market-mitigation measures can and
7 should be developed to address them. In the present context of this proceeding, therefore,
8 I view such examples as unhelpful distractions that seek to create concerns on the basis of
9 hypothetical scenarios with no basis in observed practice. (By contrast, the issue of
10 OOM entry and its price-suppressing effect is demonstrably real.)

11 *Second*, Mr. Wilson argues that, in my First Testimony, I did not adequately
12 support the contention that the July APR is “sound and sensible.” For example,
13 Mr. Wilson critiques my July discussion of OOM subsidies by noting that Prof.
14 McAdams “does not recognize that these incentives and payments may be serving a
15 legitimate economic function, and one that should be reflected in the auctions.”²⁴ This is
16 a valid point. In my First Testimony, my focus was on the bidding incentives of
17 resources in the FCA, not on the incentives of the third-parties (such as load) that might
18 seek to influence those bidding incentives. However, please note that my Supplementary
19 Testimony—submitted on September 1, 2010, before I became aware of Mr. Wilson’s
20 criticisms—is almost entirely devoted to this issue. That Supplementary Testimony (i)
21 builds on the foundation laid by my First Testimony, (ii) fully recognizes the potential

²³ James Wilson Supp. Test. at 43:19–44:12.

²⁴ James Wilson Supp. Test. at 61:20–22.

1 value of public policies that promote certain types of resources, and (iii) supports the
2 contention that the February APR creates *inefficient, unbalanced incentives* when it
3 comes to sponsoring OOM. By contrast, the July APR creates efficient incentives for
4 load to sponsor OOM when doing so provides great enough un-priced benefits to be
5 efficient.

6 *Finally*, Mr. Wilson argues that the ISO-NE Benchmark is incorrect. This Second
7 Supplementary Testimony directly confronts this contention, and *proves* it to be without
8 merit. All together, then, my Supplementary Testimony and this Second Supplementary
9 Testimony strengthen—and provide more detailed support for—the conclusion of my
10 First Testimony that the July APR is “sound and sensible.”

11 *SECTION 5-C: DISCUSSION OF THE MODEL USED IN THIS TESTIMONY*

12 Q WHAT IS THE PURPOSE OF THIS PART OF YOUR TESTIMONY?

13 A The model of the FCA that I have employed in this testimony serves as an objective
14 vehicle by which to evaluate each of the Benchmark Rule proposals. However, like any
15 model, this model is not a complete representation of reality. To complete my testimony,
16 I would like to discuss some of the most important abstractions inherent in the model,
17 related to (i) market power, (ii) uncertainty, and (iii) long-term trends.

18 Q HOW DOES THE MODEL ABSTRACT FROM “MARKET POWER”?

19 A The model abstracts from seller-side market power, since every resource is assumed to
20 have no unilateral effect on the auction price. My rationale for focusing on this baseline
21 scenario is that, if an auction design does not function well when all bidders lack market
22 power, then there is something seriously wrong with that design. Conversely, if an
23 auction design does function well when bidders lack market power, then there is at least

1 hope that the auction design will function well *when paired with well-conceived market-*
2 *power mitigation measures.*

3 Obviously, some bidders may possess market power in practice. As discussed in
4 Section 5-B, many sorts of *conceivable* inefficient behaviors can arise as a result of the
5 exercise of market power by bidders, especially in complex markets such as the FCM. It
6 is therefore important to pair a well-conceived APR Rule—including a well-conceived
7 Benchmark Rule—with other well-conceived measures to mitigate the exercise of seller
8 market power.

9 Q HOW DOES THE MODEL ABSTRACT FROM “UNCERTAINTY”?

10 A In the model, each resource can *correctly* anticipate the FCA Clearing Price P^{FCA} and the
11 APR Price P^{APR} that will ultimately prevail in the FCA, when deciding in Stage 1
12 whether to sign an OOM contract and/or to make investments that will enable it to enter
13 the FCM. Of course, “unexpected events” can be important in practice and can create
14 substantial risk for longer lead-time resources that must decide whether to sink
15 substantial investments prior to the FCA. Indeed, in practice, such resources will
16 typically only incur such investments if they will generate a sufficiently large expected
17 profit to compensate for this risk. This “risk premium” is an important element of the
18 “total cost of new entry” of longer lead-time resources. However, the analysis and the
19 main qualitative findings developed in this testimony still apply, once each resource’s
20 “costs” are appropriately modified to account for uncertainty.²⁵

²⁵ Resources’ 40-month cost and going-forward cost will also typically incorporate a risk premium, as well as an adjustment based on the option value associated with retaining the option to enter and/or to exit the FCM.

