



Advisory Working Group

Air Quality

April 7, 2011

Agenda

- ❑ Introductions
- ❑ Recap of previous meetings
- ❑ Air Quality Permit
- ❑ History and Status
- ❑ Air Quality Discussion
- ❑ Q&A
- ❑ Next Meeting



Project Update

❑ Draft Environmental Impact Statement (DEIS)

DEIS submitted to DEC in late February – currently under DEC review

Expected to be released to public in mid-April

Public hearing: Anticipated in June at Dover Middle School Auditorium

❑ Public Review – available at:

Town Hall

www.townofdoverny.us

DEC Region 3 Office

www.dec.ny.gov/permits/64754.html

CVE office

www.cricketvalley.com

Dover/Wingdale Library

Air Quality Advisory Group Meetings Recap

February 3, 2010

- ❑ Provided detailed overview of local and regional air quality
- ❑ Explained federal and state air quality standards and permitting programs
- ❑ Described methodology to model potential air quality impacts

April 15, 2010

- ❑ Discussed air permit application, purpose and contents
- ❑ Reviewed air permitting process and regulations
- ❑ Discussed air quality analyses completed and conclusions contained in the air permit application

Air Quality Advisory Group Meetings Recap

September 16, 2010

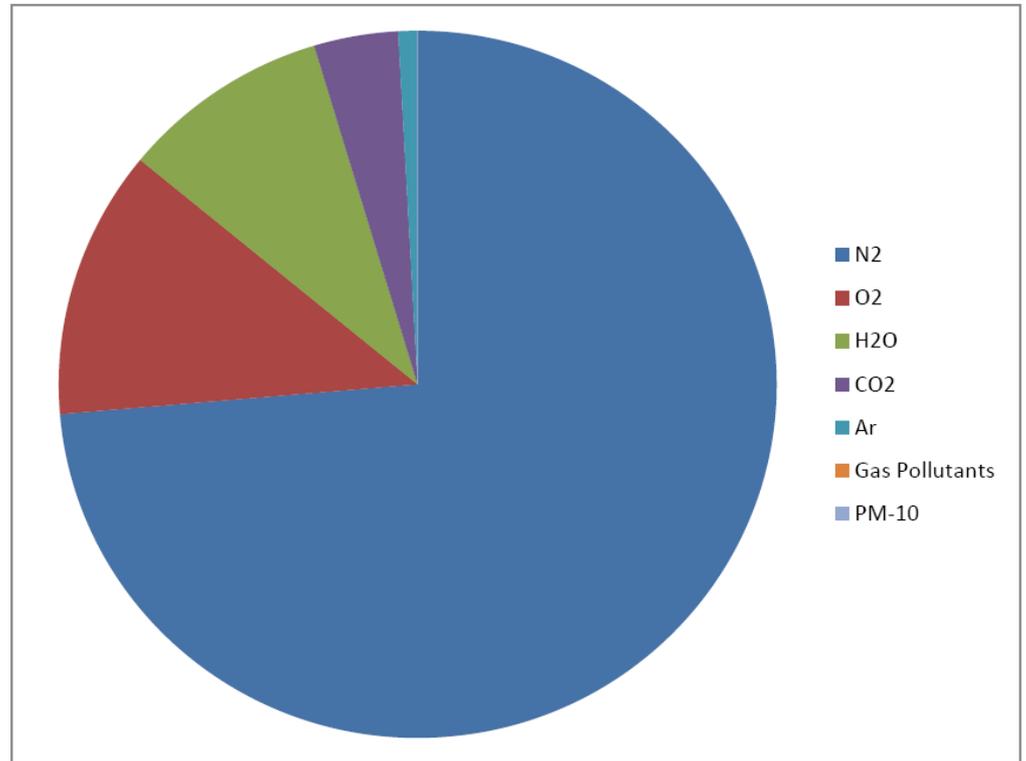
- ❑ Described new air quality standards that were promulgated by USEPA as well as new regulation of greenhouse gases
- ❑ Discussed analyses CVE would undertake to demonstrate compliance with the new standards
- ❑ Described the Dispatch Analysis undertaken by CVE to quantify regional air quality benefits that will accrue from displacement of higher emitting units

