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To: Chris Nelson (chris.nelson@po.state.ct.us)
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Subject: AES Comments on Draft Section 22a-174-31 - Control of Carbon Dioxides Emissions

AES has been an active stakeholder since the inception of the RGGI stakeholder process. Our input has been guided by the desire to have the program eventually developed to achieve its environmental goals in a manner which factors in, among other considerations, the design and operation of the deregulated wholesale electricity market and various federal considerations. We believe that the program contained in Draft Section 22a-174-31, with its ultimate 100% auction provision that has been advanced by the State, falls far short of this standard. Moreover, it unnecessarily and severely impacts consumers, AES and other suppliers when it could be designed to avoid these impacts. The draft rule represents a complete departure from the stated desire to achieve balance among environmental, energy and economic development needs, and does not represent a workable template for a national program. Further, key aspects of the program as contained in the draft rule are beyond DEP's authority. For example, the proposed RGGI rule as contained in the draft rule is beyond the scope of DEP's enabling authority and policy purview, and DEP lacks the statutory enabling authority, constitutional, and other legal bases to require affected generators to pay money through an allowance auction in order to continue to supply electricity to the grid.

We therefore encourage the state to revise the program design to provide for a fair allocation of allowances to generators and address other shortcomings of the proposed rule.

If you have any questions please contact me at 607/272-5970, ext. 1116.

Sincerely,

Chris Wentlent, Director
Regulatory Affairs

In accordance with the Connecticut's Department of Environmental Protection (DEP) April 25, 2007 draft rules to implement RGGI, AES respectfully submits their comments on Draft Section 22a-174-31 - Control of Carbon Dioxides Emissions. We appreciate the opportunity to provide comments and stand ready to assist in working out the final key details of an historic demonstration program that is being observed by interested parties both nationally and internationally.

AES owns AES Thames, a 181 MW coal-fired contracted plant in Uncasville, Connecticut. In addition, AES is one of the world's largest global power companies, with operations in 26 countries on five continents. We were one of the first generating companies in the world to voluntarily offset carbon dioxide emissions through forest sequestration projects, develop holdings in wind farms across the globe, have significant businesses in the creation of greenhouse gas offsets, and over the next ten years plan to invest \$10 billion in CO2 offset, renewable energy, ethanol, solar power, coal-to-liquid technology, and carbon capture projects. To date, however, carbon capture and sequestration remain in the development phase. No viable CO2 capture and sequestration technology alternative currently exists.

We strive to be a good corporate citizen by operating low-cost, reliable, and environmentally friendly facilities. As such, AES fully supports the development of a properly structured market-based greenhouse gas program on the national level. We believe the program must be cost-effective, efficient, equitable, and consistent with the global scope of climate change considerations. However, in the interim, we will support a well-structured regional greenhouse gas initiative that properly balances environmental, economic development and energy needs as was promised in the RGGI Action Plan.

However, the draft Connecticut Rule does not strike that balance in several key areas including:

- ***Rejecting cap and trade and instead proposing cap and pay***
- ***Imposing costs on generators to fund government initiatives that appear unrelated to the emissions cap***
- ***Imposing unnecessary economic risk on consumers and suppliers by, among other measures, auctioning up to 100% of allowances needed to operate overtime.***
- ***Failing to provide a roadmap in the rule for treatment of long-term***

contracted facilities with no CO2 cost compliance pass-through

- *Limiting opportunities to create and use offsets*
- *Not providing that the program sunsets if and when a national program is adopted*
- *Causing leakage at such a magnitude as to substantially diminish the efficacy of the program and potentially promoting a significant increase on emissions other than CO2 beyond the RGGI region.*
- *Requiring generators to advantage third party energy service providers selected by DEP*
- *Transfers wealth and otherwise improperly extracts revenue from existing electric generating units such as AES Thames so as to constitute a taking*
- *Lack of ability to control electric price volatility, consider long term energy transactions, and provide investment signals for existing and new generation*
- *Need for a complete reliability study that fully incorporates the cumulative impact of RGGI in consideration of other impending environmental regulations, the need for fuel diversity, potential costs of new infrastructure and congestion, and timing of energy efficiency gains in relation to timing of expected load growth.*
- *Need for a complete auction protocol and anticipated leakage handling so stakeholders can provide complete comments for all parts of the anticipated program.*

Based on the aforementioned and other deficits in the program design, AES can not support the current pre-proposal. We do, however, express our ongoing willingness to continue to work cooperatively with key policy makers and stakeholders to develop a cost-effective and efficient program for reducing greenhouse gas emissions that can be adopted at the national level. We applaud the RGGI region for providing a lead for the US in addressing this critical challenge. However, in leading the country in designing a regulatory program, it is also imperative that we get this demonstration right so that it provides a reliable and efficacious program which the rest of the nation can responsibly follow.

Background and Summary of Comments

The entire Northeast has some of the highest electric prices in the nation. More importantly, due to well-documented supply and reliability concerns, Connecticut is in need of investment in existing and new infrastructure for generation, electric transmission, and natural gas storage and transportation.

Now, more than ever, it is critical that any program be well-designed and cost-effective to contribute to Connecticut's economic vitality and encourages infrastructure investment to support economic growth for years to come.

Unfortunately, the draft rule issued on March 25, 2007 deviated significantly from both the Guiding Principles for Program Design and the original Model Rule that was developed and issued in August 2006. The ultimate 100% auction represents an abandonment of a market-based cap and trade program, the cornerstone design principle endorsed by the RGGI State Commissioners and relied upon by industry stakeholders during the RGGI process. [In fact, the first time that stakeholders became aware that a 100% auction was being considered was October 24, 2006 where it was stated in a NYSDEC meeting that such an auction could be phased in over several compliance periods. DEP did not introduce the concept of 100% allowance allocation as an aspect of the State's RGGI rule until the December 14, 2006 stakeholder meeting.

Key Guiding Principles for the original RGGI Model Rule Program Design included:

1. The program will emphasize uniformity to facilitate interstate trading in GHG allowances and will build on successful cap-and-trade programs and mechanisms already in place.
2. The program will start simply and develop over time. The initial phase of the cap-and-trade program will entail the allocation and trading of carbon dioxide allowances to and by sources in the power sector only. In a subsequent phase of the program, states and stakeholders will work together to develop reliable protocols for offsets that may be used to achieve compliance with the cap.

