BEFORE THE
STATE OF NEW YORK PUBLIC SERVICE COMMISSION

In the Matter of the Implementation of a Large-Scale Renewable Program	**:** **:**	**Case 15-E-0302**

REPLY COMMENTS OF CONSTELLATION ENERGY NUCLEAR GROUP, LLC CONCERNING STAFF WHITE PAPER ON CLEAN ENERGY STANDARD

If existing nuclear facilities serving New York customers retire prematurely, the State will spend the bulk of the next decade trying to climb back to the same level of zero-emissions generation that it already has achieved today. To realize the ambitious clean-energy goals announced by Governor Cuomo,[1] New York needs to build on, not replace, zero-emissions resources that already exist. For that reason, Constellation Energy Nuclear Group, LLC ("CENG") agrees with the many commenters who have argued that the Clean Energy Standard ("CES") should include a separate nuclear tier. Compensating existing nuclear plants for their zero-emissions attribute should not come at the expense of supporting new renewable generation, or vice-versa. To be successful, the State must pursue both policies at the same time. This is the ideal time: with New York consumers paying 22% less overall for electricity than last year, the State is well-positioned to invest in zero-carbon resources.[2]

CENG also agrees with commenters, such as the State's utilities, who have emphasized that the CES Nuclear Tier must be designed to secure the valuable zero-emissions attribute inherent in nuclear generation at the least cost to customers. That is why CENG proposed a centralized

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[1] Letter from Gov. Andrew M. Cuomo to Audrey Zibelman, CEO, N.Y. Dep't of Pub. Serv., Dec. 2, 2015.

[2] *See Electric Power Monthly* tbl. 5.5.A, U.S. ENERGY INFORMATION ADMINISTRATION (Apr. 2016), available at http://www.eia.gov/electricity/monthly/pdf/epm.pdf.

procurement of that zero-emissions attribute using an administratively determined pricing mechanism based on the difference between projected costs and projected revenues. That approach ensures that New York consumers do not pay more than the minimum necessary to obtain the benefit of nuclear facilities' zero-emissions attribute—even though the social value of that attribute is significantly higher. While CENG agrees with commenters like Entergy that a technology-neutral, market-based approach would be preferable in a different context, the Nuclear Tier's goal is to ensure that existing nuclear facilities serving New York customers today can remain operational, consistent with the terms of their licenses, to provide a bridge to New York's clean energy future. CENG's proposed pricing mechanism achieves that goal at the least cost to customers.

Some commenters, including Nucor Steel Auburn, Inc. and the National Energy Marketers Association, have raised the concern that the proposed Nuclear Tier pricing mechanism may run afoul of the Supreme Court's recent decision in *Hughes v. Talen Energy Marketing, LLC.* As explained below, CENG believes that any such concern is misplaced. Nevertheless, CENG would support a backstop pricing mechanism in which the value of a Zero-Emission Credit ("ZEC") would be tied to the social cost of carbon, as the Institute for Public Integrity proposed. If the primary ZEC pricing mechanism were invalidated, the Nuclear Tier would continue using this backstop pricing mechanism. Below, we provide details on how such a backstop price could be calculated.

Multiple Intervenors has urged that, if energy prices rise so that participating nuclear facilities are once again profitable, those facilities should be required to refund previous ZEC payments and also share those future profits with customers. That position misunderstands the Nuclear Tier program. It is not designed to give facility owners a guaranteed rate of return. Rather, the CES Nuclear Tier is an environmental program aimed at recognizing the value to New Yorkers of zero-emissions nuclear generation and compensating generation owners for that environmental attribute. If a participating facility is projected to be profitable based on its electricity sales alone,

CENG's proposed pricing mechanism is structured so that the ZEC price for that facility will fall to zero, and customers will therefore receive that facility's environmental attributes for free. However, if a participating facility cannot continue producing zero-emissions generation unless it receives some compensation for that valuable environmental attribute, there is nothing unfair about asking customers to pay for an attribute they value and have previously received for free.