Project Air Quality Features

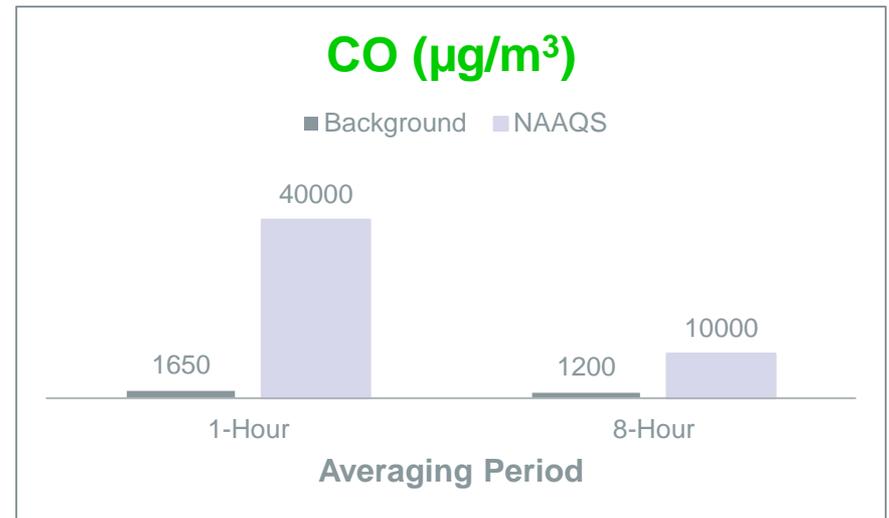
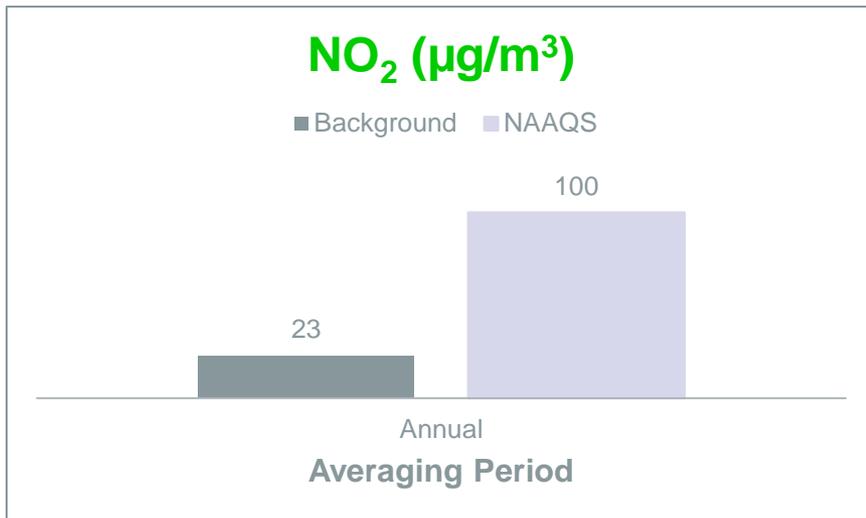
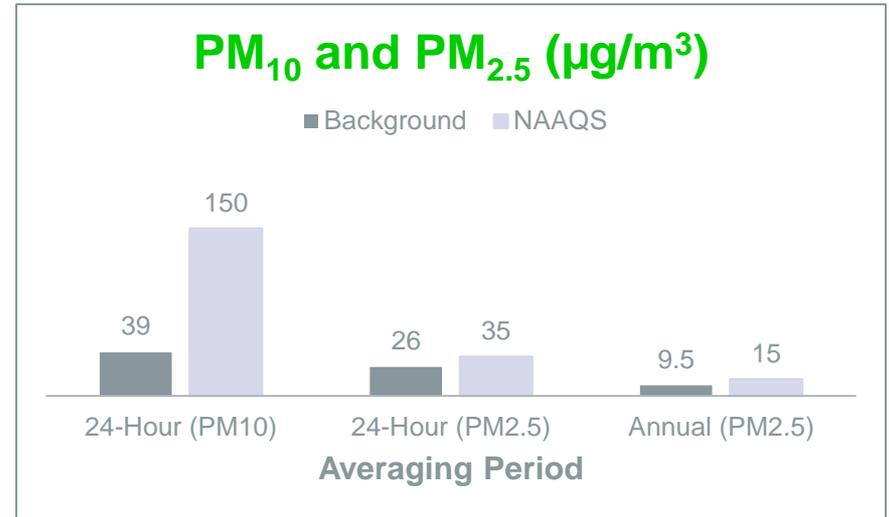
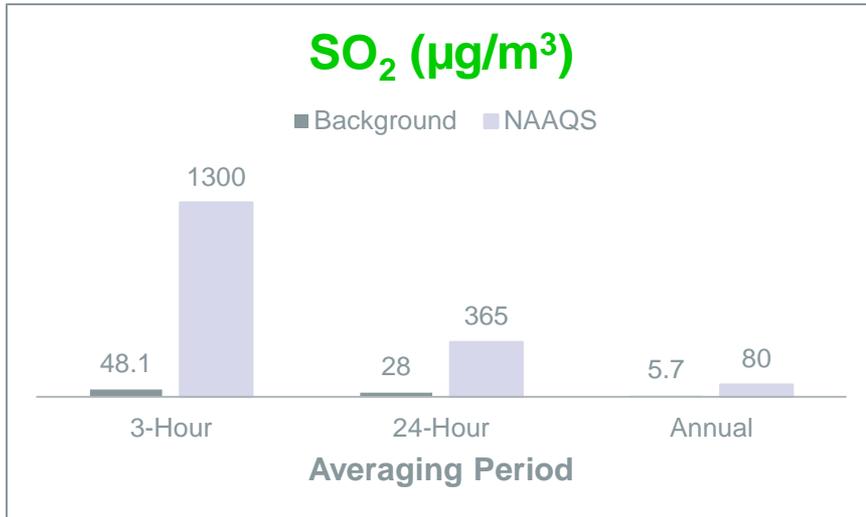
- ❑ Clean burning natural gas only
- ❑ Same products of combustion as your furnace or stove
- ❑ State-of-the-art emissions controls
 - Selective catalytic reduction
 - Oxidation catalyst
- ❑ Most efficient, cleanest power plant of its kind in the world
- ❑ Good Engineering Practice stack height to minimize air quality impacts
- ❑ Emissions will be monitored continuously (CEMs) and reported to NYSDEC