Draft Section 22a-174-31 dramatically departs from current cap and trade initiatives at the State, regional (NOx Budget Rule) and national level (Title IV – SO2)

where allowances are allocated to affected sources. In each of these programs, the value of allowances is benchmarked to the cost of emissions reductions, and affected sources can create tradable allowances by reducing their respective emissions. Thus, affected sources can make emissions reduction decisions based on a rational economic analysis of the potential costs and benefits from reducing emissions below the cap. As DEP is aware, these cap and trade programs resulted in over compliance in a manner that minimized adverse ratepayer and economic impacts.

To the extent that allowances are auctioned in historic cap and trade programs, the auction primarily serves to provide liquidity within the allowance market and entails only a small percentage of total allowances. For example, past and current programs provide the following auction percentages:

- ***Title IV SO₂ – 2.5%***
- ***EPA NO_x budget rule – auctioning was dropped.***
- ***State SO₂ and NO_x – no auctioning included***
- ***Ireland EU ETS -0.75% auctioned***
- ***Hungary EU ETS -0.06% auctioned***

A program in which all of the regulatory allowances needed to operate are sold in an open auction is not a cap and trade program. Under the draft rule, investments in emission reductions at affected sources cannot create tradable allowances. Thus, there are no prospects for over compliance by affected sources and the proven economic efficiency of cap and trade is diminished.

The bases of the 100% auction proposal appear to be theoretical studies and analysis concerned not with programmatic efficiency, but rather on questionable considerations relating to wholesale market considerations. These considerations include claims that affected sources will somehow derive windfall profits if allowances are allocated. These claims do not reflect the true operation or commercial structure of the existing energy marketplace, and are otherwise incorrect.

Aside from the reality that allowance allocations will not create windfalls for affected generators, the draft rule appears to use this rationale to create a multimillion dollar revenue stream for public benefit purposes. As the cap is indifferent to the allocation mechanism, these considerations stray from the fundamental purpose of RGGI

and, for that matter, our understanding of the legal authority of DEP to impose emissions control requirements. Numerous jurisdictions have implemented market-based mechanisms for incenting deployment of these public benefit programs (e.g., energy efficiency and demand-side management initiatives) that are more efficient and narrowly tailored than requiring generators to create a discretionary fund to be distributed by DEP. The 100% auction approach not only forsakes market-based cap and trade, but is also an inefficient attempt to further a separate and distinct regulatory initiative. This inefficiency is exacerbated by the fact that leakage will significantly diminish the value of any reduction expenditures in the RGGI region.

In light of these considerations, Connecticut should take several critical steps before it moves forward with a proposed rulemaking for greenhouse gas emissions and account for various legal infirmities which include the following:

1. Complete a comprehensive reliability study on potential market impacts.

Also, the final leakage study and expected mitigation actions, auction protocol, and other studies and data considered by the DEP in the draft rule and any other ensuing draft regulations must be developed and made available to the public prior to the commencement of any state rulemaking process.

2. The 100% auction and related components in the draft rule, which effectively require the payment of millions of dollars per year by private entities to the government for governmental purposes as a condition to operate in Connecticut, impermissibly constitutes a tax, fee and other forms of assessments in contravention of the Connecticut Constitution, statutory and common law. In any event, DEP should provide analysis of its legislative enabling authority for the draft rule, including auctioning allowances and earmarking auction revenues.
3. The draft rule impermissibly veers into the exclusive domain of the Federal Energy Regulatory Commission over wholesale electricity markets and the federal executive branch on foreign and domestic affairs related to climate control.
4. The draft rule violates the Commerce Clause of the United States

by imposing an excessive burden on interstate commerce in relation to the putative local benefits, especially where less intrusive mechanisms are available. Given the global nature of climate change, leakage and other considerations, the excessive burdens of the draft rule on interstate commerce as described in these comments will dwarf the putative and modest local atmospheric benefits, if any. The proposed 100% auction will impose requirements on exempt wholesale generators that disadvantage and create burdens upon their respective participation in the interstate wholesale market. Additionally, because the cap is indifferent to allocation mechanisms, any legitimate interest of Connecticut and the other RGGI states in reducing greenhouse gas emissions can be promoted with a lesser impact on interstate commerce than will be imposed by the 100% auction.

5. The draft rule cannot be promulgated absent state legislative authority and approval and compact authority analysis.
6. **If the ultimate 100% auction recommendation remains unchanged (which we oppose)**, then the following changes are necessary:
 - **Contracted Plants** – Contract plants (e.g. AES Thames), without verifiable cost pass-through, must be handled in one of two manners in the rulemaking process (in a final rule with *any* significant auction provision):
 - Create a special allowance reserve account for this small group of facilities. The contracted facility receives its allowance allocation from this account. Upon expiration of its contract, the appropriate allowances are transferred to the larger market account and the facility is treated in the same manner as other facilities in the program.
 - Participate in the auction but receive full dollar-for-dollar reimbursement from auction receipts.

We are encouraged by the discussion at the April 26th Hartford meeting, indicating: the recognition of the unique problem

posed to contracted plants by an allowances auction; and, the consideration of using a portion of a possible set-aside to support highly energy efficient power generation and any other strategic energy purpose to allocate allowances for a contracted plant to address this issue. We urge Connecticut to implement such an approach in the final rule.

- **Safety Valve** – *A safety valve provision must be established to avoid extreme economic risk for both consumers and suppliers. This safety valve should remain in place until CO2 technology is commercially available, cost effective, and approved from a regulatory perspective.*
- **Offsets** – Offsets should not be limited on a percentage basis or restricted by geographical location. No atmospheric rationale supports such limitations. AES recognizes that the draft rule seeks to incentivize emission reductions at the affected source location. *Unfortunately, with CO2 capture and sequestration still at the demonstration stage, offsets become a critical bridge to the development of carbon capture technology. Further, the draft rule earmarks auction revenues to increase energy efficiency spending which, in most cases, occurs away from the affected source sites. Thus, the draft rule implicitly recognizes the value of off-site emission reductions. In one respect, the RGGI program is willing to expend large amounts of capital away from the affected source (energy efficiency spending) but yet the draft rule restricts affected sources from the benefit of offsite reductions, even when achieved based on funding from affected sources. DEP should explain the basis for the disparate treatment as between affected sources and third party energy efficiency providers, a disparate treatment to which we object.*
- **Sunset Provision** – The initial goal of RGGI was to develop a template for a national program. Our Connecticut RGGI program must contain a specific provision that the program will end upon implementation of a *national* program.