I. The Comments Overwhelmingly Support New York's Attempt to Preserve Its Largest Source of Existing Carbon-Free Generation to Combat Climate Change.

Staff's decision to include the Nuclear Tier (Tier 3) was supported by a broad cross-section of stakeholders with a diversity of interests and perspectives, including consumers, utilities, labor groups, policy experts, the New York Independent System Operator, Business Council of the State of New York, General Electric, and the City of New York.[3] These stakeholders agreed that

[3] *See, e.g.*, Comments of the City of New York on Staff's Clean Energy Standard White Paper 18 (Apr. 22, 2016) ("The City generally supports the concept of Tier 3 and providing support for nuclear facilities . . . ."); *id.* ("The thousands of carbon-free megawatts . . . [nuclear facilities] provide are critical, and the State could not reasonably reduce carbon emissions without these facilities."); Comments of the General Electric Company 9 (Apr. 22, 2016) ("GE applauds New York for incorporating nuclear generation into the proposed Clean Energy Standard."); Comments of the Business Council of New York State 3 (Apr. 22, 2016) ("New York should take immediate steps to support the continued operation of our nuclear facilities . . . ."); Comments of Institute for Public Integrity 2 (Apr. 22, 2016) (noting that Staff "has done an excellent job" designing a program "that can . . . prevent premature closure of upstate nuclear facilities"); Comments of New York Solar Energy Industries Association 1-2 (Apr. 22, 2016) ("strongly agree[ing]" with Staff's proposed three-tier approach); Comments of the Indicated Joint Utilities on the Department of Public Service Staff White Paper on Clean Energy Standard 21 (Apr. 22, 2016) ("Utilities Comments") (stating that because "nuclear energy is an important source of zero-emissions electricity in New York and . . . nuclear facilities provide resource diversity" commenters "support Staff's goals in proposing market mechanisms such as ZECs to maintain nuclear generation operation"); Comments of Upstate Energy Jobs 2 (Apr. 21, 2016) ("The loss of any existing unit would substantially impact climate progress to date and make . . . many of the State's initiatives virtually impossible to reach."); Comments of the New York Independent System Operator, Inc. 6 (Apr. 22, 2016) ("[T]he continued operation of existing nuclear resources is a key component to meeting the State's CES and State Energy Plan . . . goals because of their consistent, reliable zero-emission energy production."); Comments of Nucor Steel Auburn, Inc. Concerning the Clean Energy Standard 4 (Apr. 22, 2016) ("Nucor Comments") (agreeing that New York's "40% GHG reduction goal cannot realistically be achieved without continued performance of New York's six currently operating commercial nuclear units" and that renewable generation "could not remotely

preserving existing nuclear power is one of the most cost-effective mechanisms for achieving New York's emissions-reductions goals. These commenters also recognized the extreme threat posed by climate change and the extraordinary amount of climate progress that would be lost if the State's nuclear facilities were to retire in the near future. Indeed, even commenters strongly supportive of and focused on the CES's renewable energy tiers also acknowledged that the State's existing nuclear fleet can be used as a bridge to achieve the State's 2030 emissions-reductions targets and transition to a clean-energy economy.[4]

In contrast to this robust support for the Nuclear Tier, two commenters stood alone in rejecting nuclear power's critical contribution to combating climate change.[5] However, rapid progress toward reducing carbon emissions is essential to prevent catastrophe. New York cannot afford to allow large baseload zero-emissions generation resources to prematurely retire, or it will spend the next decade struggling to prevent *increased* carbon emissions rather than achieving reductions. Even if renewable resources could be immediately scaled to replace nuclear generation, that would merely swap one emissions-free resource for another. That would not advance the fight against climate change, because every dollar spent on renewable resources that replace existing carbon-free nuclear generation is a dollar that cannot be spent to replace existing coal or natural gas generation. It is therefore unhelpful to assert that a retiring nuclear fleet could be instantly replaced by renewable generation of sufficient capacity; "[t]he climate issue is too important for us to delude

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match the loss of production from any of the existing operating reactors"); Comments of Independent Power Producers of New York, Inc. 4 (Apr. 22, 2016).

