

COMMENTS OF ENTERGY CORPORATION ON THE REGIONAL GREENHOUSE GAS  
INITIATIVE'S PROPOSED REFERENCE CASE AND SENSITIVITY ANALYSES  
ASSUMPTIONS FOR USE IN THE INTEGRATED PLANNING MODEL

**Introduction**

Entergy Corporation and its direct and indirect subsidiaries (collectively, "Entergy"), respectfully submit these comments (the "Comments") in response to the Regional Greenhouse Gas Initiative's ("RGGI") development of its *draft* Reference Case and Sensitivity Analyses Assumptions, dated August 13, 2012 (the "2012 Reference Case") for the Integrated Planning Model ("IPM") to be used in the upcoming RGGI Program Review. Entergy previously has submitted comments on prior Reference Cases and hereby incorporates those comments as if submitted here.

By way of background, Entergy Corporation is an integrated energy company engaged primarily in electric power production and retail distribution operations. Entergy owns and operates power plants with approximately 30,000 megawatts of electric generating capacity, including more than 10,000 megawatts of nuclear power, making it one of the nation's leading nuclear generators. With respect to its nuclear operations, Entergy companies own or operate eleven (11) nuclear units, five (5) of which are located in the northeastern United States. Within the RGGI Region (i.e., the states currently participating in RGGI – Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island and Vermont – collectively, the "Participating States"), Entergy owns and operates: (1) Vermont Yankee Station, a 535 MW electric generation facility located in Vermont, (2) Indian Point Units 2 and 3, and the James A. Fitzpatrick Station – three facilities located in New York, with a cumulative capacity of 2,775 MW, and (3) Pilgrim Nuclear Power Station, a 670 MW electric generating facility located in Massachusetts. Also, in December 2011, an Entergy subsidiary purchased the Rhode Island State Energy Center, a 583 MW natural gas-fired combined-cycle generating plant located in Johnston, Rhode Island. Further, Entergy has long been recognized for its environmental leadership with respect to its response to climate change, having been the first U.S. utility (in 2001) to commit voluntarily to stabilize carbon emissions in its fleet. *See* Entergy, 2011 Sustainability Report, Measuring Our Progress: Economic, Environmental and Social Performance, 32-37 (2011), *available at*: [http://www.entergy.com/content/sustainability/2011\\_sustainability\\_report.pdf](http://www.entergy.com/content/sustainability/2011_sustainability_report.pdf). This action, among many others, has led to Entergy's ranking as an environmental leader, including being named to the Dow Jones Sustainability World or North America Index (or both) for ten consecutive years and being named as one of the Top 500 "greenest" U.S. companies by *Newsweek*. *Id.* at inside front piece and 34.

During the August 13, 2012 Stakeholder Webinar, RGGI staff specifically asked for comments or suggestions on the results and assumptions of the Reference Case for the IPM. As a major electricity provider in the RGGI Region, as well as a company committed to advancing sustainability and climate change goals, Entergy's Comments provide informed insight into future electric generation in the RGGI Region.

**Comments on**  
**Reference Case and Sensitivity Analyses Assumptions:**  
**Firmly Planned Generation and Retirement**

At the Stakeholder Webinar, RGGI staff provided a presentation entitled “RGGI Draft 2012 Reference Case and Sensitivity Analyses Assumptions,” with appendices (the “Reference Case Presentation”). The Reference Case Presentation included a prior presentation developed by RGGI staff for its March 20, 2012 Stakeholder Meeting and entitled “Essential Scenarios for Modeling.” These twin Presentations inform these Comments.

In the Reference Case Presentation, slide 16, entitled “Firmly Planned Generation and Retirements,” includes (as a Reference Case assumption) the retirement of Entergy’s Indian Point Units 2 and 3 (collectively, “Indian Point”) and Vermont Yankee in 2013, 2015 and 2014, respectively. The Reference Case assumptions for Vermont Yankee and Indian Point are incorrect, speculative and represent a needless and unexplained reversal of the basic assumptions under which the RGGI program and its current emission cap were first established, i.e., all existing nuclear generating facilities would continue operating. (The 2011 Reference Case Presentation, on which Entergy previously commented, identified Vermont Yankee as retired in 2012, likewise and now even more obviously an incorrect assumption.) Consequently, and for the reasons detailed below, the retirements of Vermont Yankee and Indian Point are *not* appropriate Reference Case assumptions, and should be revised accordingly.

According to the RGGI staff’s presentation, there is a measure for including facilities or planned projects within the Reference Case as “firmly planned:” “Firmly planned capacity additions and retirements are those that are far enough along in the process to be included in the Reference Case.” *See* Reference Case Presentation, Slide 10. The standard reflects the truism that new projects, even where not assured, are properly considered within the IPM planning horizon. Because the standard is focused on *new* projects, with their typically high rates of attrition, we respectfully suggest that every *existing* facility, unless and until it’s owners have publicly and finally announced a retirement or closure, should be included as firmly planned.

The error in doing otherwise is underscored with respect to Vermont Yankee and Indian Point. Entergy has not indicated any intent to retire either unit, and in fact plans no such retirements. Rather, Entergy has been clear that it intends to continue to operate Vermont Yankee and Indian Point through their twenty-year license renewal periods. What’s more, both Vermont Yankee and Indian Point operate, daily and essentially in their respective grids, pursuant to the full panoply of federal, state and local authorizations, as a matter of fact and law.