Otherwise, we will continue to erode our Connecticut electricity market with uncertainty and potential competitive disadvantages in comparison to other markets in the United States.

- **Auction Structure and Rules** – Meetings must be held with interested stakeholders to develop the auction rules so that they are incorporated into the revised rulemaking process. Connecticut has a number of risks associated with poor auction design including higher energy prices, higher transmission congestion costs, out of merit payments to keep units on for reliability reasons, and reliability risks due to Connecticut budget sources not being able to secure necessary allowances. Potential allowance shortages that impact reliability is a risk that must be addressed. For example, due to the proposed open auction, non-affected sources could take speculative allowance positions, retire available allowances, or affected sources in other RGGI states (including cost-of-service regulated generators) could purchase Connecticut allowances for use in other states.

Other Key Points of Consideration

Windfall Profits as a Basis for the Proposed 100% Auction Concept Is Flawed – Analysis provided to date to support an auction methodology is largely theoretical and fails to accurately depict the function and design of the wholesale electricity market or other federal considerations. Moreover, the broad stroke of the analysis overlooks operational limitations faced by suppliers. Several presentations and papers were provided throughout the RGGI stakeholder process demonstrating inherent flaws in the analysis being used as the justification for a large public benefit set aside. See, Mark Younger’s presentation, “CO2 Allowance Allocation in Regional Greenhouse Gas Initiative” 10/14/04 RGGI Workshop on Allowance Allocation, and “An Assessment of the Public Benefit Set Aside Concept Taking Into Account the Functioning of the Northeast/Mid-Atlantic Electricity Markets,” 10/11/04 that was prepared for AES by Mark Younger. These documents can be found on the RGGI web page at http://www.rggi.org/docs/younger_pres_10_14_04.pdf and

http://www.rggi.org/docs/aes_set_aside.pdf, respectively.

The choice of an allowance allocation method theoretically does not affect “real” market factors such as electricity prices or emissions costs. Nevertheless, if Connecticut were to shift to a complete auction approach, some or all of the cost of an auctioned allowance will not be recovered, a fact which the State does not appear to acknowledge, and one which will adversely affect the operation of current facilities and the level of investment in Connecticut power markets.

A reoccurring argument in favor of auctioning allowances is :

“A generator will include in its bid the value of the emissions allowances necessary to generate the electricity even if the generator has received the allowance at no cost ¹.”

While it is true that generators include a value for emissions allowances in dispatch, it does not follow that if they must purchase them rather than receive allocations, they will fully recover the cost of allowances in the price of electricity. In fact, depending upon its fuel and the type of generator setting the price of electricity, the generator at best will “break-even” on the cost of auctioned allowances (excluding cash, credit, and administrative costs), and can incur losses on CO₂ costs in many periods. Such losses on CO₂ costs could represent a material shift in the financial performance of existing facilities and detract from future investment in the Connecticut power market.

Why Auctioned Allowance Costs Will Not Be Fully Recovered

A company buying all of its RGGI allowances at auction will not recover its full CO₂ compliance costs in the following circumstances:

1. when the price-setting generator has no RGGI CO₂ costs (e.g., power imported into the region from those areas not affected by RGGI requirements , or power from non-emitting sources within the region), or
2. when the price-setting generator emits CO₂ at a lower rate (e.g. coal- or oil-fired generation in a market where gas-fired generation sets the marginal price), or

¹ <http://www.dec.state.ny.us/website/dar/preproposal.html>

3. long term contracted generation facilities without a means to pass-through the costs to comply with CO₂ regulations will not recover any of its compliance costs.

The failure to fully recover emissions costs of auctioned allowances in dispatch could disadvantage Connecticut generation. The most likely forms of generation at risk are long term contracted generation facilities without CO₂ pass-through, oil-fired steam generating units, which are in some areas of the Northeast integral to the system support and reliability of transmission, and coal fired generation.

Long-Term Contracted Facilities

Connecticut and the RGGI region have a number of contracted plants, with long term power contracts, that do not contain a CO₂ pass-through (e.g., AES Thames). Failure to provide a mechanism for these facilities to recoup their CO₂ costs is likely to either cause these units to shut down or, at a minimum, force defaults under the terms of the contracts and an associated change of owner. The impacted contracted plants are some of the most modern, environmentally efficient facilities in the state and region. Many of these facilities operate with natural gas as the primary fuel, state-of-the-art control technologies and provide cogeneration capability to neighboring businesses. The potential unintended outcome of the program design will be that Connecticut carries a higher regulatory risk premium than other markets or (states) when competing for the next new capital investment.

Example of Failure to Recover CO₂ Costs- Oil Steam Units With Gas On the Margin

The extent to which oil steam units are at risk will depend upon how high CO₂ prices rise as well as fossil fuel price differentials, as illustrated in the following example. Typically, fuel oil and natural gas prices can be expected to be in sharp competition, and thus be close on a delivered cost basis prior to adjustment for emissions. In this simplified example, we assume CO₂ prices of \$7 per ton, and the units are equally efficient, with identical heat rates.

The following example illustrates the problem of recovering costs of auctioned CO₂ allowances in dispatch, (see Table 2 for details.) Both units bid their CO₂ allowances at the market value of \$7 per ton. However, with gas having a lower CO₂

content than fuel oil, its resulting CO₂ cost is lower. As the price-setting generator, the electricity price will reflect the natural gas unit's CO₂ dispatch cost of \$4.20 per mwhr ($\$7 \times 120 \text{ lbs CO}_2 \text{ per mMBtu} / 2000 \text{ lbs per ton} \times 10,000 \text{ Btu per kWh} / 1,000 \text{ kwhr}$). On the other hand, the oil-fired unit will have a higher CO₂ dispatch cost of \$5.78 per mwhr. The oil-fired generator's CO₂ cost recovery is short \$1.58/mwhr or -27% for every ton of CO₂ emitted that is covered by surrendering an auctioned allowance.

Other Cases of Incomplete Cost Recovery of CO₂ Costs- Impacts on Generator

It is clear that a similar outcome of partial auctioned allowance cost recovery will occur for other generator types and combinations of price-setting units. As we noted, there is no auctioned allowance cost recovery if units do not have RGGI CO₂ costs, i.e.,:

- Imports of power from outside the RGGI region.
- Renewable sources;
- Nuclear units;

On the other hand, there can be partial cost recovery if the price-setting units emit CO₂ at a lower rate than generator's units, say for example, a coal-fired plant with the following units on the margin:

- Combined cycle natural gas turbines;
- Oil steam electric generating units;
- Gas steam electric generating units.