[4] *See, e.g.*, Initial Comments of Environmental Defense Fund Regarding the Staff White Paper on Clean Energy Standard 15, 16 (Apr. 22, 2016) ("EDF Comments") (observing that "[n]uclear energy can contribute to the achievement of the State's carbon reduction goals"); Comments of the Alliance for Clean Energy New York et al. 40 (Apr. 22, 2016) ("We hope that Tier 3 is a successful bridge to a renewable energy future . . . .").

[5] *See* Comments of Council on Intelligent Energy & Conservation Policy (CIECP) and Promoting Health and Sustainable Energy (PHASE) 2-9 (Apr. 22, 2016); Comments by Alliance for a Green

ourselves with wishful thinking."[6] That is why the nation's pre-eminent climate scientist, Dr. James Hansen, and a group of leading climate scientists have argued that "continued opposition to nuclear power threatens humanity's ability to avoid dangerous climate change."[7]

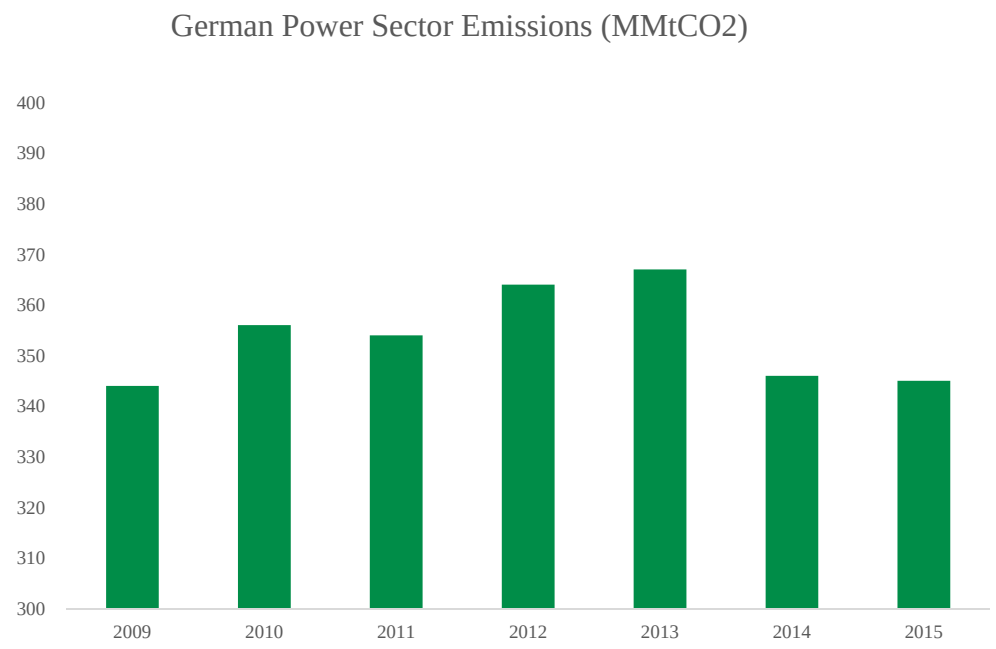
Germany's and California's experiences in transitioning to clean-energy economies illustrate the potential danger of adhering to commenters' naïve position that a large, industrialized economy can shut down its existing nuclear generating facilities without adverse climate consequences. Germany, following the advice of those who, like these commenters, oppose nuclear power as a matter of principle, decided to retire prematurely its entire nuclear fleet by 2022. Yet Germany has been unable to subsidize new renewable generation at a pace fast enough to both replace its lost (carbon-free) nuclear generation *and* to significantly displace existing coal and natural gas facilities, which is of course necessary if carbon emissions are actually to be reduced. Indeed, after Germany decommissioned eight nuclear power plants in 2011, its power-sector carbon emissions rose for the next two years—and only recently even returned to earlier levels—despite massive subsidies for, and large increases in, renewable generation[8]:

Economy and Nuclear Information and Resource Service 5, 13-14, 15-30 (Apr. 22, 2016) ("AGREE/NIRS Comments").

