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601 13th Street NW, Suite 850N,  
Washington, DC 20005

October 10, 2013

Mr. Babatunde Asere  
Air Quality Management Section  
Department of Natural Resources and Environmental Control  
Division of Air & Waste Management  
Blue Hen Corporate Center  
655 South Bay Road  
Dover, DE 19901  
Re: Regulation 1147 CO2 Budget Trading Program

**Delivery:           By Email Babatunde.Asere@state.de.us  
with Overnight Mail to Follow**

**Subject:           NRG's Comments on proposed changes to  
Regulation 1147 CO2 Budget Trading Program**

Dear Mr. Asere,

Indian River Power LLC ("Indian River") and NRG Energy Center Dover LLC ("Dover"), and NRG Energy, Inc (collectively "NRG") respectfully submit these comments to the Delaware Department of Natural Resources and Environmental Control ("DNREC" or "Department") regarding the proposed revisions to Regulation 1147: CO2 Budget Trading Program. NRG is one of the country's largest power generation, renewable energy and retail electricity providers. Our power plants provide about 47,000 Megawatts ("MW") of generation capacity, and our retail and thermal subsidiaries serve more than 2 million customers in 16 states. Since 2009, in addition to reducing our carbon footprint more than 60% at the Indian River facility, we have made significant investments in Delaware with our recent Air Quality Control System (AQCS) Project. Further investments and recently completed fuel conversions at our Dover have resulted in similar emissions reductions. NRG Energy, Inc.'s indirect subsidiaries (Indian River and Dover) represent about 650 MW of generation capacity, which are directly affected by Regulation 1147.

Section I of this letter describes NRG's approach to addressing climate change. Section II describes the policy reasons that limit the effectiveness of RGGI and the proposed Delaware rule revisions in addressing the problem and suggests improvements that would make RGGI more effective. Section III describes legal infirmities that pose a threat to the RGGI program.

## **I. NRG Is a Leader in Reducing Carbon Emissions.**

NRG views climate change as a significant challenge that must be addressed effectively – and we are taking significant steps to help address it. We believe future energy production can be both low carbon and low cost, and we are committed to making this vision a reality. We are working diligently to lower carbon emissions.

NRG is a leading developer of solar, combined heat and power, high efficiency natural gas-fueled power plants, and other clean energy technologies such as carbon capture and sequestration and electric vehicle charging networks.<sup>1</sup> Our significant investments in solar energy, repowering of existing facilities, post-combustion carbon capture and sequestration, advanced energy-efficiency measures, and electric vehicle charging systems, have all been carried out through a combination of our own investment and initiative with thoughtful and effective state and federal policies. We would like to see RGGI policies support similar private sector investment, and stand ready to help craft such policies. Indeed, we have actively supported such policies in Delaware as well as other regional states such as Maryland and New York and non RGGI states such as Pennsylvania, California, and Texas. Unfortunately, the RGGI program, particularly if it were to be revised as the Department has proposed, is not a thoughtful and effective policy due to a number of key flaws.

## **II. RGGI's Key Design Flaws**

RGGI has key design features that prevent it from effectively addressing climate change – and the detrimental impact of these design flaws will be greatly exacerbated by the proposed revisions. These features are its:

- Complete focus on taking revenues from owners of electric generating units and using those revenues primarily to support energy efficiency measures in the end-use sector and, increasingly, for purposes completely unrelated to emissions reductions;
- Limited regional nature and resulting emissions leakage to non-RGGI states;
- Incomplete and discriminatory scope; and
- Significant legal uncertainty and vulnerability.

### **A. Revenue Transfer from Generators to End-Use Efficiency and Other Unrelated Activities**

RGGI, by design, operates as a tax on fossil generators. From the outset, it is important to keep in mind that competitive power companies like NRG do not have the luxury of regulated utility rates and captive monopoly customers from whom they can recover the costs of complying with RGGI (or the cost of investing in new generation). Our comments are shaped by our experience as a significant developer of clean energy that faces the discipline of competitive markets. The revenues raised by the RGGI tax are used primarily to support energy efficiency programs, and increasingly to replace general revenues, in a manner not contemplated by the RGGI accord. Increased end use efficiency certainly has a role to play in reducing CO<sub>2</sub> emissions, but on its own cannot even come close to bringing about the significant emission reductions necessary to effectively address the risk