With respect to continued operations, the Vermont Yankee condition is particularly stark: First, the United States Nuclear Regulatory Commission (“NRC”) is the agency primarily responsible for reaching license renewal decisions, and Vermont Yankee successfully has received its renewed license from NRC. *See* NRC, Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations, Inc., Vermont Yankee Nuclear Power Station, Docket No. 50-271, Renewed Facility Operating License (March 21, 2011), ADAMS No. ML052720265 (Hereinafter “VY Renewed License”). Second, the D.C. Circuit Court of appeals summarily has rejected a

challenge to that license, and the Vermont federal district court has issued a decision underscoring the primacy of NRC's authority. *See Vt. Dep't of Pub. Serv. v. United States*, 684 F.3d 149 (D.C. Cir. 2012); *Entergy Nuclear Vermont Yankee, LLC v. Shumlin*, 838 F.Supp.2d 183 (D.Vt. 2012). Further, under applicable Vermont law Entergy is entitled to a Certificate of Public Good as demonstrated by its filings and testimony submitted to the Vermont Public Service Board and a decision on this matter is expected in 2013. *See* Vermont Public Service Board, Docket No. 7862, Amended Petition of Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc., for amendment of their Certificate of Public Good and other approvals required under 30 V.S.A. § 231(a) for authority to continue after March 21, 2012, operation of the Vermont Yankee Nuclear Power Station, including the storage of spent-nuclear fuel. For this reason, the Presentation's statement that "ongoing legal action" (on Reference Case Presentation, Slide 16) forms the basis for RGGI Staff's determination is untenable and incorrect, as the two judicial (or legal) decisions involving Vermont Yankee's license-renewed operations to date have been resolved in Vermont Yankee's favor. For this reason, the Reference Case assumption is appropriately based on the continued operation of Vermont Yankee.

The identified retirement of Indian Point is equally flawed, even under the standard that RGGI staff has set. The Indian Point renewal process has been ongoing since 2006 and has made substantial headway toward the start of formal evidentiary hearings, thus satisfying the applicable standard for "far enough along" proceedings, particularly, as here, where NRC to date has granted every license-renewal application following a rigorous review and approval procedure, including those within the RGGI Participating States. Indeed, among the Entergy northeastern nuclear stations, three of four, i.e., Pilgrim, Vermont Yankee and FitzPatrick, successfully have received favorable license renewal determinations from NRC. *See* NRC, Entergy Nuclear Generation Company And Entergy Nuclear Operations, Inc., Pilgrim Nuclear Power Station, Docket No. 50-293, Renewed Facility Operating License (May 29, 2012), ADAMS No. ML052720275; VY Renewed License; NRC, Entergy Nuclear Fitzpatrick, LLC And Entergy Nuclear Operations, Inc., James A. Fitzpatrick Nuclear Power Plant, Docket No. 50-333, Renewed Facility Operating License (Sept. 8, 2008), ADAMS No. ML082490369. Moreover, Indian Point's continued operation until an NRC final decision is reached is assured under the federal Administrative Procedures Act timely renewal doctrine, underscoring the inappropriateness of a retirement commencing in 2013. Indeed, Reference Case Presentation Slide 9 indicates that RGGI staff have concluded that "[n]ew nuclear can be built on an economic basis at existing plant sites," and also that "existing nuclear units were offered options to relicense and uprate." Thus, RGGI staff's assumptions for Indian Point are internally inconsistent with its own findings that existing nuclear units will not only continue, but may be expanded. For these reasons, the 2012 Reference Case assumption is more appropriately based on the continued operation of Indian Point.

While Entergy acknowledges that RGGI staff reasonably must accommodate demonstrated uncertainty in future operations, the nominal uncertainty surrounding the Indian Point license renewal is more appropriately considered as part of the RGGI Sensitivity Analysis – High Emissions assumptions. (That is, the continued operation of Indian Point and Vermont Yankee are properly included in the RGGI Sensitivity Analysis – Low Emissions assumptions.) Inclusion of the Indian Point retirement in the High Emissions assumptions is more appropriate than inclusion in the Reference Case assumption, as it recognizes Entergy's commitment and

progress toward the continued operation of Indian Point in a manner consistent with RGGI staff's general assumptions (Slide 9), its standard (Slide 16) and its treatment of other nuclear units. Indeed, to the extent RGGI staff want to understand the effects of nuclear stations' inclusion, they should consider an additional sensitivity analysis reflecting the inclusion and exclusion as operating units in 2013-2015 of Indian Point and Vermont Yankee, but exclusion of the units in the reference case is not warranted.

Furthermore, Entergy's Comments underscore a fundamental climate change goal: The continued operation of existing nuclear facilities, such as Indian Point, is essential for the prevention of increased carbon emissions in the RGGI Region. A 2011 report commissioned by the City of New York's Department of Environmental Protection highlights the importance of Indian Point's generation in maintaining air emissions. The report found that any option to replace Indian Point's electric generating capacity would significantly increase criteria air contaminants, and represent a hurdle to climate change goals, because Indian Point daily provides 2,000 MW of generation with virtually no air emissions. *See* Charles River Associates, Indian Point Energy Center Retirement Analysis, Prepared for the New York City Department of Environmental Protection, 13 (Aug. 2, 2011), *available at*: [http://www.nyc.gov/html/dep/pdf/energy/final\\_report\\_d16322\\_2011-08-02.pdf](http://www.nyc.gov/html/dep/pdf/energy/final_report_d16322_2011-08-02.pdf). New York would see "approximately a 15% increase in carbon emissions under most conventional [Indian Point] replacement scenarios, with roughly a 7 to 8% increase in nitrogen oxide emissions." *Id.* at 13. Overall, the US nuclear industry avoided 613 million metric tons of CO<sub>2</sub> emissions, 1.41 million short tons of SO<sub>2</sub>, and 0.54 million short tons of NO<sub>x</sub> emissions in 2011 alone. *See* Nuclear Energy Institute, Emissions Avoided by the U.S. Nuclear Industry (1995-2011), *available at*: <http://www.nei.org/resourcesandstats/documentlibrary/protectingtheenvironment/graphicsandcharts/emissionsavoidedbytheusnuclearindustryyearly/>. Importantly, Entergy notes that the analysis performed and provided in the Reference Case Presentation does not purport to be, and cannot be equated with, reliability determinations issued by Independent System Operators ("ISO"); to the contrary, relevant assessments performed by the New York and New England ISOs continue to demonstrate how essential continued operation of Vermont Yankee and Indian Point are to the electric-system reliability and the affordability of electricity. *See, e.g.*, ISO New England, 2011 Regional System Plan, (Oct. 21, 2011); New York ISO, 2010 Comprehensive Reliability Plan, Final Report (Jan. 11, 2011).