[6] J. Hansen et al., *Nuclear power paves the only viable path forward on climate change*, THE GUARDIAN (Dec. 3, 2015), www.theguardian.com/environment/2015/dec/03/nuclear-power-paves-the-only-viable-path-forward-on-climate-change.

[7] *See* Ken Caldeira et al., *Top climate change scientists' letter to policy influencers*, CNN (Nov. 3, 2013), www.cnn.com/2013/11/03/world/nuclear-energy-climate-change-scientists-letter/index.html ("2013 Open Letter").

[8] *See* Kerstine Appunn, *Germany's greenhouse gas emissions and climate targets*, CLEANENERGYWIRE.ORG (Mar. 17, 2016), https://www.cleanenergywire.org/factsheets/germanys-greenhouse-gas-emissions-and-climate-targets.



Indeed, between 2014 and 2015, the share of Germany's electricity consumption from renewable generation rose by more than 10.5%, but the nation's power-sector carbon emissions remained essentially the same, and overall carbon emissions actually *increased* by 0.7%. In effect, despite huge subsidies for renewable generation, Germany has lost most of a decade in combating climate change through its power sector in large part due to its decision to shutter its nuclear plants prematurely.[9] New York cannot afford to do the same. Meanwhile, German consumers experience among the highest electricity prices in Europe.[10] That combination—steep prices for no emissions benefit—should be avoided, not emulated.

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[9] *See id.*; Soren Amelang & Kerstine Appunn, *German CO2 emissions rise in 2015 despite renewables surge*, CLEANENERGYWIRE.ORG (Dec. 21, 2015), www.cleanenergywire.org/news/german-co2-emissions-rise-2015-despite-renewables-surge.

[10] *See European residential electricity prices increasing faster than prices in United States*, U.S. ENERGY INFORMATION ADMINISTRATION (Nov. 18, 2014), https://www.eia.gov/todayinenergy/detail.cfm?id=18851 (noting that Germany's replacement of existing nuclear "facilities and their fuels with new generation sources has also increased their electricity cost").

California, for its part, is the nation's leader in renewable generation production. But the closure of the San Onofre nuclear plant in early 2012 resulted in the loss of more zero-emissions electricity than the combined production of all wind, solar, and biomass in the state.[11] As a result, California's annual CO_2 emissions increased by 35 percent.[12]

New York would suffer a similar fate. The Nuclear Tier accounts for over 75% of the carbon avoided by the CES program in its early years, and over half of the program's total carbon abatement benefits.[13] A retiring nuclear plant is most likely to be replaced by natural gas- or coal-fired plants, which emit carbon and other air pollutants. For that reason, without the upstate nuclear fleet's generation, New York's "[a]verage annual CO_2 emissions would be almost 16 million tons higher," NO_x emissions 13,000 tons higher, SO_2 emissions 3,000 tons higher, and particulate matter emissions 2,000 tons higher than they are today.[14] As Dr. Hansen and a group of leading climate

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[11] *California Electrical Energy Generation*, CALIFORNIA ENERGY COMMISSION: ENERGY ALMANAC, http://energyalmanac.ca.gov/electricity/electricity_generation.html (last visited May 12, 2016).

[12] The California Air Resources Board reported that CO_2 emissions in the state increased from 2011 to 2012, "primarily due to emission increases from California electricity generation using natural gas as a fuel," which in turn were caused in part by the shutdown of the San Onofre nuclear station in early 2012. *Greenhouse gas emissions from power plants in California increased by 35 percent in 2012, partly due to the early closure of the San Onofre nuclear power plant*, WORLD NUCLEAR NEWS (Nov. 5, 2013), http://www.world-nuclear-news.org/EE-California-emissions-rise-on-San-Onofre-shut-down-0511135.html.

[13] The Brattle Group, *Comments on the New York DPS "Clean Energy Standard White Paper—Cost Study"* 1 (Apr. 18, 2016) (attached as Exhibit B to CENG's initial comments); CES Cost Study Supplement (April 12, 2016), tabs 38-39, 84, 87-88, and 91.