In these cases, the impact of no or partial auctioned allowance cost recovery will vary from as little as -20% to -100%, (see **Table 1**.)

AES therefore believes that it is vital for the State to consider the prospect that a 100% auction policy, due to incomplete cost recovery, could alter the financial performance of generation in a way that could 1) adversely affect generation needed for reliability/ system support, 2) represent a material shift in the financial attraction of investing in Connecticut power markets, and 3) have a significant negative financial impact on existing fossil generators.

Table 1: CO₂ Cost Recovery in Dispatch

	CO₂ Allowance Opportunity Cost	CO₂ Rate	Heat Rate	CO₂ Intensity lbs	CO₂ Allowance Dispatch Cost
	<i>\$/Ton CO2</i>	<i>lbs/mmBtu</i>	<i>BTU/kwhr</i>	<i>CO2/mwhr</i>	<i>\$/mwhr</i>
CO₂ Cost Recovery- Oil-Gas					
Gas Price Setting Unit	\$7.00	120	10,000	1,200	\$4.20
Oil Source	\$7.00	165	10,000	1,650	\$5.78
				(450)	
				-27%	
Losses- CO ₂ Cost					(\$1.58)
				% Diff	-27%
CO₂ Cost Recovery- Coal-Gas CC					
Gas Price Setting Unit	\$7.00	120	8,000	960	\$3.36
Coal Source-	\$7.00	205	10,000	2,050	\$7.18
				(1,090)	
				-53%	
Losses- CO ₂ Cost					(\$3.82)
				% Diff	-53%
CO₂ Cost Recovery- Coal-Gas Steam					
Gas Price Setting Unit	\$7.00	120	10,000	1,200	\$4.20
Coal Source-	\$7.00	205	10,000	2,050	\$7.18
				(850)	
				-41%	
Losses- CO ₂ Cost					(\$2.98)
				% Diff	-41%
CO₂ Cost Recovery- Coal-Imports					
Imports Price Setting Unit	\$7.00	0	10,000	0	\$0.00

Coal Source-	\$7.00	205	10,000	2,050	\$7.18
				(2,050)	
				-100%	
Losses- CO ₂ Cost					(\$7.18)
		% Diff			-100%
CO₂ Cost Recovery- Coal-Oil					
Oil Price Setting Unit	\$7.00	165	10,000	1,650	\$5.78
Coal Source-	\$7.00	205	10,000	2,050	\$7.18
				(400)	
				-20%	
Losses- CO ₂ Cost					(\$1.40)
		% Diff			-20%

Forsaking allocations and/or requiring affected facilities to purchase a significant amount of allowances at auction ignores the costs imposed by the program and could have potentially drastic negative consequences to the financial health of generating facilities that are critical for the maintenance of the region’s electric system reliability and fuel diversity.

In addition, two recent studies, Economic Impacts from Maryland’s Potential Participation in the Regional Greenhouse Gas Initiative and NYDPS Staff Analysis of the Proposed RGGI Programs Impacts on Select Coal and Gas/Oil Generating Facilities, both demonstrate that even an allocation of 75% of the allowances to the source will not mitigate losses to the power generation industry (dual fuel and coal fired facilities) as a whole under RGGI. Both studies show these types of facilities suffer economic stress from the onset of the program and even greater risk when Phase 2 (2015) is implemented. These results even occur under a higher natural gas scenario (\$7mmbtu and low carbon price). A key additional issue that must be considered is that many of these same facilities must make other investment decisions for NOx, SO₂, Hg, and federal Clean Water Act 316(b) and state-equivalent compliance. These capital decisions require planning and commitment now to be in place to meet compliance requirements in the 2009 and 2010 timeframe. If the economic stress caused by a 100% auction mechanism is not addressed, additional capital decisions may be delayed and/or cancelled. The recent Connecticut Siting Council (“CSC”) report “Review of the Ten-Year Forecast of

Connecticut Electric Loads and Resources 2006-2015”, which reviewed and analyzed electric loads supply and demand through 2015, concluded that Connecticut could face a significant generation capacity shortage throughout the forecast period. CSC 2006-2015 Ten Year Forecast, November 14, 2006, p. 7. The CSC concluded that to assure the electric system’s long-term reliability, the state needs to focus on facilitating the addition of new generation in Connecticut, avoid excessive reliance on any one fossil fuel for generation and encourage innovations. CSC 2006-2015 Ten Year Forecast, November 14, 2006, p. 23. In addition, while the report concludes that supplies are expected to meet demand in the near term under normal weather conditions *assuming no losses of generation due to retirement.* Id. (emphasis added), the CSC also concluded that "under the more stringent ISO-NE “90/10” forecast, Connecticut faces a significant shortage of supply, even including the three approved generating facilities not yet constructed and/or completed. Much needs to be done to assure the electric system’s long-term reliability." Id.

100% Auction Impact – Impact on Different Commercial Arrangements & Fuel Types

RMR and Regulated Utility Units

A significant portion of generation capacity in the RGGI region is either owned by regulated vertically integrated utilities (e.g., VT, NY and NH) or is otherwise entitled to operating cost recovery (e.g., Reliability Must Run units). A system which requires exempt wholesale generators to compete for allowances with units receiving cost recovery will skew the economic efficiency of an auction. Also, because the auction revenues are proposed to be earmarked for energy efficiency and related projects, for regulated generators the auction amounts to direct ratepayer funding of these initiatives as is already undertaken in accordance with PUC regulatory authority. DEP should assess the implications of participation by RMR and cost-covered units prior to proposing that a significant portion of allowances be auctioned.

Fuel-Diversity Impact

In light of the modeled adverse impacts to oil and coal units, DEP should address the implications of the Pre-Proposal to fuel diversity.

Circuit Breaker

If Connecticut nonetheless continues with the anticipated phase-in of auction concept, then a circuit breaker must be incorporated to minimize the financial and economic risk for consumers and suppliers. The circuit breaker should be set at \$0.75/ton, and is based on the following rationale:

The Final RGGI Model Rule specified a 25% set aside/75% allocation to budget source allowance structure. The Final RGGI Model Rule was based on the ICF IPM modeling that forecasted allowance price range of \$1.00/ton to \$2.20/ton. In its proposed rule, the Department now proposes to ultimately use a 100% allowance auction structure. As demonstrated by table 2 below, the revenue generated from the proposed \$0.75/ton circuit breaker under a 100% allowance auction structure falls fully in line with – and, indeed, may exceed – the Final RGGI Model Rule revenue calculation.