## **Conclusion**

In addressing widespread concerns over specific forms of natural gas extraction (known as "hydraulic fracturing") in New York State, Governor Cuomo has cautioned that we must first "get the facts [and] [l]et the science and the facts make the determination, not emotion and not politics." Thomas Kaplan, *Millions Spent in Albany Fight to Drill for Gas*, N.Y. TIMES Nov. 25, 2011, at A1. We concur with Governor Cuomo's assessment, including as it applies to RGGI. While the landscape of carbon regulation may be increasingly complicated, RGGI nonetheless has the ability to serve as a standard for other regions of the country, and the nation, to emulate or to seek to avoid. Absent a properly structured program grounded in sound science, not emotion or politics, RGGI's role as the template for a nation may not be realized.

From RGGI's inception, Entergy has shared and supported the goal of reducing Climate Change impacts in a manner that supports a reliable and affordable energy supply for the Participating States' citizens. However, for reasons set forth in these Comments, we call for changes to the modeling program so that Vermont Yankee and Indian Point are included in the Reference Case Presentation. If science, in fact, controls in energy and environmental decision-making within New York State, as Governor Cuomo maintains, the continued operation of Vermont Yankee and Indian Point will be identified in the Reference Case. Entergy therefore appreciates RGGI's commitment to future Program Reviews, the opportunity to submit these Comments, and the expectation of revisions consistent with these Comments.

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Should you have any questions on these Comments, please do not hesitate to contact Brent W. Dorsey of Entergy at 281-297-3321 or Elise N. Zoli at 617-570-1612.

COMMENTS OF ENTERGY CORPORATION ON THE REGIONAL GREENHOUSE GAS  
INITIATIVE'S PROPOSED REFERENCE CASE AND SENSITIVITY ANALYSIS  
ASSUMPTIONS FOR USE IN THE INTEGRATED PLANNING MODEL

OCTOBER 5, 2011

**Introduction**

Entergy Corporation and its direct and indirect subsidiaries (collectively, "Entergy") respectfully submit these comments in response to the Regional Greenhouse Gas Initiative's ("RGGI") development of proposed Reference Case and Sensitivity Analysis assumptions for the Integrated Planning Model ("IPM") to be used in the 2012 RGGI Program Review. By way of background, Entergy owns numerous electric generating facilities, producing over 30,000 megawatts ("MW") of electricity, and is the second largest owner and operator of nuclear power plants in the United States. With respect to its nuclear operations, Entergy companies own or operate eleven (11) nuclear units, five (5) of which are located in the northeastern United States. Within the RGGI Region (i.e., the states currently participating in RGGI - Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont – collectively, the "Participating States"), Entergy owns and operates: (1) Vermont Yankee Station, a 535 MW electric generation facility in Vermont, (2) Indian Point Units 2 and 3, and the James A. Fitzpatrick Station – three facilities located in New York, with a cumulative capacity of 2,775 MW, and (3) Pilgrim Nuclear Power Station, a 670 MW electric generating facility in Massachusetts.

During the September 19, 2011 Stakeholder Meeting, RGGI staff specifically asked for comments or suggestions on the results and assumptions of the Reference Case and Sensitivity Analysis for the IPM. As a major electricity provider in the RGGI Region, Entergy's comments provide informed insight into future electric generation in the RGGI Region.

**Comments on Reference Case and Sensitivity Analysis Assumptions: Firmly Planned  
Generation and Retirement**

At the September 19, 2011 Stakeholder Meeting, RGGI staff presented on "RGGI Reference Case Assumptions." Presentation slide 21, entitled "Firmly Planned Generation and Retirements, Unit-specific Retirements in RGGI," included as a Reference Case assumption the retirement of Entergy's Indian Point Units 2 and 3 (collectively, "Indian Point") and Vermont Yankee Station at the end of their current licenses in 2013, 2015 and 2012, respectively. The Reference Case assumptions for Indian Point and Vermont Yankee are premature, unsubstantiated, and inconsistent with the core purpose of the RGGI program – to reduce emissions. These assumptions are a complete reversal of the basic assumptions under which the RGGI program and its current emission cap were first established, i.e. all existing nuclear generating facilities would continue operating. Entergy does not believe the retirement of Indian Point and Vermont Yankees is an appropriate Reference Case assumption.

According to the RGGI staff's September 19, 2011 presentation, "Firmly planned capacity additions and retirements are those that are far enough along in the process to be included in the Reference Case." RGGI Reference Case Assumptions Presentation, Slide 16. While the State of New York and the State of Vermont have taken public positions of their interest in shutting down the Indian Point and Vermont Yankee Stations, decisions on nuclear operating license renewal and closure are complex, not unilaterally made by the states, and primarily overseen by the United States Nuclear Regulatory Commission ("NRC") through its nuclear operating license renewal procedures, in which New York and Vermont are participating or have participated. As Vermont Yankee has received its operating license renewal and the Indian Point renewal process is on-going,<sup>1</sup> the Reference Case assumption is more appropriately based on the continued operation of Vermont Yankee and Indian Point, as both facilities are significantly far along in the operating license renewal process.

While Entergy understands that RGGI's IPM must consider uncertainty involved in acquiring operating license renewals, any uncertainty surrounding the Indian Point and Vermont Yankee license renewals is more appropriately considered as part of the RGGI Sensitivity Analysis—High Emissions assumptions. Instead, the continued operation of Indian Point and Vermont Yankee are properly included in the RGGI Sensitivity Analysis—Low Emissions assumptions. Inclusion of the Indian Point and Vermont Yankee retirements in the High Emissions assumptions is more appropriate than inclusion in the Reference Case assumption as it recognizes Entergy's commitment and progress toward the continued operation of the Indian Point and Vermont Yankee Stations while acknowledging that license renewals are not guaranteed.