[14] The Brattle Group, *New York's Upstate Nuclear Power Plants' Contribution to the State Economy* 11 (Dec. 2015) (attached as Exhibit A to CENG's initial comments); *see also* Draft Supplemental Environmental Impact Statement at 5-15 (Feb. 23, 2016). These environmental benefits are independent of the significant economic benefits that existing nuclear facilities also bring to the State. AGREE and NIRS erroneously accuse the Staff of "rel[ying] exclusively on reports paid for by nuclear proponents" in assessing the economic benefits of the proposed Nuclear Tier. AGREE/NIRS Comments 20. In fact, the cost study produced by NYSERDA and DPS staff reviewed several cost studies that found "[s]imilar economic impacts from the closure of nuclear facilities, including direct and secondary job impacts and local tax revenue impacts . . . ." *See* N.Y. State Dep't of Pub. Serv., Clean Energy Standard White Paper—Cost Study 103 (Apr. 8, 2016) ("Cost Study"). Notably, AGREE and NIRS do not cite any competing study of the costs and

scientists, conservationists, and environmentalists recently summarized these stark consequences: because "much of the nuclear energy" lost "would have to be made up for with coal or natural gas," a State losing its nuclear fleet would be an enormous setback in "the progress the state has made in clean energy."[15] That consortium of experts therefore recently urged the Illinois legislature and governor to "do everything in [their] power to keep all of Illinois's nuclear power plants running for their full lifetimes."[16] New York must approach the potential retirement of its nuclear fleet with the same urgency, because "in the real world there is no credible path to climate stabilization that does not include a substantial role for nuclear power."[17]

At the same time, of course, CENG recognizes the importance of supporting new renewable generation. Although the Commission's Cost Study makes clear that the Nuclear Tier is by far the most cost-effective method of carbon abatement,[18] existing nuclear plants will not last forever. And achieving the State's clean-energy goals will require a significant increase in renewable generation even if existing nuclear plants remain online indefinitely. For that reason, CENG agrees with commenters, like the Environmental Defense Fund and the Clean Energy Organizations Collaborative, who support the Commission's proposal to separate the Nuclear Tier from other

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benefits of the Nuclear Tier (or of the retirement of New York's nuclear fleet) that supports their position.

[15] *See* Dorian Abbot et al., *Treat Solar, Wind and Nuclear Fairly and Equally*, ENVIRONMENTAL PROGRESS ILLINOIS (Apr. 4, 2016), www.epillinois.org/read-the-letter/.

[16] *Id.*

[17] 2013 Open Letter; *see, e.g.*, *Office of the Press Sec'y, Fact Sheet: Obama Administration Announces Actions to Ensure that Nuclear Energy Remains a Vibrant Component of the United States' Clean Energy Strategy*, THE WHITE HOUSE (Nov. 6, 2015), www.whitehouse.gov/the-press-office/2015/11/06/fact-sheet-obama-administration-announces-actions-ensure-nuclear-energy ("[S]upport for currently operating nuclear power plants is an important component of our clean energy strategy.").

[18] *See* Cost Study at 283.

renewable tiers, to ensure that ZEC payments to nuclear facilities do not interfere with the goals of the State's Renewable Energy Credit ("REC") programs targeting new renewable deployment.[19]

II. ZECs Should Be Centrally Procured by NYSERDA.

Several commenters, including Multiple Intervenors and NRG Energy, Inc., expressed concern that the ZEC pricing mechanism will fail to properly value the environmental attribute of nuclear energy generation, either because of market illiquidity or because of the limited number of facilities eligible for ZEC payments.[20] NYSE&G and RG&E, meanwhile, noted that individual load-serving entities ("LSEs") may have difficulty scaling their procurement capabilities, and that centralized procurement would eliminate the need for and complexity of an ACP.[21] These commenters therefore recommended that ZECs be obtained through a centralized procurement in which the ZEC price is set administratively.[22]

CENG agrees with the thrust of these comments and, as discussed in its initial comments, recommends a centralized procurement system conducted by NYSERDA, with LSEs free to enter

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[19] *See, e.g.*, Comments of the Alliance for Clean Energy New York et al. 41 (Apr. 22, 2016) ("[N]uclear energy . . . should be kept separate from the State's renewable energy policies."); Comments of Acadia Center et al. ("CEOC") 31-32 (Apr. 22, 2016) (similar); EDF Comments 15 ("[S]ubsidies for nuclear facilities pose a risk of undermining renewables deployment, and they must be designed in a manner that eliminates that risk . . . .").