Table 2 - State: Connecticut
RGGI Base Budget: 10,695,036 tons

25% Auction: 2,673,759 tons	
Allowance Price	Maximum Total Revenue Per Year
\$1.00/ton	\$2,673,759
\$2.20/ton	\$5,882,270

100% Auction: 10,695,036 tons	
Allowance Price	Maximum Total Revenue Per Year
\$0.75/ton	\$8,021,277

Offsets

Most stakeholders will agree that CO2 Capture and Sequestration technology is still in its formative stage. In the interim, offsets provide a reasonable, verifiable and potentially lower cost path as a compliance option to control CO2 emissions. There are no valid environmental or economic reasons to control the percentage and geographical location of quantifiable offset projects. Broader application of offsets provides lower cost compliance options, results in net CO2 reductions, reduces environmental and economic leakage at RGGI borders, and assists in CO2 price control. Consumers and suppliers are

both better served by expanding the offset program.

Investment (New & Existing)

A good litmus test of good policy is whether the proposed guidelines will support investment needed to maintain reliability in new and existing facilities. The proposed rule, as drafted, is silent on this key issue. Without a commercially available solution, it will make investment and capital financing of new fossil generation extremely difficult by creating the need to cover up to twenty (20) years of CO₂ risk at the front end of a new project. Without an auction protocol available, it makes further analysis of this potentiality more difficult.

In addition, with respect to existing facilities, the successful structure of the SO₂ and NO_x programs (both federal and state) resulted in low cost energy, reduced emissions, and addition of new technology. Under the proposed rule affected sources ultimately receive no allowance allocation. Thus future CO₂ investments will not be based on rational and predictable valuation principles.

Leakage

Emissions leakage is a serious obstacle to programmatic efficiency that must be addressed and solved up front. According to the most recent RGGI analysis, a significant percentage of emission reductions in the RGGI region could be diminished by leakage. In assessing the potential effectiveness of the program, the cost per ton reduced resulting from the auction must be adjusted upward to account for a leakage premium. In addition, the impacts of leakage extend beyond commercial considerations and into the realm of increased environmental degradation, including increased deposition of constituents from upwind sources caused by RGGI. AES respectfully suggests that until a proper analysis of, and a solution to, the leakage problem is included in the program design, the public interest is not well-served by moving ahead with the draft rule. Our specific Leakage comments are attached in Appendix A

ICF Modeling Concerns - Conclusion

ICF has not modeled the draft rule case in which 100 percent of allowances are auctioned.

Need for Additional Studies

Finally, a number of key areas of the RGGI Program remain without adequate support or analyses including the following:

- Economic and Environmental Leakage Analysis
- Auction Design Specifics
- Full reliability review with written summary
- Modeling which incorporates the effect of 100% auction methodology.
- Sensitivity studies of CO2 market and reliability impacts at different CO2 allowance price points.

To date, none of these important analyses have been provided and they are necessary to fully evaluate any proposal and its total impact.

Summary

We are encouraged by the DEPs sensitivity to energy, economic and environmental issues as is reflected by the consideration of an auction phase-in and potential treatment of contracted facilities. Connecticut is at a critical energy crossroads. It is important that we get this demonstration project right because of the potential impact on the national greenhouse gas program development and because of the critical, immediate capacity needs that exist in our own state and region. A properly designed program must support existing needed infrastructure, provide investment signals for new investment, and minimize price impacts on consumers.

We believe the Regional Model Rule as originally designed and approved only months ago was on the right track with respect to allocation methodology. However, we suggest additional thought must be given to how long-term contracted plants are addressed, greater flexibility in offset utilization, completion of the required studies are necessary, and a specific sunset provision that is implemented when a national program is adopted. Further, if Connecticut is adamant about the phase-in of a 100% auction mechanism, then a full CO2 allowance price cap at \$0.75/ton must be incorporated to ameliorate some of the adverse economic impact of this program on consumers, energy suppliers, and the overall public interest.

Thank you for the opportunity to provide these comments.

Appendix A

AES Comments to the RGGI Staff Working Group on the Initial Leakage Report, “Potential Emissions Leakage and the Regional Greenhouse Gas Initiative” (published 14 March 2007)

AES OVERVIEW

AES is one of the world's largest global power companies, with operations in 26 countries on five continents. We have 14 regulated utilities and 122 generation facilities worldwide, including plants in four of the RGGI states.

We were one of the first generating companies in the world to voluntarily offset carbon dioxide emissions through forest sequestration projects, have significant holdings in wind farms across the globe, have significant businesses in the creation of greenhouse gas offsets, and over the next 5 to 10 years plan to invest \$10 billion in CO₂ offset, renewable energy, ethanol, solar power, coal-to-liquid technology, and carbon capture projects.

More recently, in New York, we have announced plans to research and demonstrate improved carbon dioxide capture technologies with Praxair for both new and existing electric generation facilities. Once technically and economically feasible, such technologies would be capable of being retrofitted on both new and existing boilers across the country. To date, however, carbon capture and sequestration remain in the development phase. No viable CO₂ capture and sequestration technology alternative currently exists.

In a recent January 6, 2007 *NY Times* interview, our CEO Paul Hanrahan, provided an overview of our climate change activities and specifically identified that in the interim, CO₂ emissions could be reduced cost-effectively through the global utilization of offsets.

Also, because CO₂ is a global challenge, AES believes that the best approach is a national CO₂ legislative solution. However, in the interim, we will support a well-structured regional greenhouse gas initiative that properly balances environmental, economic development and energy needs as was promised in the RGGI Action Plan.

INITIAL LEAKAGE REPORT COMMENTS

The existence of substantial leakage within the RGGI program is emblematic of policy and legal design flaws which must be addressed prior to implementation of the program. Significant leakage is predicted in virtually every RGGI program modeling run. In light of the modeling runs, moving forward with implementation of the proposed program is tantamount to transferring millions of dollars of economic activity from the RGGI states to out-of-state economies and leakage beneficiaries. In addition, it would represent a choice to impose adverse air

pollution and depositional impacts on the RGGI states from emissions transport. The extensive magnitude of the modeled leakage will impose profound and severe economic, reliability, and environmental consequences to the RGGI region, its consumers, business stakeholders and the overall public interest of the RGGI states. Accordingly, a failure to satisfactorily mitigate leakage and implementing the flawed RGGI program design, in the name of a largely symbolic policy gesture, is a policy approach that must be rejected. More importantly, many of the problems identified can be resolved if a national instead of a regional program is adopted.