The continued operation of existing nuclear facilities, such as Indian Point and Vermont Yankee, is essential for the prevention of increased carbon emissions in the RGGI Region. A 2011 report commissioned by the City of New York's Department of Environmental Protection highlights the importance of a single nuclear facility's generation in maintaining air emissions. The report found that any option to replace Indian Point's electric generating capacity would significantly increase air pollutants because Indian Point is able to provide 2,000 MW of generation with virtually no air emissions. *See* Charles River Associates, Indian Point Energy Center Retirement Analysis, Prepared for the New York City Department of Environmental Protection, 13 (Aug. 2, 2011). New York would see "approximately a 15% increase in carbon emissions under most conventional [Indian Point] replacement scenarios, with roughly a 7 to 8% increase in nitrogen oxide emissions." *Id.* at 13. The retirement of Vermont Yankee is likely to have parallel impacts on air emissions in Vermont. For this reason, the Reference Case assumptions should not include the retirement of existing nuclear facilities, as retirements will result in a significant increase in carbon emissions.

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From RGGI's inception, Entergy has shared and supported the goal of addressing CO2 emissions in a manner that supports a reliable and affordable energy supply for the RGGI Region's

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<sup>1</sup> On March 21, 2011, Entergy received its operating license renewal for Vermont Yankee from the NRC. In April 2007, Entergy applied to the NRC to renew operating licenses for Indian Point.

citizens.<sup>2</sup> Entergy therefore appreciates RGGI's commitment to the 2012 Program Review and the opportunity to submit comments on the 2012 Program Review methodology. Please direct any questions regarding our comments to Elise Zoli at 617-570-1612.

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<sup>2</sup> Entergy's prior comments in support of RGGI are attached for reference.



COMMENTS OF ENTERGY CORPORATION ON THE REGIONAL GREENHOUSE GAS  
INITIATIVE'S PUBLIC REVIEW MODEL RULE DRAFT 03/23/06

**Introduction**

Entergy Corporation and its direct and indirect subsidiaries (collectively, "Entergy") respectfully submit these comments in response to the Draft Model Rule for the Regional Greenhouse Gas Initiative ("RGGI") that was provided for public comment on March 23, 2006 (the "Draft Rule").

By way of background, Entergy owns numerous fossil-fuel facilities, generating over 30,000 megawatts ("MW") of electricity worldwide, and is the second largest owner and operator of nuclear power plants in the United States. With respect to its nuclear operations, Entergy companies own or operate eleven (11) nuclear units, five (5) of which are located in the northeastern United States. Within the RGGI Region (i.e., the states currently committed to participating in RGGI - Connecticut, Delaware, Maine, Maryland, New Hampshire, New Jersey, New York and Vermont - collectively, the "Participating States"), Entergy owns and operates: (1) Vermont Yankee Station - a 535 MW electric generation facility in Vermont that produces approximately 72% of the electricity produced within the state, and (2) Indian Point, Units 2 and 3, and the James A. Fitzpatrick Station - three facilities located in New York with a cumulative capacity of 2,775 MW that collectively produce approximately 16% of the state's power. (Because Massachusetts played a role in the RGGI-development process, it is also noteworthy that Entergy owns and operates the 670 MW Pilgrim Nuclear Power Station in Massachusetts, which, according to the New England Energy Alliance, avoids approximately 1.6 million tons of carbon dioxide ("CO<sub>2</sub>") a year - the amount that would be generated if the facility's output were to be replaced with the output of existing fossil-fuel generation facilities.) In addition to their critical contribution to the power supply, Entergy's nuclear facilities also provide an important and largely unrecognized environmental benefit to the RGGI Region. Since the 1970s, Entergy's and others' nuclear stations have demonstrated their value, not only by producing reliable base-load electricity, but by generating that electricity without emitting CO<sub>2</sub>, sulfur dioxide ("SO<sub>2</sub>"), nitrous oxides ("NO<sub>x</sub>") or mercury. Entergy brings to nuclear operations an unparalleled expertise and a commitment to safe, secure and cost-effective energy production with significant environmental and public-health benefits.

As one of the largest producers of electric power in the United States, Entergy recognizes its leadership role in delivering power while protecting the environment and public health. In particular, Entergy is committed to improving air quality and helping to successfully redress climate change. For example, in 2001, Entergy made a public corporate commitment to stabilize company CO<sub>2</sub> emissions at 2000 levels through 2005. Cumulatively, through 2005, Entergy reduced emissions 23%, while increasing electric sales by 21% over the same period. On May 1, 2006, Entergy expanded its commitment to stabilize CO<sub>2</sub> emissions at a level 20% below the 2000 levels for the years 2006 through 2010. Examples of Entergy's climate-related undertakings in 2006 include transactions involving the acquisition of 300,000 metric tons of greenhouse gas ("GHG") emission reductions that Entergy will retire as part of its voluntary emission reduction initiative and participation in Massachusetts' development of a GHG emissions trading program. Furthermore, as you are no doubt aware, Entergy has been an active

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stakeholder in and vocal supporter of the multi-year development process of RGGI – consistent with Entergy’s support for mandatory CO<sub>2</sub> regulations. *See, e.g.*, CERES, “Corporate Governance and Climate Change: Making the Connection,” (March 2006) at pg. 87, *available at* [http://www.ceres.org/pub/docs/Ceres\\_corp\\_gov\\_and\\_climate\\_change\\_0306.pdf](http://www.ceres.org/pub/docs/Ceres_corp_gov_and_climate_change_0306.pdf) (“Both Entergy’s CEO and Chairman have spoken publicly about the dangers of climate change . . . and the need for immediate government action.”). In addition to its nuclear-powered fleet and fossil-fuel facilities, Entergy is committed to advancing renewable-power generation, and already includes in its fleet wind-turbine projects (in Iowa and Texas) and several hydro-electric projects (in Arkansas and Texas).