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<sup>1</sup> NRG has approximately 660 MWs of solar projects in operation and 1,600 MW in development. This does not include the Ivanpah 370 MW thermal solar project commissioned in September, which is the largest solar installation in the country. With respect to our conventional power generation fleet, we continue to identify opportunities to repower our plants and reduce our carbon footprint. Some local examples include; gas conversions at the NRG Energy Center Dover (Delaware), New Castle (Pennsylvania), Avon Lake (Ohio), and planned projects for Astoria and Dunkirk (New York). NRG is a leading developer of combined heat and power projects, high efficiency natural gas-fueled power plants, and other clean energy technologies such as carbon capture sequestration, and is currently developing the nation's largest privately-funded electric vehicle network including innovation with the University of Delaware on next generation vehicles.

of climate change. To achieve that end, efficiency must be coupled with a shift from high carbon to low and no carbon supply resources. Until RGGI states provide effective policies to support the deployment of low and no carbon resources, and cease their reliance on simply taxing existing generators to pay for subsidized energy efficiency, they are foregoing much more effective opportunities to reduce overall CO<sub>2</sub> emissions and grow a greener, more sustainable economy.

Further, such a transfer of revenues from fossil generators to electric efficiency providers affirmatively limits the ability of fossil generator owners to invest in cleaner supply side technologies. We know from experience that a balanced system consisting of a cap-and-trade system to limit CO<sub>2</sub> emissions, strong incentives for energy efficiency, and complementary measures that encourages the competitive deployment of large scale and distributed renewable energy (potentially through state-mandated long-term contracts), electric vehicle charging systems, and low carbon fuels can succeed in attracting significant low carbon technology investment and innovation to the state in a manner that both reduces emissions and benefits consumers. The glaring contrast between this vibrant ecosystem approach and the RGGI “tax fossil fuel generation and spend on end-use” approach is a clear example of a fundamental flaw in RGGI’s design: the state’s program should enhance the ability of the electricity generation sector to invest in low carbon supply side solutions – instead of simply requiring the generation sector to pay for another sector’s deployment of efficiency programs through an increasing tax burden. The RGGI program – particularly as it is now proposed to be revised – is not only an ineffective and incomplete solution to the climate problem; it is fundamentally unfair and prejudicial to electric power providers in the RGGI states, including Delaware where recently some \$400 million has been invested in reducing emissions from coal fueled power plants.

## **B. Regional Nature**

In addition to this fundamentally unfair and ineffective “tax fossil fuel generation and spend on end-use” approach to the supply side of the power sector, RGGI is further flawed by its regional nature. Climate change and CO<sub>2</sub> emissions are a global problem (unlike criteria pollutants such as nitrogen oxides, sulfur dioxide, and particulate matter, which present regional issues). Only a broad national, and ultimately an international, regulatory framework can effectively address climate change. The original intent of RGGI was to create a “template” for a national program, not to drive significant national reductions in CO<sub>2</sub> emissions. Indeed, most CO<sub>2</sub> emission reductions on the supply side have come from deploying new, cleaner and cheaper energy resources nationally, in both the wholesale power and transportation sectors and not from RGGI program elements.

RGGI’s current efforts to reduce CO<sub>2</sub> emission by dramatically reducing the overall cap from 165 million tons to 91 million tons runs headlong into a major design flaw inherent in any regional program: the relocation of generation (and associated emissions of CO<sub>2</sub> and traditional criteria pollutants) from the RGGI states into nearby non-RGGI states. The higher allowance prices that will be produced by the more stringent cap will cause non-RGGI generators to become more cost-competitive in the regional wholesale markets relative to generators in RGGI states. As a result, generation in non-RGGI states will increase and displace generation in RGGI states. This will increase the emission of both CO<sub>2</sub> and criteria pollutants outside of the RGGI region, with negative environmental impacts both outside and within the RGGI region. Furthermore, this will result in higher power prices not just in the RGGI states, but in non-RGGI states as well. Indeed our preliminary analysis indicates that when the cost of a RGGI allowance reaches \$10.00 per allowance, consumers in New Jersey, Pennsylvania, and Virginia could collectively be paying approximately \$600 million more per year for electricity because of RGGI. The results are particularly perverse: RGGI will fail to achieve its purported and intended CO<sub>2</sub> emission reduction benefits due to increased power production outside of RGGI, while financially disadvantaging