Significant Leakage is Predicted in RGGI Policy Modeling Runs

The initial report attempts to downplay the magnitude and significance of potential emissions leakage resulting from the program design; it references a single leakage rate that is netted with some impact of offsets. The position in the report cannot be harmonized with the results of modeling conducted under the direction of the RGGI Staff Working Group (SWG). Virtually every modeling run that assessed the potential for leakage predicted that a substantial portion of emissions reductions which would otherwise result from RGGI will be significantly diminished by leakage. Moreover, netting leakage with offsets obscures the magnitude of economic activity exported to other states through leakage and the environmental degradation caused by transport of NOx, SO2 and mercury from upwind leakage beneficiaries. As depicted in the following table, results from the October 11, 2006 modeling runs (obtained from the RGGI website, http://rggi.org/docs/referencecase_10_11_06.xls) estimated leakage as high as 57% in the first year of the RGGI program.

	2009	2012	2015	2018	2021	2024
Reduction in CO ₂ emissions in RGGI States (MM Tonnes)	4.0	6.0	9.9	14.6	18.8	21.3
Increase in CO ₂ emissions in non-RGGI States (MM Tonnes)	2.3	2.4	4.5	7.2	7.5	8.9
Leakage resulting from RGGI (%)	57%	40%	46%	50%	40%	42%

In light of the significant adverse economic and environmental impacts of CO₂ leakage to the RGGI states, and the reality that leakage of other emissions will also result from RGGI, it is imperative that the modeling results and raw leakage data be immediately made available to the public and included as an appendix to the final report. That the SWG tasked to study and assess leakage does not include and review its own leakage data in the report, raises serious questions about the efficacy and legitimacy of the report’s conclusions and

recommendations..

The extent to which the SWG relied on the modeling results in designing the program leads to the inexorable conclusion that the modeling results are considered credible by the SWG and RGGI Commissioners. Indeed, the RGGI Governors were concerned enough about leakage to provide a process to review and assess potential leakage mitigation options in the RGGI MOU. Those provisions required the creation of a leakage working group that was to assess the economic impacts of leakage and the reliability and financial implications of various potential mitigation measures. The initial report does not undertake the required economic analysis and instead imprudently proposes to defer any action pending a review of leakage after the program is implemented. This approach -- move forward without properly assessing a significant and known impact -- is antithetical to sound policy making. AES respectfully asserts that the initial report's departure from the duties and tasks imposed by the MOU must be remedied in the final report and prior to the program being formally proposed.

Following are a summary of points of concern taken from the Initial Leakage Report:

The Initial Report Ignores the Modeling Results on the Extent of Leakage

The report states that it is difficult to “...*make refined estimates as to the potential amount of emissions leakage that may occur over the course of the program.*” Yet, the report states that modeling undertaken to date “...*indicates modest emissions leakage...*” (page-ES-2). These statements in the report appear to be an attempt to deny and downplay the significant leakage shown in the modeling results as a consequence of RGGI. Moreover, by use of the qualifier “refined,” the report appears to concede that estimates about leakage can be made; whether such estimates are “refined” or not should be the subject of public comment after estimates are disclosed to the public. It is virtually unprecedented to not disclose estimates of an important topic such as leakage by claiming the estimates are not “refined.”

The report does, however, state that, “(u)nder a “*middle-of-the-road*” scenario, *cumulative emissions leakage was estimated at 27% of net CO₂ emissions reductions through 2015.*” We believe that this leakage rate is anything but “modest” and, if anything, confirms that significant leakage will occur as a result of RGGI. Additionally, while middle-of-the-road leakage estimates are in the order of 27%, it is recognized that model input assumptions have tremendous influence on model projections. Therefore, the report should identify a range of leakage rates that various modeling assumptions yield.

Leakage is viewed by the Staff as “*primarily...a near- to mid-term concern.*” (page-ES-2) AES agrees with this assessment provided the RGGI program sunsets upon development of a federal program. In support of this premise, the report admits that, “**(a) national carbon cap would in large part address the**

emissions leakage issue.” (page-8) (emphasis supplied). Footnote 19 elaborates the point stating:

“The implementation of a national CO₂ cap-and-trade program for the electric power sector that is equivalent to RGGI, or a scenario where RGGI sunsets once a national program is implemented, would obviate any potential for emissions leakage. A scenario where a weaker federal program complements the RGGI program could still potentially result in emissions leakage, although this scenario would be expected to mitigate potential emissions leakage.”

The mechanism to minimize the impact of leakage is through a federal program.

The Initial Report Overlooks the Agreed Upon Program Design Objectives

The report (page 2) states that the Staff identified certain criteria to evaluate the various policy options to address leakage:

Evaluation Criteria for Emissions Leakage Mitigation Mechanisms

To evaluate the different policy options available to address potential emissions leakage, Staff has identified the following criteria. In considering policy options, the states should evaluate the extent to which each option:

- 1) accomplishes the goal of adequately addressing emissions related to the end-use of electricity in the most flexible, cost-effective manner;”*
- 2) maintains and/or enhances electric system reliability;*
- 3) ensures that electric power generated within the RGGI region is treated similarly to electric power generated outside the region;*
- 4) remains relevant even after a mandatory federal greenhouse gas reduction policy is in place;*
- 5) encourages energy efficiency and/or carbon efficiency in the generation and end-use of electricity; and*
- 6) is compatible with other energy and environmental policies that address the end-use of electricity.*

It is unclear how the criteria were determined. Also, the criteria in the initial report include extraneous considerations that do not bear a relationship to the published objectives of the RGGI program. In effect, the initial report appears to be an attempt at revisionist history, seeking to alter the dispatch curve and impose the costs of the program on coal-fired plants in light of leakage undercutting the stated purpose of the program -- decreasing CO₂ emissions from generators.

The RGGI MOU was established to reduce CO₂ emissions from electric generating units, not to address emissions related to end-use electricity. Indeed, the program design completely segregates end use efficiency from the compliance obligations of the regulated facilities. Before any such refocus of

program objectives can be made it should be critically vetted by all key stakeholders and significant programmatic elements must be reconsidered.