Consistent with its commitment to climate-change initiatives, Entergy understands the complexities of creating a successful cap-and-trade program for CO<sub>2</sub> emissions – one that advances important environmental objectives without compromising an affordable, reliable and diverse supply of electricity in the RGGI Region.

Entergy commends the Participating States for recognizing the interactions between environmental regulations and energy policies and creating an Inter-State RGGI Staff Working Group (the “Working Group”) that includes representatives from the various public service commissions and their electric-system expertise. Entergy appreciates both the Participating States’ initiative in the arena of CO<sub>2</sub> regulations, and the time and effort, particularly of the Working Group, devoted to creating the Draft Rule. Entergy also appreciates the opportunity to submit these comments on the Draft Rule.

### Comments

Entergy generally supports the objectives of the Draft Rule. In particular, Entergy concurs with the Participating States’ recognition of the importance of advancing air quality goals with appropriate sensitivity to public health, environmental, energy and related economic considerations. *See, e.g.*, RGGI Memorandum of Understanding (“MOU”) (“the [Participating] States each individually have a policy to conserve, improve, and protect their natural resources and environment in order to enhance the health, safety, and welfare of their residents consistent with continued overall economic growth and to maintain a safe and reliable electric power supply system.”). New, license extended and uprated nuclear facilities (“Nuclear Plants”) may uniquely contribute to meeting these goals of a reliable and affordable electric-system while improving air quality.<sup>1</sup>

Nuclear plants provide a recognized and important base-load source of power that cannot be replaced with other non-emitting generating sources, such as wind or solar projects, the operation

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<sup>1</sup> *See e.g.*, Electric Power Research Institute, “2006 Portfolio: 41.010 New Nuclear Plant Deployment,” *available at* [http://www.epriweb.com/public/2006\\_P041-010.pdf](http://www.epriweb.com/public/2006_P041-010.pdf) (“[T]he importance of fuel diversity to better absorb shocks such as fuel supply restrictions, the need to reduce dependence on foreign oil, the need to better address pollution and global warming concerns are all reasons to provide nuclear generation in the future.”); *see also* Nuclear Energy Institute, “Nuclear Facts,” *available at* <http://www.nei.org/index.asp?catnum=1&catid=1> (“Nuclear power plants provide low-cost, predictable power at stable prices and are essential in maintaining the reliability of the U.S. electric power system.”).

of which cannot be assured in all conditions.<sup>2</sup> Nuclear facilities also provide a recognized and important market-stabilizing function through the use of long-term power-purchase agreements and their market-bidding behavior. Indeed, energy-market experts, such as ISO New England, the New York ISO and PJM Interconnection, have indicated that maintaining a sufficiently diverse source of electrical generation, including nuclear power, is necessary to ensure a reliable and affordable supply of electricity, particularly under RGGI.<sup>3</sup> Because of the unique and important role that Nuclear Plants play in achieving a reliable and affordable electric system that minimizes negative air quality impacts, Entergy can offer comments on the Draft Rule from a relatively unique perspective – as the second largest owner/operator of nuclear facilities in the country, and as a company that supports mandatory CO<sub>2</sub> regulations that would apply to its own fossil-fuel facilities.

The Draft Rule is a substantial step forward, and Entergy once again commends the Participating States and Working Group for their groundbreaking efforts. However, as currently drafted, the Draft Rule inadvertently risks creating a program in which developers are disincentivized from undertaking CO<sub>2</sub> emission reduction projects, resulting in a limited and overpriced market for CO<sub>2</sub> offset allowances. Such a result would contradict RGGI's objective of maximizing CO<sub>2</sub> emission reductions with minimal electric-system impacts. Entergy's comments, if accepted, resolve these risks to market function and, therefore, RGGI's goals. This is all the more important here, since RGGI, if successful, undoubtedly will be a model for future national CO<sub>2</sub> regulations, and, if unsuccessful, may delay implementation of important air-quality initiatives. In short, there is simply no avoiding that the future success of air-quality measures depends, in no small measure, on how effectively RGGI functions.

## I Support for and Suggestions Regarding Specific Tenets of the Draft Rule

Entergy has historically advocated for the following principles and supports their inclusion in the Draft Rule as essential components in creating a program that effectively balances important environmental and public health goals with essential energy policy objectives.

- Mandatory market-based (i.e., competitive) regulation of CO<sub>2</sub> emissions, on either a national or regional scale. Allowing any person, whether or not regulated by RGGI, to hold, create and transfer CO<sub>2</sub> allowances and offset allowances fosters a free-market. Similarly, allowing Participating States to conduct auctions of CO<sub>2</sub> allowances with all generators, whether or not regulated by RGGI, will help create a demand, and subsequent

<sup>2</sup> See e.g., National Rural Electric Cooperative Association, "White Paper on Wind Power," (April 2003), available at <http://www.nreca.org/Documents/PublicPolicy/Windwhitepaper.pdf> ("Power from wind and photovoltaic systems is intermittent and cannot be scheduled or dispatched reliably to meet system requirements.")

<sup>3</sup> See e.g., Mark Babula, ISO New England, "RGGI Design, Markets and Reliability – Issues Relating to Systems Operations," (Nov. 30, 2004), available at [http://www.rggi.org/docs/babula\\_pres\\_11\\_30\\_04.ppt](http://www.rggi.org/docs/babula_pres_11_30_04.ppt) ("Consider fuel diversity an essential feature of electric system planning," and "reliability is paramount."); ISO New England, "Regional System Plan 2005," (Oct. 20, 2005), available at <http://www.iso-ne.com/trans/rsp/2005/05rsp.pdf> ("About two-thirds of New England generation relies on gas or oil as its primary fuel. A more diverse portfolio is highly desirable since gas and oil are the most expensive fuels, are highly volatile in price, and are increasingly dependent on imported supply.").