[20] *See, e.g.*, Multiple Intervenors' Initial Comments on White Paper 39 (Apr. 22, 2016) ("Multiple Intervenors' Comments") ("Multiple Intervenors is skeptical that a liquid market for ZECs ever will be developed, especially if there only are one or two qualifying facilities being awarded ZECs . . . ."); Comments of NRG Energy, Inc. 3 (Apr. 22, 2016) ("NRG Comments") ("[D]ue to inherent structural limitations . . . there should be no pretense that Tier 3 could be a 'market.'").

[21] *See* New York State Electric & Gas Corp.& Rochester Gas and Electric Corp. Comments on Staff White Paper on Clean Energy Standard 4, 18-21 (Apr. 22, 2016).

[22] *See, e.g., id.* at 18 ("Tier 3 ZECs should be centrally procured at the State level and their cost allocated among LSEs."); NRG Comments 3 ("ZEC costs should be determined administratively (as proposed by Staff) and passed through in a competitively-neutral manner to all compliance entities as a uniform per-kWh charge to be applied to each kWh billed to a New York energy consumer"); Nucor Comments 18, 23 (stating that "there is no rational basis for creating an LSE compliance obligation for an ostensibly tradable product that is really a unit-specific vehicle" and that "it seems evident that central procurement of RECs and ZECs is necessary").

into separate bilateral agreements for ZECs. Centralized procurement will reduce compliance costs for LSEs and will eliminate the need for alternative compliance payments, because the ZEC price will be set administratively by NYSERDA. Additionally, centralized procurement makes it possible for the ZEC price to be set at the facility level (or, for the owner of multiple facilities, at the portfolio level), eliminating the possibility that some facilities would be overcompensated, and others undercompensated, by a single program-wide ZEC price. Facility-specific ZEC pricing may not be feasible or prudent if LSEs are responsible for procurement, because, as utility commenters pointed out, such pricing could undercut the competitive playing field for retail electric suppliers. If some suppliers are able to buy inexpensive ZECs, while others are forced to buy more expensive ZECs, a competitive imbalance will result. A centralized procurement by NYSERDA at administratively determined prices would solve these problems.

Moreover, it would be inefficient for every retail electric supplier doing business in the State to acquire the expertise needed to determine how best to structure ZEC purchases. If NYSERDA conducts a centralized procurement, on the other hand, it can design a standardized ZEC procurement contract. This is not simply a matter of efficiency; it is also one of timing. By September 30, 2016, CENG will have to decide whether to retire or continue operating its Ginna facility. A centralized procurement run by NYSERDA could feasibly occur in time to inform that decision.

III. CENG's Proposed Pricing Mechanism Is the Least-Cost Means to Obtain the Zero-Emissions Attribute of Nuclear Generation, but CENG Would Also Support a Backstop Pricing Mechanism Tied to the Social Cost of Carbon.

The Institute for Public Integrity argues that the pricing mechanism proposed by the Commission for the Nuclear Tier should be tied to the value of the environmental attribute that the Commission is attempting to procure, rather than to a facility's projected costs and revenues; other commenters, like the Environmental Defense Fund and Entergy, suggest that ZECs could be

replaced by a market-based, technology-neutral price of carbon to be received by all participating facilities.[23] CENG's proposed pricing mechanism, however, is the least costly way for customers to secure the environmental attribute provided by existing nuclear plants. Under that mechanism, facilities projected to turn a profit in the coming year will receive no ZEC payments, because those facilities will presumably continue their operations. Customers can therefore receive the environmental benefits produced by those facilities for free. Facilities that are projected to incur a loss in the coming year will receive ZEC payments—but only enough to ensure that those facilities will continue to produce zero-emissions generation.