1 Q HOW DOES THE MODEL ABSTRACT FROM “LONG-TERM TRENDS”?

2 A In the model, the Competitive FCA Price P^* is assumed not to change over time. In
3 practice, one may expect the Competitive FCA Price to fall over time because of
4 technological development or other factors. Since resources entering the FCM today
5 expect to receive lower future payments under such a long-term downward trend, the
6 presence of such a trend will tend to increase the minimal auction payment that they
7 demand today to enter the FCM. In other words, a downward price trend increases each
8 resource’s going-forward cost (and its 40-month cost of new entry and its total cost of
9 new entry) by the expected present value of future decreases in the Competitive FCA
10 Price. However, most²⁶ of the analysis and the qualitative findings developed in this
11 testimony still apply, once each resource’s “costs” are appropriately modified to account
12 for lower future auction payments.

13 Q DOES THIS CONCLUDE YOUR TESTIMONY?

14 A Yes.

²⁶ If there is a long-term downward trend in auction prices, then the *levelized* 40-month costs that ISO-NE proposes to use as benchmark offers will tend to be too low, leading to incomplete correction of the price-suppressing effect of OOM entry. (See proof of the ISO-NE Benchmark Theorem, NEPGA Exhibit 10-B, for further discussion.)

I, David L. McAdams, being duly sworn, depose and state that the contents of the foregoing Second Supplementary Testimony on behalf of the New England Power Generators Association is true, correct, accurate and complete to the best of my knowledge, information, and belief.



David L. McAdams

SUBSCRIBED AND SWORN to before me this 27 day of September 2010.



(Notary Public)

My commission expires: 11/23/14

1 *APPENDIX A: PROOF OF THE TOTAL COST BENCHMARK THEOREM*

2 I will establish the Total Benchmark Theorem by what one might a “Goldilocks proof:”
3 the Total Cost Benchmark is neither “too high,” nor “too low,” but “just right.”

4 Under the Total Cost Benchmark, each OOM resource’s Benchmark is equal to its total
5 cost of new entry. If these Benchmarks are “too high” for some resources, then the resulting
6 APR Price could be *higher* than P^* even if all resources bid as if in a Competitive FCA. On the
7 other hand, if the Benchmarks are “too low” for some resources, then load could profitably
8 suppress the APR Price by signing OOM contracts that induce those resources to bid less than in
9 a Competitive FCA.

10 **Part One: Total Cost Benchmark is not “too high.”** A resource’s Benchmark is “too
11 high” if replacing its Competitive FCA bid with its Benchmark will artificially inflate the APR
12 Price. To be concrete, suppose that some resource has equilibrium bid P' in the Competitive
13 FCA, but its Benchmark is $P'' > P'$. Replacing its bid of P' with the Benchmark of P'' will
14 artificially inflate the APR Price if and only if (i) $P' < P^*$ so that that resource clears at the
15 Competitive FCA Price P^* and (ii) $P'' > P^*$ so that the APR Price is computed on the faulty
16 assumption that that resource would not have cleared competitively. So, to establish that the
17 Total Cost Benchmark is not “too high,” I need to show that the Total Cost Benchmark is less
18 than P^* for every resource that would have bid less than P^* in the Competitive FCA.

19 My proof will focus on a generic “Resource X.”

20 Suppose that Resource X would have bid less than P^* in the Competitive FCA. Bidding
21 less than P^* causes Resource X to clear in the Competitive FCA. For this to be profitable, P^*
22 must be large enough to cover its total cost of new entry. Thus, its Total Cost Benchmark is less
23 than P^* , as desired.

1 **Part Two: Total Cost Benchmark is not “too low.”** A resource’s Benchmark is “too
2 low” if load can artificially suppress the APR Price by inducing that resource to bid less than it
3 would have bid in the Competitive FCA. To be concrete, suppose that some resource has
4 equilibrium bid P' in the Competitive FCA, but its Benchmark is $P'' < P'$. If load were to induce
5 this resource to bid less than P'' , then the APR Price would be computed on the basis of the
6 Benchmark P'' rather than the “competitive bid” P' . This will artificially suppress the APR
7 Price if and only if (i) $P'' < P^*$ so that that resource would clear in the Competitive FCA with a
8 bid equal to its Benchmark and (ii) $P' > P^*$ so that that resource would not have cleared in the
9 Competitive FCA without the benefit of OOM subsidies. (If the resource would have cleared
10 anyway, any suppression of its *inframarginal* bid will not suppress the market-clearing price.)
11 So, to establish that the Total Cost Benchmark is not “too low,” I need to show that the Total
12 Cost Benchmark is greater than P^* for every resource that would have bid more than P^* in the
13 Competitive FCA.