generators within the RGGI states and forcing consumers in non-RGGI states to pay more for their power and to be exposed to more criteria pollutants.<sup>2</sup> Even within RGGI, this impact is more severe in Delaware and Maryland because of their location within the footprint of the wholesale power market operated by PJM Interconnection, LLC (“PJM”) and proximity to neighboring non-RGGI states. Of the 13 states within PJM, only Delaware and Maryland are participating in RGGI. Also, it appears that Delaware (and Maryland) have significantly underestimated the impacts from leakage in part because of the state’s reliance on a 2009 report by PJM that examines the short term impacts of climate change policies, including the impact carbon dioxide emission regulations on wholesale power prices and changes in the generation mix.<sup>3</sup> NRG believes that RGGI and the Department have misinterpreted and inappropriately used this outdated report in estimating leakage and determining leakage impacts. In contrast, PJM’s recent comments (filed with the State of Maryland on August 28, 2013, Delaware September 25, 2013) define a factual context on the relevancy of the 2009 report and current energy market impacts for Maryland and Delaware.

None of these unintended and negative consequences would happen if the RGGI states took significant steps to support private investment in clean generation. If they did so, power prices in both the RGGI states and the surrounding states would fall; emissions of CO<sub>2</sub> and of criteria pollutants would be reduced both within and outside of the RGGI states; power companies would find it profitable to grow clean energy businesses in the RGGI states rather than simply finding it less profitable to operate fossil facilities; and clean energy jobs and employment would increase in the RGGI states.

### **C. Discrimination Against Larger Power Producers and Those Without Exemptions**

RGGI’s ineffectiveness and the perverse results of the proposed revisions are magnified because RGGI affects only units that serve an electricity generator with a nameplate capacity equal to or greater than 25 MW. RGGI advantages smaller units, which generate significantly higher CO<sub>2</sub> and criteria pollutant emissions on a lb/MWh basis when compared to larger units because they are significantly less efficient, generally burn lower quality fuels, have fewer emissions controls, have shorter stacks, and are predominately oil-fired. This exempts many fossil fuel-fired facilities from the provisions and requirements of RGGI even though these units will have a significant impact on CO<sub>2</sub> emissions and displace RGGI-affected facilities in the RGGI region. In addition, Delaware offers various set aside programs, applicability exemptions, and offset project reductions. In regard to exemptions, subsection 1.2.3.1 affords the petroleum refinery an exemption of CO<sub>2</sub> emissions from electric generation not placed on the grid whereas only generation sold would be subject to compliance obligations. Treatment of electric generation whether a refinery or merchant electric generation facility should receive equal treatment. In Delaware, any applicable facility’s compliance obligation should be based on only net generation sold to the grid. Limited Industrial Exemption long-term contracts such as those provided in Maryland and other RGGI states contemplate providing preferential treatment to generators with “stranded contracts,” that cannot recover the cost of complying with RGGI, by allowing them to purchase allowances at the reserve price starting in 2014. This discriminatory treatment is not fair or equitable within the energy markets as those generators who do not have long term contracts cannot recover all of

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<sup>2</sup> The extensive pollution control devices that NRG has installed at many of its plants increase the energy consumed by the plants. (NRG has spent approximately \$2 billion on air quality controls in Delaware and Maryland to comply with Regulation 1146 and the Maryland Healthy Air Act.) The RGGI program does not fairly reflect or credit the socially desirable outcomes from these pollution control devices or impacts from emissions transport – cleaner air and water comes at the expense of greater CO<sub>2</sub> emissions. RGGI has the perverse effect of further burdening (and pushing deeper in the dispatch order) units that use energy intensive pollution control devices such as scrubbers (which reduce sulfur dioxide emissions). RGGI should include a mechanism to allocate allowances to facilities that have increased their CO<sub>2</sub> emissions related to the operation of environmental compliance equipment or exempt the emissions attributable to generating such power from the requirement to surrender RGGI allowances.

<sup>3</sup> Potential Effects of Proposed Climate Change Policies on PJM’s Energy Market.” PJM Interconnection, LLC. <http://pjm.com/~media/documents/reports/20090127-carbon-emissions-whitepaper.ashx> January 23, 2009.

their RGGI costs. In regard to offsets, applicability should be expanded to include a ratio of credits for CO<sub>2</sub> reductions resulting from planned shutdowns, fuel switch projects such as the Dover conversion, and credits for carbon avoidance initiatives including pilot test programs and actual installations for CO<sub>2</sub> reduction controls at any facility within a common holding company, and alternative energy applications such as solar development on a contiguous site. Applicability for credits should be based on 2009 operations, when RGGI was established.