Stack Emission Characteristics

- ❑ 74% nitrogen (N₂)
- ❑ 12% oxygen (O₂)
- ❑ 9% water (H₂O)
- ❑ 4% carbon dioxide (CO₂)
- ❑ 1% argon (Ar)
- ❑ 0.0012% gaseous pollutants
- ❑ 0.0003% particulate matter



How Clean Is Our Air Now?



Air Quality Permit History and Status

1. Cricket Valley Energy filed an Air Permit Application March 26, 2010
2. NYSDEC and USEPA reviewed the application for strict compliance with state and federal air quality regulations
3. Agency comments received in May, June and August 2010
4. Responses to most comments filed in November 2010. Responses to comments pertaining to evolving (1-hour) standards and regulations had to wait for agency guidance/tools to be released
5. Responses on new 1-hour standards and greenhouse gas regulations filed in February 2011
6. NYSDEC and USEPA have approved the responses and NYSDEC will issue the draft air permit for public review simultaneously with the DEIS later this month
7. Written comments will be incorporated into the SEQR process

What regulations must CVE comply with?

- ❑ National Ambient Air Quality Standards (NAAQS)
- ❑ Nonattainment New Source Review (NNSR)
- ❑ Prevention of Significant Deterioration (PSD) New Source Review
- ❑ New Source Performance Standards (NSPS)
- ❑ National Emission Standards for Hazardous Air Pollutants (NESHAP)
- ❑ Clean Air Interstate Rule (CAIR)
- ❑ Acid Rain Program (Title IV)
- ❑ New York State Additional Requirements
 - Sulfur in fuels
 - Visible emissions
 - CO₂ Budget Trading Program
 - Accidental release requirements