14 Suppose now that Resource X would have bid more than P^* in the Competitive FCA.
15 Bidding more than P^* causes Resource X not to clear in the Competitive FCA. This means that
16 entry into the FCM at price P^* must be unprofitable for Resource X, *i.e.*, its total cost of new
17 entry must be greater than P^* . Thus, its Total Cost Benchmark is greater than P^* , as desired.

18 Having shown that the Total Cost Benchmark is neither “too high” nor “too low,” we
19 conclude that, as Goldilocks might say, the Total Cost Benchmark is “*just right.*” By neither
20 artificially inflating the APR Price nor allowing load to artificially suppress the APR Price, the
21 Total Cost Benchmark fully corrects (but does not over-correct) for the price-suppressing effect
22 of OOM entry. Q.E.D.

1 *APPENDIX B: PROOF OF THE ISO-NE BENCHMARK THEOREM*

2 I will establish the ISO-NE Benchmark Theorem by what one might a “Goldilocks
3 proof:” under the maintained assumption that there are no out-of-merit long-lead-time resources,
4 the ISO-NE Benchmark is neither “too high,” nor “too low,” but “just right.”

5 Under the ISO-NE Benchmark, each OOM resource’s Benchmark is equal to its levelized
6 40-month cost of new entry. If these Benchmarks are “too high” for some resources, then the
7 resulting APR Price could be *higher* than P^* even if all resources bid as if in a Competitive FCA.
8 On the other hand, if the Benchmarks are “too low” for some resources, then load could
9 profitably suppress the APR Price by signing OOM contracts that induce those resources to bid
10 less than in a Competitive FCA.

11 **Part One: ISO-NE Benchmark is not “too high.”** A resource’s Benchmark is “too
12 high” if replacing its Competitive FCA bid with its Benchmark will artificially inflate the APR
13 Price. To be concrete, suppose that some resource has equilibrium bid P' in the Competitive
14 FCA, but its Benchmark is $P'' > P'$. Replacing its bid of P' with the Benchmark of P'' will
15 artificially inflate the APR Price if and only if (i) $P' < P^*$ so that that resource clears at the
16 Competitive FCA Price P^* and (ii) $P'' > P^*$ so that the APR Price is computed on the faulty
17 assumption that that resource would not have cleared competitively. So, to establish that the
18 ISO-NE Benchmark is not “too high,” I need to show that the ISO-NE Benchmark is less than P^*
19 for every resource that would have bid less than P^* in the Competitive FCA.

20 My proof will focus on a generic “Resource X.” As shorthand, let “LEVEL” denote
21 Resource X’s levelized 40-month cost of new entry and let “UNLEVEL” denote Resource X’s
22 (un-levelized) 40-month cost of new entry.

23 Suppose that Resource X would have bid less than P^* in the Competitive FCA. Bidding
24 less than P^* causes Resource X to clear in the Competitive FCA. For this to be profitable, P^*

1 must be large enough to cover Resource X's total cost of new entry and hence also its (un-
 2 levelized) 40-month costs of new entry. Thus, UNLEVEL is less than P*. By definition, a
 3 resource's (un-levelized) 40-month cost of new entry in the Competitive FCA¹ is the minimal
 4 auction payment *now* that this resource requires to enter the FCM, given that it expects to receive
 5 the Competitive FCA Price P* in future years.² In other words, the present value of the stream of
 6 annual auction payments

7 $(UNLEVEL, P^*, P^*, \dots)$

8 must be just enough to make Resource X indifferent to committing to enter the FCM. Similarly,
 9 a resource's levelized 40-month cost of new entry is the minimal *annuity* payment that this
 10 resource requires to enter the FCM. In other words, the present value of the stream of annual
 11 auction payments

12 $(LEVEL, LEVEL, LEVEL, \dots)$

13 must also be just enough to make Resource X indifferent to committing to enter the FCM. Both
 14 of these streams of auction payments must therefore generate the same present value:

15 $(UNLEVEL, P^*, P^*, \dots) = (LEVEL, LEVEL, LEVEL, \dots)$.

¹ A potential new resource's (un-levelized) 40-month cost of new entry depends on the expected stream of future auction payments. Within the context of the Competitive FCA, as considered here, "40-month cost of new entry" is defined relative to an expected stream of P* every period. By contrast, a resource's *levelized* 40-month cost of new entry is not context-dependent in this way. In particular, conclusions about Resource X's levelized 40-month cost of new entry derived in the context of the Competitive FCA still apply in the FCM Game should load actively sign resources to OOM contracts.