To be sure, CENG fully agrees with commenters such as NRG that wholesale markets should be reformed so that energy prices properly value generators' environmental attributes.[24] That type of market-based approach would be the most efficient way to achieve New York's clean-energy goals over the long run. However, implementing wholesale market reforms through a stakeholder process and eventual FERC approval will simply take too long to reach an outcome that is too uncertain, given that New York's nuclear facilities face imminent decisions regarding whether to retire. Of course, all parties can continue to pursue wholesale market reform even while

[23] *See, e.g.*, Comments of Institute for Public Integrity 15 (Apr. 22, 2016) (stating that ZEC prices should be tied to "the true value of the attributes" nuclear facilities provide, which is "the monetized value of the external benefit that nuclear plants provide by avoiding the carbon emissions that would have been emitted if the power they provide was generated by another generator"); *see also* EDF Comments 16 (advocating for "an adequate price on carbon emissions" as an "alternative[] to nuclear subsidies"); Initial Comments of Entergy Nuclear Indian Point 2, LLC, et al. 3, 15-21 (Apr. 22, 2016) ("Entergy Comments").

[24] *See* NRG Comments 16 ("Efforts to retain [nuclear] resources should focus on market design reforms, such as improved energy market price formation and a forward capacity market . . . ."); Comments of Direct Energy Services, LLC 6 (Apr. 28, 2016) (advocating for adoption of a "NYISO adopted rate base mechanism" to compensate facilities for environmental attribute); Comments of the National Energy Marketers Ass'n 5 (Apr. 22, 2016) (suggesting that nuclear fleet's imminent retirement is "at its heart a wholesale market issue").

the CES is being implemented.[25] If such reforms are adopted such that energy prices reflect environmental attributes, CENG's proposed pricing mechanism will automatically adjust to account for that: as projected wholesale revenues rise, the ZEC price would fall by a corresponding amount. Accordingly, it would not be duplicative to implement the Nuclear Tier program while continuing to work for wholesale market reform.

Several commenters, including Nucor Steel Auburn, Inc., and the National Energy Marketers Association, also suggest that the Supreme Court's recent decision in *Hughes v. Talen Energy Marketing, LLC* casts doubt on the legality of the Commission's proposed pricing mechanism.[26] Any such concern is misplaced. The legal infirmity in the Maryland program considered in that case was that the State had "required [a generator] to participate in [the FERC-regulated] PJM capacity auction, but guarantee[d] [the generator] a rate distinct from the clearing price for its interstate sales of capacity to PJM." *Hughes v. Talen Energy Mktg., LLC*, 136 S. Ct. 1288, 1297 (2016). The Court was clear about the limited scope of its holding: "So long as a State does not condition payment of funds on capacity clearing the auction, the State's program would not suffer from the fatal defect that renders Maryland's program unacceptable." *Id.* at 1299.

The Commission's proposed pricing mechanism suffers from no such fatal defect. ZEC payments are not conditioned on the sale of energy or capacity in the wholesale markets, and the CES pricing mechanism is not a contract for differences designed to guarantee a fixed revenue stream to a generator participating in the wholesale market. Rather, ZECs represent the environmental attribute of a generator's production—like most RECs and like the "Emission Rate Credit" recently proposed by the U.S. Environmental Protection Agency in its Clean Power Plan—

[25] *See, e.g.*, Utilities Comments 21 (advocating "the potential benefit of exploring wholesale market reforms" while implementing the ZEC program).

[26] *See, e.g.*, Nucor Comments 19; Comments of the National Energy Marketers Ass'n 6 & n.4 (Apr. 22, 2016); Entergy Comments 21.

and compensate the generator for that attribute. The fact that the Commission's proposed pricing mechanism sets compensation using projected energy and capacity revenues as a benchmark does not change matters. It remains the case that the compensation is tied solely to production and is "untethered to a generator's wholesale market participation." *Id.* at 15.