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financial value for, CO<sub>2</sub> allowances (i.e., CO<sub>2</sub> emission reductions) that will encourage the development of projects eligible for CO<sub>2</sub> offset allowances, thereby furthering RGGI's overarching objective of reducing CO<sub>2</sub> emissions.

- Fuel-neutral, air quality regulations. Entergy supports the flexibility awarded to Participating States with respect to allocating their CO<sub>2</sub> allowances and the inclusion of non-carbon emitting energy technologies as an activity to be encouraged and fostered via the sale or distribution of allowances from consumer benefit/strategic energy purpose accounts. The Draft Rule should be amended to require that any method selected for distributing CO<sub>2</sub> allowances to new facilities, including Nuclear Plants, treat such sources in a fuel-neutral manner.
- Involving Electric-System Experts. Involvement of regulatory agencies with expertise in energy issues should be a premium. RGGI's success depends on a resounding public perception that energy services are not compromised or made substantially less affordable. Energy regulators will have insight into the delicate balance that must be achieved, and how it is best achieved.
- RGGI's Value as a Precedent. As illustrated by its comments submitted to the United States Senate Committee on Energy and Natural Resources in connection with its April 4, 2006 Climate Conference, Entergy generally supports the use of cap-and-trade programs that recognize the contribution of all electric generators, regardless of their fuel source, as a means of achieving environmental objectives. For the sake of uniformity and predictability – factors which help businesses forecast the price of their goods and alleviate undesirable fluctuations in electricity pricing – a national standard for CO<sub>2</sub> emissions is preferable. RGGI is the most visible step forward to a national standard, and its relative success will in large part determine the future of CO<sub>2</sub> regulation. For this reason, decisions regarding the Draft Rule must be carefully considered relative to their potential national impacts.

Each of the above is addressed in greater detail below:

### *A Mandatory Market-Based Regulation of CO<sub>2</sub> Emissions*

For market-based approaches to environmental regulations to succeed, the market must be allowed to operate without artificial constraints that negatively impact the demand, supply or price of a commodity. Open access to markets corresponds to true demand, in this case, the demand for CO<sub>2</sub> emission reductions, which is the purpose of RGGI. Entergy therefore supports the provisions in the Draft Rule that permit any person to either hold and transfer CO<sub>2</sub> allowances or to create and transfer CO<sub>2</sub> offset allowances. Including entities beyond those units directly governed by the Draft Rule, i.e., "Non-Affected Facilities," as parties qualified to create and sell CO<sub>2</sub> allowances and CO<sub>2</sub> offset allowances is an essential component in fostering a sufficient and sustainable allowance trading market that will achieve the environmental goals of the RGGI standards, while simultaneously protecting the reliability and affordability of the RGGI Region's electricity supply. Broad access to the market ensures that CO<sub>2</sub> allowances and offset allowances have adequate value to encourage novel or innovative projects, including

renewables or new nuclear facilities, that further the nation's twin air-quality and electric-supply goals. Entergy is aware that there is an incorrect assumption that new nuclear construction does not need economic encouragement; however, thirty years of no nuclear construction – the last new nuclear facility construction was approved in 1979 – suggests that appropriate economic encouragement is warranted. Similarly, Entergy believes that any auction of CO<sub>2</sub> allowances should be open to all electric generators, regardless of their fuel source or regulated status under RGGI. If the natural demand for CO<sub>2</sub> allowances (i.e., CO<sub>2</sub> emission reductions) is fettered by restrictions on issues such as auction participants, the price of CO<sub>2</sub> allowances could be artificially dampened, thereby creating a disincentive for the development of additional projects eligible for CO<sub>2</sub> offset allowances – such a result would impede the driving objective of RGGI to reduce CO<sub>2</sub> emissions.

*B Fuel-Neutral Air Quality Regulations*

Entergy also supports the flexibility awarded in the Draft Rule to Participating States in determining how their CO<sub>2</sub> allowances shall be distributed – in particular, the lack of restriction on the methods that Participating States can use to distribute their assigned CO<sub>2</sub> allowances (other than the requirement to set-aside twenty-five percent (25%) of the allocation for consumer benefit or strategic energy purposes). This design allows Participating States to allocate CO<sub>2</sub> allowances to all generating facilities, regardless of CO<sub>2</sub> emissions, either immediately or with respect to new generation capacity. Distributing CO<sub>2</sub> allowances on the basis of a facility's contribution to the electric system (i.e., Megawatt-hour output), rather than CO<sub>2</sub> emissions, is a useful means of encouraging the use and development of electricity sources with reduced air-quality impacts, rather than simply dividing the vast majority of the pie among existing emission sources. Under this approach, a wind farm or new nuclear facility would receive CO<sub>2</sub> allowances in the same manner and to the same degree as a new coal-fired plant, thereby recognizing the level of CO<sub>2</sub> emissions avoided. This system will provide incentives for lower or non-emitting sources to enter or remain in the market, the need for which is again evidenced by the fact that there have been no new nuclear facilities built in the United States since the late 1970s. This system also ensures fuel diversity, one of the tenets of a reliable and affordable electric system. Similarly, Entergy also supports the Draft Rule's promotion of non-carbon emitting energy technologies as an activity that should be encouraged and fostered via the sale or distribution of allowances from the consumer benefit/strategic energy purpose account.

In short, Entergy recommends that the Draft Rule include a provision requiring Participating States to distribute CO<sub>2</sub> allowances to *all* new sources of generating capacity regardless of their CO<sub>2</sub> emissions, including Non-Affected Facilities, such as new nuclear facilities or those undergoing uprates or license extensions, based on the megawatt-hour output of such sources. (Entergy is not suggesting that the Draft Rule should require Participating States to utilize a particular method to award or distribute allowances to new generating capacity, rather simply that any chosen mechanism should be applied in a fuel-neutral manner. It is important, however, to ensure that RGGI does not create a burden on market entry for new facilities.) By proceeding with an eye to promoting a future that simultaneously incorporates air-quality and fuel diversity considerations, RGGI will best achieve its goals.