. The Leakage Report states that one of the program's "goals and benefits" is to "...modify the dispatch and carbon intensity of the existing generation portfolio..." (page-31). This objective does not appear in the agreed-upon and published goals of the RGGI process. This shift in goals suggests that state air regulatory agencies are acting in areas outside of their respective statutory and other authorities under both State and federal law. A cap and trade program should be concerned with emissions, not the operations of the wholesale market dispatch system.

. Notwithstanding the MOU's concern with reliability, the initial report's failure to attempt to meaningfully mitigate leakage portends adverse reliability consequences due to leakage. By design, a program structured to modify dispatch in the market will diminish fuel diversity. Numerous reports published by New England, New York, and PJM Independent System Operators stress the need to maintain fuel diversity in order to preserve system reliability and dampen energy price volatility. The initial report does not meaningfully consider the system-wide needs identified by independent, objective market operators. Moreover, where/when within the MOU process was it determined by agency heads that modifying the operations and outcomes of the wholesale markets is a stated goal of the program?

. The initial report acknowledges the fundamental premise for assessing and implementing leakage mitigation. Generation within the RGGI region will be more costly than electricity produced outside of the RGGI region due to CO₂ cap cost requirements. The initial report states, "*(t)he implementation of a carbon cap on power plants is expected to increase the cost of electricity generation in the RGGI region.*" (page-ES-1) This amounts to a tacit admission of what should be readily and more clearly acknowledged: leakage will result from the program design. This foundational consequence, in light of the review criteria set forth in the initial report, undercuts the validity of the program design. By definition, leakage amplifies that electricity generated in the RGGI region will not be treated similarly to that generated outside the region, both within the markets of the RGGI region and those outside the region. The fundamental program design fails when considered under the initial report's criteria for assessing leakage mitigation options.

. As alluded to above, upon development of a federal level

greenhouse gas policy, state level RGGI programs must sunset. If state level RGGI programs continue to function after a federal program is adopted, leakage will persist as a problem.

Leakage effects can be mitigated through more expansive use of CO₂ offsets than are currently provided in the Model Rule. The initial report does not acknowledge this leakage mitigation measure, nor does it assess the implications of expanding the offset pool. Offsets are a viable CO₂ control tool that provides real and immediate one-for-one environmental impacts. Expansive use of CO₂ offsets should be encouraged to support program balance.

Reliability Impact

Reliability of electric supply is a major priority of the RGGI MOU and any significant leakage will compound the reliability challenges throughout the RGGI region. Potential reliability impacts are discussed in the following excerpt from page ES-12 of the report's executive summary:

“Staff concludes that all three categories of proposed leakage mitigation policy responses would have no significant effect upon electricity system reliability. All of the policies considered in this report place no direct compliance obligation, and related cost adder, on electric generation units. Policies evaluated would either impact electric demand or place specific carbon requirements on LSEs.”

AES suggests that further thought and clarification is needed with regard to how a load-based program would be designed. Specifically, how would a source-based program be managed in concert with a parallel program imposed on load serving entities? The two programs operating in parallel appear to work at odds with each other from an electric generating unit dispatch perspective. Under a load-based system, the Independent System Operators (ISO) control of system dispatch will conflict with the dispatch outcome that the Load Serving Entities (LSE) would require to meet their emission limits.

The Initial Leakage Report states:

“Ensuring system reliability can be understood as an exception to the least-cost economic dispatch model.”

“However, system reliability is ensured by allowing units that are required for reliability purposes to be dispatched out of economic merit order. While these units may be more expensive than units that would be dispatched on a solely economic basis, they are directed to operate to maintain system reliability. In essence, reliability “trumps” economic dispatch given the physical constraints of the transmission system.”

These statements imply that the availability of Reliability Must Run (RMR) contracts and other undesirable mechanisms that diminish the efficiency of the wholesale market must continue in order to mitigate RGGI's potential impacts to reliability. The Federal Energy Regulatory Commission (FERC) and the respective Regional Transmission Organizations (RTOs) have expended

significant resources and efforts to eliminate the need for out-of-market mechanisms due to their adverse consequences to ratepayers and the viability of the respective markets. The initial report suggests that RGGI will prolong the need for undesirable, non-market mechanisms to maintain reliability in contradiction of FERC policy. The extensive leakage predicted by the RGGI SWG modeling will exacerbate the adverse market impacts from the RGGI program. The reliability rationale in the initial report amplifies the disconnect between sound market design and the RGGI program design.

In consideration of the program's impacts cited in the initial report, the final leakage report should address how the following costs will be captured:

- . Rate schedule one (1) charges?
- . LBMP impacts due to Out-of-Merit dispatch?
- . RMR impacts on dispatch prices?
- . Inefficiencies due to higher priced physical bilateral contracts operating outside of the merit order dispatch in the real time market versus being backed down in favor of more cost effective generation?
- . Dispatch problems encountered due to less optimized control of unit dispatch by the ISOs?

RGGI must undertake a modeling exercise to identify, qualitatively and quantitatively, the impacts of these policy options to understand their impact on the economic and reliable performance of the energy markets in the RGGI region.

Policy Options

Policies that Reduce Electricity Demand

According to the SWG modeling, RGGI's success is heavily reliant on the effectiveness of efficiency projects deployed to reduce demand. The capability of the states to effectively, efficiently and on a timely-basis deploy and maintain such programs is unproven and overstated. Moreover, in light of energy efficiency's role in the proposed program, the final leakage report should assess whether there are other and more efficient mechanisms for deploying energy efficiency than funding through government earmarking of auction proceeds.

It has been stated that a key to mitigating leakage is to relieve the pressure on allowance pricing. To date the focus on providing such relief has been on demand-side management and efficiency measures. If the RGGI region is serious about keeping the allowance price in check and mitigating leakage, it must consider expanding the use of offsets. Not only does the application of offsets have a positive affect on allowance pricing, and thereby the extent of

leakage, it has a direct effect on concentration of greenhouse gases in our environment.

The first policy options stated in the report supporting a reduction of electricity demand are said to be:

“... policies ... that constitutes a no-regrets approach, i.e., one that would also provide significant electric system reliability and economic benefits to the RGGI region.”

AES agrees that demand-side efficiency programs need to be part of the CO₂ solution, but not at any cost and not without understanding the timing and effectiveness of the different programs. Therefore, we disagree that these approaches can be simply stated as being of “no regrets” in nature.