#### **D. Suggested Modifications**

RGGI should be reformulated to address the above concerns by, among other things:

1. Creating programs that encourage private investment in low- and no-carbon generation particularly through financing incentives for replacing coal plants with cost effective combinations of renewable energy and efficient natural gas plants, enhanced renewable portfolio standards, and provisions to expand clean and resilient distributed energy resources;
2. Reducing the cap less drastically to align what can be achieved through the first step above with the reductions demanded by the cap. This will provide more stable and moderate RGGI allowance prices and reduce or eliminate leakage problems. Further, the CO<sub>2</sub> emissions from the regulated units during the last few years are not representative as emissions in those years were unusually low because (a) we have experienced the worst economic recession in 80 years, which dampened demand for power and (b) the price of natural gas, which historically has been very volatile, has been very low, causing significant switching from coal to gas generation. Since current emissions are not truly representative, leakage problems will be exacerbated when the economy improves and the price of natural gas reverts to a more normal price; and
3. Lowering the trigger for the cost containment reserve (CCR) to further guard against the unintended and perverse results of leakage driven by high allowance prices. Further, the CCR should establish a maximum price for additional allocations rather than a minimum as the rule suggest. In addition, Delaware could offer fixed allowance pricing equal to the reserve price for Delaware generators established within its Limited Industrial Exemption Set Aside budget.

These policy improvements are urgently needed to direct RGGI away from the inefficient, ineffective, unfair and unsustainable results that are all too likely under its current course. Such policy corrections are especially important in light of the significant legal weaknesses RGGI also faces.

### III. Legal Infirmities

RGGI may violate the United States Constitution – specifically the Compact Clause – by encroaching on federal supremacy as an unconstitutional multi-state compact. RGGI is an agreement among multiple states – created without the consent of Congress – by which the states obligate themselves to a set of common rules and limitations that affect interstate commerce (the price of power and the location of its generation) in a manner that an individual state, acting alone, could not. Because RGGI’s constitutionality remains unresolved, there is legal uncertainty about the program that may adversely affect the clean energy investments that any program focused on reducing GHG emissions should be tailored to promote.

RGGI also may conflict with section 102(c) of the federal Clean Air Act (“CAA”), which does not authorize an interstate compact such as RGGI. RGGI seeks to address *global* atmospheric concentrations of greenhouse gases, a matter on which a handful of states can have little or no impact. Moreover, RGGI is intended to be more than the type of non-binding mutual cooperation agreement contemplated and authorized by the CAA.<sup>4</sup>

RGGI’s legal weaknesses are significant and, when combined with the design flaws described above, call for a substantial overhaul of the RGGI program. The legal weaknesses and uncertainties present two distinct problems for RGGI. First, due to the policy and economic problems cited above, the adverse effects of which are all greatly exacerbated by the proposed revisions, RGGI may attract litigation from those materially disadvantaged by its flaws. Second, to the extent any private investment is elicited by RGGI’s price signal, that private investment will be limited and made more costly by the significant legal uncertainty and risk created by the RGGI framework. There are numerous examples at both the federal and state level of environmental initiatives that have failed to accomplish their laudable purposes altogether or were significantly delayed because they were placed on weak legal footing and as a result attracted litigation and adverse court rulings. For these reasons, NRG urges a thoughtful and considered set of revisions to the RGGI program.

NRG appreciates the opportunity to comment on the proposed changes to Regulation 1147 and urges the Department to address these concerns in this rulemaking to enhance the fairness, efficiency and effectiveness of the state’s approach to reducing greenhouse gases and to alleviate parties’ concerns about the constitutionality of the program.

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If you have any questions or require any additional information, please contact me at (202) 585-3812 or [walter.stone@nrenergy.com](mailto:walter.stone@nrenergy.com).

Sincerely yours,



Walter Stone  
Vice President Environment

Copies:           Shawn Konary, NRG  
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<sup>4</sup> Indeed, when New Jersey decided to withdraw from RGGI in 2011, it could not do so immediately but had to continue in the program for over six months before completely withdrawing.