Entergy commends the Participating States' recognition of the potential for interaction between the proposed RGGI environmental regulations and energy issues. In light of what appears to be the emerging recognition that air-quality regulations are inextricably linked to electric-system function and market pricing, it is important that the regulators with the requisite expertise – that is, those whose mission is to ensure that electricity consumers within the state are provided with reliable and cost-effective electricity – adequately participate in the design and implementation of environmental regulations. The RGGI process has acknowledged and addressed this important dynamic by establishing a Working Group with representatives from both environmental and energy-oriented public bodies. Entergy suggests that the Draft Rule incorporate language encouraging Participating States to maintain a similar level of cooperation between environmental and energy agencies as they develop and implement legislation and/or regulations to implement RGGI. The viability of such an approach at the state level is illustrated by the RGGI-implementing legislation recently passed in Vermont, which calls for the State Public Service Board to work with the State Agency of Natural Resources to establish the necessary cap and trade program for CO<sub>2</sub> emissions. See “An Act Relating to Vermont’s Participation in the Regional Greenhouse Gas Initiative,” *available at* <http://www.leg.state.vt.us/docs/legdoc.cfm?URL=/docs/2006/acts/ACT123.HTM>. Moreover, it is the Public Service Board’s responsibility to establish a process to allocate Vermont’s budget of CO<sub>2</sub> allowances and the proceeds from the sale of such credits.

## II Recommendations regarding Offset Provisions of the Draft Rule

Entergy appreciates the Working Group’s specific solicitation of comments on the Draft Rule’s offset provisions. This section of the Draft Rule is a novel aspect of the RGGI program that, in laying the groundwork for future iterations of offset schemes, goes beyond its technical value. As discussed above, a diverse source of CO<sub>2</sub> offset allowances will help promote the dual goals of RGGI – effectively and continuously reducing CO<sub>2</sub> emissions (including through encouragement of non-emitting sources) and minimizing the impacts of CO<sub>2</sub> emissions standards on the electric system. Generally speaking, Entergy believes that the type of system best able to meet these objectives is one in which any project that meets specified standards is eligible to generate CO<sub>2</sub> offset allowances. Recognizing, however, that the Participating States have opted, for the time being, to approve only limited projects as eligible for CO<sub>2</sub> offset allowances, Entergy offers the following suggestions for strengthening the mechanism outlined in the Draft Rule.

Briefly:

- Include a protocol or standards allowing expansion of the projects eligible to receive CO<sub>2</sub> offset allowances.
- Continue to make CO<sub>2</sub> offset allowances available to (i) any person sponsoring an eligible project and (ii) all projects that either *reduce or avoid* atmospheric loading of CO<sub>2</sub> or CO<sub>2</sub> equivalent. To ensure that this approach is properly implemented, revise all references to the award of CO<sub>2</sub> offset allowances for “demonstrated reductions in CO<sub>2</sub>” to “demonstrated reductions in or avoidance of CO<sub>2</sub>.”

- Allow CO<sub>2</sub> emission credits issued pursuant to programs within the United States, but outside the RGGI Region, to receive a RGGI CO<sub>2</sub> offset allowance if retired. Similarly, projects that retire CO<sub>2</sub> credits or allowances received under other mandatory or voluntary greenhouse gas programs should be eligible to receive RGGI CO<sub>2</sub> offset allowances.
- Avoid “regulatory plus” additionality requirements and remove those, e.g., limits on receiving funding or credits from systems benefit funds or renewable portfolio standards, that may deter development of new technologies or projects with multi-pollutant benefits.
- Avoid “financial additionality” factors requiring applicants to demonstrate that the sale of CO<sub>2</sub> offset allowances certified in accordance with RGGI is anything other than a relevant financial consideration prompting the implementation of a project. Removing financial additionality provisions reduces uncertainty as to which projects satisfy the Draft Rule eligibility requirements, thereby reducing the risk that investors will decline to participate in the development of new technologies in the field of CO<sub>2</sub> reductions. It also reflects the market reality that it is unlikely for a single factor to drive project development.
- Avoid “environmental additionality” factors that preclude projects that comply with all applicable environmental laws and regulations. Projects that have obtained all required environmental permits should be eligible for CO<sub>2</sub> offset allowances. Without such a guarantee, an environmental additionality requirement would risk creating a system in which offset project approvals are arbitrary and capricious.

The above comments are further detailed below:

*A Protocols for Expanding the Projects Eligible for CO<sub>2</sub> Offset Allowances*

The Draft Rule should be amended to specify a process by which the Participating States can either (i) amend the offsets provisions by replacing the limited categories of projects eligible for CO<sub>2</sub> offset allowances with general standards governing eligibility, or (ii) increase the list of pre-approved projects eligible for CO<sub>2</sub> offset allowances. Such a provision will facilitate the recognition and encouragement of the air quality benefits from existing and new non-CO<sub>2</sub> generating sources and the ability of RGGI to evolve in a manner that recognizes and accounts for the contribution to air quality from the development of new technologies and entrepreneurial projects that can contribute to the reduction of CO<sub>2</sub> emissions.

*B Availability of CO<sub>2</sub> Offset Allowances to Projects that Reduce or Avoid CO<sub>2</sub> Emissions*

Entergy supports the Draft Rule’s provision of CO<sub>2</sub> offset allowances to projects that both reduce and avoid CO<sub>2</sub> emissions as an important step towards creating a fuel-neutral program that recognizes and encourages the important and equal contribution of renewable and non-CO<sub>2</sub> emitting technologies to air quality. Entergy suggests that, for clarity’s sake, new language added to the Draft Rule regarding the future expansion of the types of projects eligible for CO<sub>2</sub> offsets, as discussed above, also specify that eligibility will be extended to CO<sub>2</sub> emission offsets projects that either “reduce or avoid” atmospheric loading of CO<sub>2</sub> or CO<sub>2</sub> equivalent. Although

the intent of the Draft Rule to award offsets for avoided CO<sub>2</sub> emissions is clear, Entergy recommends revising any reference to the award of CO<sub>2</sub> offset allowances for “demonstrated reductions in CO<sub>2</sub>”, such as in Section XX-10.7 of the Draft Rule, to the award of CO<sub>2</sub> offset allowances for “demonstrated reductions in or avoidance of CO<sub>2</sub>.”