The report further states the primary objective for achieving these demand reductions is through:

“maximization of a consumer benefit/strategic energy purpose allocation, with a focus on end-use energy efficiency;”

This statement is being used to provide justification for auctioning a large percentage of a state’s allowances. The representation of this option being “no-regrets” is disingenuous at best:

- . It creates the highest degree of risk for consumers and suppliers;
- . Results in severe financial impacts on coal- and oil-fired generators, which jeopardizes fuel diversity and system reliability in the northeast;
- . Adds pressure to limit long-term energy contracts, with resulting increased electricity price volatility;
- . Limits the ability to plan infrastructure investments in existing and new fossil generation within the RGGI region; and
- . Creates a competitive advantage for generation facilities, businesses, and consumers outside the RGGI region.

The RGGI region should also be cautioned that a reduction in load does not necessarily translate to reduced allowance prices. The allocation and auction methodologies adopted by the states will have as much and possibly more impact on the market price of allowances.

To the extent that the final leakage report cites the auctioning of allowances in support of energy efficiency as a leakage mitigation measure, the report must disclose and assess the specific legal authority underlying this mechanism. Specifically included in the report should be a discussion on whether the auction constitutes a tax being imposed on regulated entities.

Policies that Shape LSE's Procurement Profile

Each of the policy options proposed, in addition to the energy efficiency policy, impact the manner in which LSEs procure the generation that they need to serve their customers. When coupled with RGGI and the electricity market structures which exist in the RGGI region, such policies will be difficult to work in concert with each other. The most significant problem with these policies is that they fail to utilize the least cost models upon which the wholesale markets are designed as required by FERC regulations and oversight. Load-based requirements largely rely on bilateral contracting in lieu of the real time and day-ahead energy markets. As a consequence, load-based policies will lead to higher energy costs and less reliable operation because they limit the System Operator's day-to-day control of its generation resources in the real time market.

RGGI Programmatic Impacts

Contracted Plants

AES remains concerned about RGGI and related policy impacts on contracted facilities. To date, the RGGI states have not responded to legitimate concerns concerning contracted plants with no means to recover the cost of RGGI compliance. Yet, the leakage report states, "*(e)xisting plant-specific long-term power purchase agreements can be expected to mitigate emissions leakage, ...*" (page-7). This report statement may be true if a solution for recovery of compliance costs is addressed. However, in the absence of mechanisms to address the pre-existing obligations of contracted plants, the RGGI program will challenge their continued viability. The significant adverse impacts to contracted plants will discourage long-term power purchase agreements thereby exacerbating leakage and diminishing system reliability.

Merchant Plant Cost Recovery

The report suggests that the marginal plant's cost of allowances will be passed on to the LSEs. This statement may be valid with respect to that subset of merchant plants dispatched on economic merit but the statement does not apply beyond the consideration of that specific marginal unit and certainly does not apply to contracted plants. Footnote 7 in the Leakage Report states:

"... Based on average emissions rates in the U.S. a \$3/ton allowance price translates to compliance costs of approximately \$3/MWh for coal-fired units, \$2.20/MWh for oil-fired units, and \$1.50/MWh for gas-fired units. A natural gas combined cycle plant, with an emissions rate of 800 lbs. CO₂/MWh, would face a compliance cost of \$0.80/MWh at a \$2/ton allowance price, and \$1.20/MWh at a \$3/ton allowance price."

This footnote clearly establishes the economic pressure that will be placed on coal- and oil-fired generation under the RGGI program. The economic burdens imposed by the RGGI policy will challenge system reliability and encourage even greater leakage. The net effect will be to further decrease the potential that any CO₂ reductions can result from the RGGI program.

Environmental

Due to the fact that power plant SO₂, NO_x and Hg emissions from RGGI states are generally at lower levels than surrounding areas, reduced generation within the RGGI states and increased generation from non-RGGI states as a result of the RGGI program will result in an overall increase of SO₂, NO_x and Hg emissions from power plants in surrounding states and the entire Eastern Interconnect Region. These emissions will adversely affect the RGGI states through transport and deposition. The persistence of transport has been demonstrated through various analyses by EPA and the Northeast states and it is immutable that increased emissions from surrounding states will cause adverse ambient impacts in the RGGI region. The extent of the adverse environmental and public health impacts from leakage must be disclosed, assessed and subjected to meaningful public review.

In undertaking analysis of the adverse environmental impacts resulting from leakage, the RGGI states should not and cannot rely on mitigation from ongoing regional initiatives to decrease SO₂, NO_x and Hg emissions. The Clean Air Interstate Rule (CAIR) caps SO₂ and NO_x emissions over most of the Eastern U.S. but does not require that emissions will be controlled in any specific state or region (e.g., the Northeast) – only that, overall, reductions will occur within the 25 Eastern U.S. states. Leakage virtually assures that sources in states immediately upwind of the RGGI states will increase their levels of electricity exports into the RGGI region, and hence, their emissions. Similarly, the Clean Air Mercury Rule implements emission reductions through a cap over the entire nation. While the cap and trade provisions of this rule are being challenged, nothing in the promulgated rule assures that increased imports into the RGGI region will not bring with them increased mercury emissions into the region. States participating in the RGGI initiative must carefully review whether SO₂, NO_x and Hg emissions leakage resulting from upwind, non-RGGI regions will negate any emissions reductions and cause adverse ambient impacts within their state and the RGGI region as a whole.

Summary

The initial leakage report does not properly analyze or acknowledge a significant and known problem -- leakage, and fails to conform to the provisions of the RGGI MOU. Its proposal to essentially take no mitigative action and instead deal with leakage after implementation of the program is not acceptable policy and is contrary to law. Such a flawed approach also would transfer millions of dollars in economic activity to non-RGGI states in exchange for increased environmental degradation in the RGGI region.

The myopic scope of the initial report simply ignores real consideration of leakage impacts and various potential measures to mitigate leakage.

Additionally, the final report should include consideration of:

Expanded utilization of offsets to secure immediate environmental benefit

and reduce the overall price of the program

A comparative analysis of the anticipated timeline of CO₂ benefits derived from energy efficiency vs liberal offset utilization and investment in CO₂ control technology.

Sun setting the regional program when a national program is adopted.

It is critical that the implementation of the RGGI program not occur until reasoned and cost effective leakage solutions are determined, and modeled. Failure to take this approach will create environmental and economic leakage for the RGGI region versus non-RGGI markets, and place the Northeast at a competitive and environmental disadvantage versus other regions of the country.