² The argument here can be easily adapted to account for the fact that, under ISO-NE's proposal, new resources receive the "Year 1 FCA Clearing Price" for multiple years. In particular, a resource's decision whether to enter the FCM will be based on the present value of the stream $(UNLEVEL, \dots, UNLEVEL, P^*, P^*, \dots)$, where "UNLEVEL" is appropriately re-defined, and the key conclusion still holds that LEVEL lies between UNLEVEL and P*.

1 Thus, LEVEL must lie strictly between P^* and UNLEVEL.³ Since we have previously shown
2 that UNLEVEL is less than P^* , we conclude that LEVEL is less than P^* .

3 So far, we have proven that any resource that would have bid less than P^* in the
4 Competitive FCA must have levelized 40-month cost of new entry (*i.e.*, ISO-NE Benchmark)
5 less than P^* . That is, we have established that the ISO-NE Benchmark is not “too high.”

6 **Part Two: ISO-NE Benchmark is not “too low.”** A resource’s Benchmark is “too low”
7 if load can artificially suppress the APR Price by inducing that resource to bid less than it would
8 have bid in the Competitive FCA. To be concrete, suppose that some resource has equilibrium
9 bid P' in the Competitive FCA, but its Benchmark is $P'' < P'$. If load were to induce this
10 resource to bid less than P'' , then the APR Price would be computed on the basis of the
11 Benchmark P'' rather than the “competitive bid” P' . This will artificially suppress the APR
12 Price if and only if (i) $P'' < P^*$ so that that resource would clear in the Competitive FCA with a
13 bid equal to its Benchmark and (ii) $P' > P^*$ so that that resource would not have cleared in the
14 Competitive FCA without the benefit of OOM subsidies. (If the resource would have cleared
15 anyway, any suppression of its *inframarginal* bid will not suppress the market-clearing price.)
16 So, to establish that the ISO-NE Benchmark is not “too low,” I need to show that the ISO-NE
17 Benchmark is greater than P^* for every resource that would have bid more than P^* in the
18 Competitive FCA.

³ This step of the proof relies on the assumption that the Competitive FCA Price does not change over time. Suppose instead that the Competitive FCA Price T years in the future is expected to be P^T , where these prices are decreasing over time, *i.e.*, $P^* > P^1 > P^2 > \dots$. Now, by definition of levelized and unlevelized 40-month cost, both streams of auction payments (UNLEVEL, P^1 , P^2 , ...) and (LEVEL, LEVEL, LEVEL, ...) must provide the same present value. In particular, for the marginal resource that sets the Competitive FCA Price (and has unlevelized 40-month cost UNLEVEL = P^*), both streams (P^* , P^1 , P^2 , ...) and (LEVEL, LEVEL, LEVEL, ...) must provide the same present value. When $P^* = P^1 = P^2 = \dots$, we conclude that the marginal resource also has *levelized* 40-month cost LEVEL = P^* , so that Benchmarks equal to levelized 40-month cost result in an APR Price equal to P^* . However, if $P^* > P^1 > P^2 > \dots$, then LEVEL < P^* for the marginal resource. In this case, Benchmarks equal to levelized 40-month cost result in an APR Price that is systematically lower than P^* .

1 Suppose now that Resource X would have bid more than P^* in the Competitive FCA.
2 Bidding more than P^* causes Resource X not to clear in the Competitive FCA. This means that
3 entry into the FCM at price P^* must be unprofitable for Resource X, *i.e.*, its total cost of new
4 entry must be greater than P^* . By assumption, Resource X is not an out-of-merit long-lead-time
5 resource. Thus, its (un-levelized) 40-month cost of new entry must also be greater than P^* . In
6 other words, using the notational shorthand from Part One, UNLEVEL is greater than P^* .
7 However, I proved in Part One that LEVEL lies strictly between P^* and UNLEVEL. Thus,
8 LEVEL is greater than P^* .

9 So, we have now also proven that any resource that would have bid more than P^* in the
10 Competitive FCA must have levelized 40-month cost of new entry (*i.e.*, ISO-NE Benchmark)
11 greater than P^* . That is, we have established that the ISO-NE Benchmark is not “too low.”

12 Under the maintained assumption that there are no out-of-merit long-lead-time resources,
13 we conclude that the ISO-NE Benchmark is “*just right*.”

14 By neither artificially inflating the APR Price nor allowing load to artificially suppress
15 the APR Price, the ISO-NE Benchmark fully corrects (but does not over-correct) for the price-
16 suppressing effect of OOM entry. Q.E.D.