Nevertheless, in response to commenters' concerns regarding *Hughes* and suggestion that the pricing mechanism should be more closely tied to the value of the environmental attribute, CENG would support a backstop ZEC price based on the social cost of carbon, which would be applied in the event that the Commission's proposed pricing mechanism is ruled to be legally invalid.

Under this backstop approach, the ZEC price would be based on the Social Cost of Carbon as published by the U.S. Interagency Working Group on the Social Cost of Carbon ("Working Group") in July 2015.[27] That figure represents the overall societal benefits of the avoided carbon emissions achieved by avoiding retirement of the nuclear facilities covered by the CES. Under this approach, at the inception of the program, the schedule of annual Social Cost of Carbon values to be used in calculating the annual ZEC price would be set for 2017 through 2028 at the values published by the Working Group using the central case with a 3% discount rate. Once set, these values would remain unchanged for the duration of the program. The backstop ZEC price would then be set each year on a prospective basis by first converting the Social Cost of Carbon (which is expressed in real 2007 dollars per metric ton terms) for the relevant year into nominal dollars per megawatt-hour terms, and then deducting the avoided carbon-emission value already embedded in energy prices based on actual recent Regional Greenhouse Gas Initiative carbon emission allowance prices. The resulting ZEC price, expressed in dollars per megawatt-hour terms, would represent the

[27] INTERAGENCY WORKING GROUP ON THE SOCIAL COST OF CARBON, UNITED STATES GOVERNMENT, *Technical Support Document: Technical Update of the Social Cost of Carbon for*

value of avoided carbon emissions not otherwise compensated via existing market mechanisms and would be paid to all nuclear facilities participating in the Nuclear Tier.

IV. The Nuclear Tier Is an Environmental Program, Not a Subsidy for Nuclear Facilities.

Multiple Intervenors argues that, if participating nuclear facilities become profitable in the future, they should be required to refund ZEC payments received in prior years and share such future profits with customers.[28] That contention misconceives the Nuclear Tier program as a financial bail-out for distressed assets. The Nuclear Tier program is not intended to give facility owners a guaranteed rate of return or to transfer risk from facility owners to customers. Rather, it is an environmental program intended to compensate nuclear facilities for their zero-emissions environmental attribute. Zero-emissions generation resources provide a unique and valuable service to the State's residents by producing electricity without contributing to the problem of climate change. Until now, the State's residents have benefited from these facilities' zero-emission attribute but have not needed to compensate the facilities for it, even though securing that attribute has a cost. The Nuclear Tier program recognizes that this is no longer tenable.

As explained earlier, the Nuclear Tier provides compensation for nuclear facilities' zero-emissions attribute—but only the minimum amount needed to secure that attribute. A clawback or profit-sharing requirement, as urged by Multiple Intervenors, is inconsistent with the basic logic of the program. If participating nuclear facilities become profitable again, so that they can afford to produce zero-emissions energy without compensation for that environmental benefit, then those facilities will provide that valuable environmental service to customers for free, as they have in the past. That arrangement benefits customers. The only alternative for customers to continue

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Regulatory Impact Analysis Under Executive Order 12866, tbl. A.1 (July 2015), available at http://www.whitehouse.gov/sites/default/files/omb/inforeg/scc-tsd-final-july-2015.pdf.

[28] Multiple Intervenors' Comments 36; Multiple Intervenors' Comments on Proposed Expedited Program 8 (May 2, 2016).

obtaining zero-emissions generation would be to subsidize new renewable generation to replace existing nuclear generation, which will be far more costly and will ultimately slow or erase, rather than accelerate, the State's climate progress. Thus, the proposed pricing mechanism for the Nuclear Tier does not treat customers unfairly or place them in a "heads-you-win, tails-I-lose" position.[29]

CONCLUSION

CENG looks forward to working with the Commission and other stakeholders to finalize the CES by June 2016, so that a ZEC procurement can take place by September 30, 2016.

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[29] Multiple Intervenors' Comments 36.