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Workgroup Recommendations and Other Potential Control Measures
Stationary Combustion Sources Workgroup

SCS005A – BPU Clean Energy Efforts and their Interactions with the NOx Trading Program

DESCRIPTION

This endeavor would seek to obtain credit under a Clean Air Act State Implementation Plan (SIP) for nitrogen oxide (NO_x) emission reductions resulting from state-funded incentive programs and projects for both energy efficiency and renewable energy.

Numerous categories of energy efficiency and renewable energy programs and projects are funded by the Clean Energy Program (NJCEP) of the NJ Board of Public Utilities (BPU).

The project is significant because of the broad scope of the energy efficiency and renewable energy programs and projects considered, including: (1) energy efficiency projects in new construction and retrofits of commercial, industrial, and residential buildings and schools (36,000 projects); (2) ENERGY STAR air conditioning (50,000 units) and lighting (3.5 million units); (3) high efficiency central air conditioning (50,000 units) and ground source heat pumps (1,000 units); and (4) solar photovoltaic projects (344 systems totaling 2.5 MW).

IMPLEMENTATION

Energy efficiency and renewable energy inherently prevent pollution from occurring. It is important to encourage and reward greater application of energy efficiency and renewable energy measures and to account for the emission reductions that these measures will accrue in the air quality planning process.

New Jersey's current Clean Energy Program (NJCEP) began in 2001. It is funded by a "societal benefits charge" of more than $100 million annually, and includes a wide range of energy efficiency and renewable energy programs and projects across the state. New Jersey is one of nearly 20 States that fund energy incentive programs under a systems benefit charge. The NJ "societal benefits charge" is about 3 mills per kWh, of which NJCEP receives about 1 mill per kWh. Growth in electricity savings has outpaced growth in expenditures, increasing 70% from 2002 to 2003 and 14% from 2003 to 2004. Because these energy efficiency and renewable energy improvements are long lasting, New Jersey will see a cumulative benefit, as measures implemented in previous years continue to save or generate energy.

In essence, following the May-September Ozone Season in a given year, NJBPU would aggregate the energy savings, i.e., electricity not generated by fossil fuel, from across the

programs it had funded with respect to emissions avoided during that Ozone Season. NJBPU then would apply to NJDEP for NOx allowances from the Incentive Reserve as an eligible entity under N.J.A.C. 7:27-31.8. Allowances would be granted upon approval based on electricity saved or generated by the BPU programs. BPU would in turn, retire these allowances thus removing them from the cap and trade program. As this alters the NJ's base emission budget, the resulting tonnage differential may be utilized as SIP credit.

This credit may be construed as either a control measure, or as a quantifiable reduction in projected future NOx emissions.

In the future CAIR Program, which succeeds the current NOx trading program in 2009, allowances would also be allocated for use on an annual basis. This trading program will exist in parallel with the Ozone Season program. Both programs would be eligible to continue this interaction with the NJBPU CEP.

While programmatic integration with the NOx Budget Program and the future CAIR Program in order to credit emission reductions as a means of achieving the NAAQS for ozone is the focus of this initiative, emission reductions from energy efficiency and renewable energy measures may also be used for compliance with SIP provisions for other air quality standards, such as PM-10 and PM-2.5, and regional haze.

COST

The cost to the State would be minimal, as this would be an additional submittal for Incentive Reserve allowances to the pre-existing NOx Budget Program. Review of such submittals is already part of the NJDEP staff regular duties.

EFFECTIVENESS

Analysis using conservative assumptions indicates that a subset of energy efficiency and renewable energy measures implemented under the NJ Clean Energy Program in 2002, 2003, and 2004 resulted in the reduction of at least 240 tons of NO_x emissions during the summer season of 2005 alone, based on summer electricity savings and renewable energy generation of approximately 320,000 megawatt-hours (MWh). Based on the expected continuation and growth of the Clean Energy Program, it is likely that NO_x emission

reductions resulting from that program and from private investments will exceed the current incentive allowance cap of 410 tons annually by 2007.

Preliminary estimates of potential NO_x reductions during the summer ozone season for 2012 are in the range of 480 tons to 950 tons, depending on the specific assumptions employed for program growth, duration of measures, and changes in the electricity grid.

COST EFFECTIVENESS

The cost to the State to implement this would be minimal. Cost effectiveness would be positive because of the dollars saved with increased energy efficiency.

REFERENCES

Final Report on the Clean Energy/Air Quality Integration Initiative Pilot Project of the U.S. Department of Energy's Mid-Atlantic Regional Office, March 2006

New Jersey's Clean Energy Program 2004 Annual Report.
New Jersey Board of Public Utilities, Office of Clean Energy. http://www.state.nj.us/bpu/reports/NJCEP2004AnnualReport.pdf.