*C Availability of CO<sub>2</sub> Offset Allowances to Projects that Retire CO<sub>2</sub> Credits from other Programs within the United States*

Entergy believes that offset allowances should be awarded to the retirement of any CO<sub>2</sub> emission credit generated outside of the RGGI Region. In other words, CO<sub>2</sub> credits awarded pursuant to mandatory or voluntary programs anywhere in the United States, other than the RGGI Region, should receive RGGI CO<sub>2</sub> offset allowances, if retired. Furthermore, projects should not be excluded from receiving CO<sub>2</sub> offset allowances merely because they are awarded credits or allowances under another mandatory or voluntary greenhouse gas program or market. Instead, such projects should be eligible to receive RGGI CO<sub>2</sub> offset allowances if they document the retirement of such non-RGGI CO<sub>2</sub> credits or allowances without receiving any benefits under RGGI for such retirements, i.e., RGGI CO<sub>2</sub> offset allowances for the retirement of emission credits. The Draft Rule should not supplant the right of a project developer or investor to choose the program under which a project will receive CO<sub>2</sub> offset allowances or credits. Moreover, this approach could help maintain affordable pricing for CO<sub>2</sub> offset allowances within the RGGI Region. For instance, if the cost of a RGGI CO<sub>2</sub> offset allowance is high, proponents of CO<sub>2</sub> emission reducing projects may choose to retire lower-value CO<sub>2</sub> credits from other programs and instead participate in RGGI, thereby increasing the supply of, and helping to lower the price of, RGGI CO<sub>2</sub> offset allowances.

*D “Regulatory Plus” Additionality*

Entergy appreciates that the “regulatory plus” additionality requirements included in Section XX-10.3(d)(2) of the Draft Rule do not preclude projects from receiving CO<sub>2</sub> offset allowances because of their participation in, or receipt of funds from, programs not explicitly listed in the Draft Rule, such as those within the ambit of the Energy Policy Act of 2005. However, the sources of funding and incentives that the Draft Rule provides make a project ineligible to receive RGGI CO<sub>2</sub> offset allowances are sufficiently broad that their inclusion could result in very few projects electing to participate in the RGGI offset allowance scheme, thus jeopardizing a robust CO<sub>2</sub> offset market and RGGI’s ability to achieve its environmental objectives without causing unacceptable electric-system impacts. For instance, the Draft Rule requires project sponsors to choose between the value of RGGI CO<sub>2</sub> offset allowances and the credits that could be used for compliance with renewable portfolio standards; however, it is not clear that any financial analysis has been undertaken to determine when, if at all, the value of new RGGI CO<sub>2</sub> offset allowances will outweigh the value of established renewable portfolio standard credits.

Moreover, the current “regulatory plus” provisions could deter the development and deployment of CO<sub>2</sub>-emission reducing technologies that are on the cusp of economic viability or that provide multi-pollutant benefits. As written, the Draft Rule encourages developers to create projects, to the extent possible, that either only reduce or avoid CO<sub>2</sub> emissions or that reduce or avoid all emissions other than CO<sub>2</sub>. Entergy therefore recommends that the “regulatory plus”



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additionality provisions in the Draft Rule be removed in their entirety. The impact of such deterrents on the development of CO<sub>2</sub> offset projects must be considered in the full context of the Draft Rule, which already includes provisions that discourage investment in projects eligible for CO<sub>2</sub> offset allowances. For instance, the fact that (i) CO<sub>2</sub> allowances do not constitute a property right, (presumably the same is true for CO<sub>2</sub> offset allowances although the Draft Rule is not clear on this point), and (ii) that certified projects can lose their CO<sub>2</sub> offset allowances based on future regulatory changes, may deter developers from undertaking or investors from financing projects eligible for CO<sub>2</sub> offset allowances because of the risk that any allowances eventually awarded could be taken back by a Participating State with no compensation.

### *E “Financial” and “Environmental” Additionality*

No further financial additionality requirements should be added to the Draft Rule because such provisions will not only deter investment in CO<sub>2</sub>-emission reducing technologies, but will also be difficult to implement, requiring regulators to “get inside” the minds of project proponents – an approach that is fraught with the risk of subjective and unpredictable implementation. More financial additionality requirements are not necessary to maintain an appropriate balance between RGGI’s environmental objectives and the realm of energy policy, which is the appropriate forum for debating the role that financial considerations should play in shaping the composition of the RGGI Region’s electricity supply. Moreover, adding financial factors to an additionality test could preclude the development of projects most likely to obtain financing, thus creating an obstacle to projects that could help reduce the level of CO<sub>2</sub> emissions – an outcome that would be contrary to the purpose of RGGI’s CO<sub>2</sub> emission standards. Investors must be willing to facilitate and finance the development of CO<sub>2</sub> offset projects if RGGI is to succeed, and a level and predictable playing field is necessary to attract the requisite participation from the financial sector. Similarly, any inclusion of environmental factors in additionality requirements should not be capable of being used to prevent the allocation of CO<sub>2</sub> offset allowances to projects that have obtained all required environmental permits.

### **Conclusion**

Entergy shares and supports RGGI’s goal of addressing CO<sub>2</sub> emissions in a manner that supports a reliable and affordable energy supply for the RGGI Region’s citizens. Entergy therefore appreciates the opportunity to submit these comments and welcomes the opportunity to work further with the Working Group and Participating States to help create a Model Rule and to implement legislation and regulations that will achieve a meaningful, innovative and successful regulatory program and allowance trading program to support RGGI’s progressive CO<sub>2</sub> emission standards. Any questions regarding our comments may be directed to Elise Zoli at 617-570-1612.