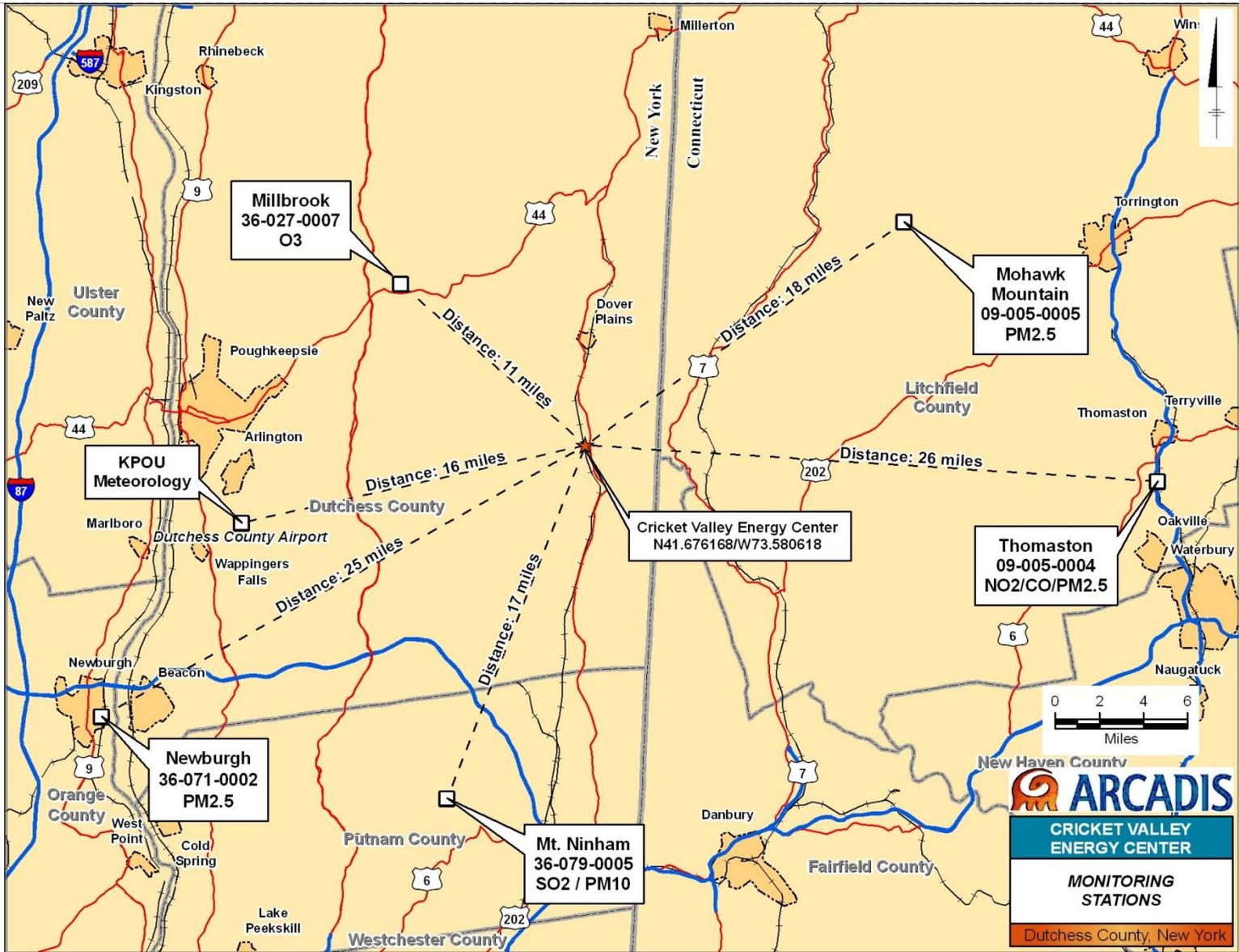
What must the applicant prove to receive a permit?

- ❑ Project impacts protect the health of the most vulnerable individuals
- ❑ Complies with National Ambient Air Quality Standards and Prevention of Significant Deterioration Increments
- ❑ Impact of non-criteria (toxic) pollutants are below health-based guidelines
- ❑ Contribution to acid rain is insignificant
- ❑ “Worst-case” hypothetical release of ammonia poses no offsite risk
- ❑ No significant or disproportionate impact to disadvantaged (Environmental Justice) communities
- ❑ No significant visibility impact at closest state park/natural resource
- ❑ No significant effect on soils/vegetation

Systematic Approach

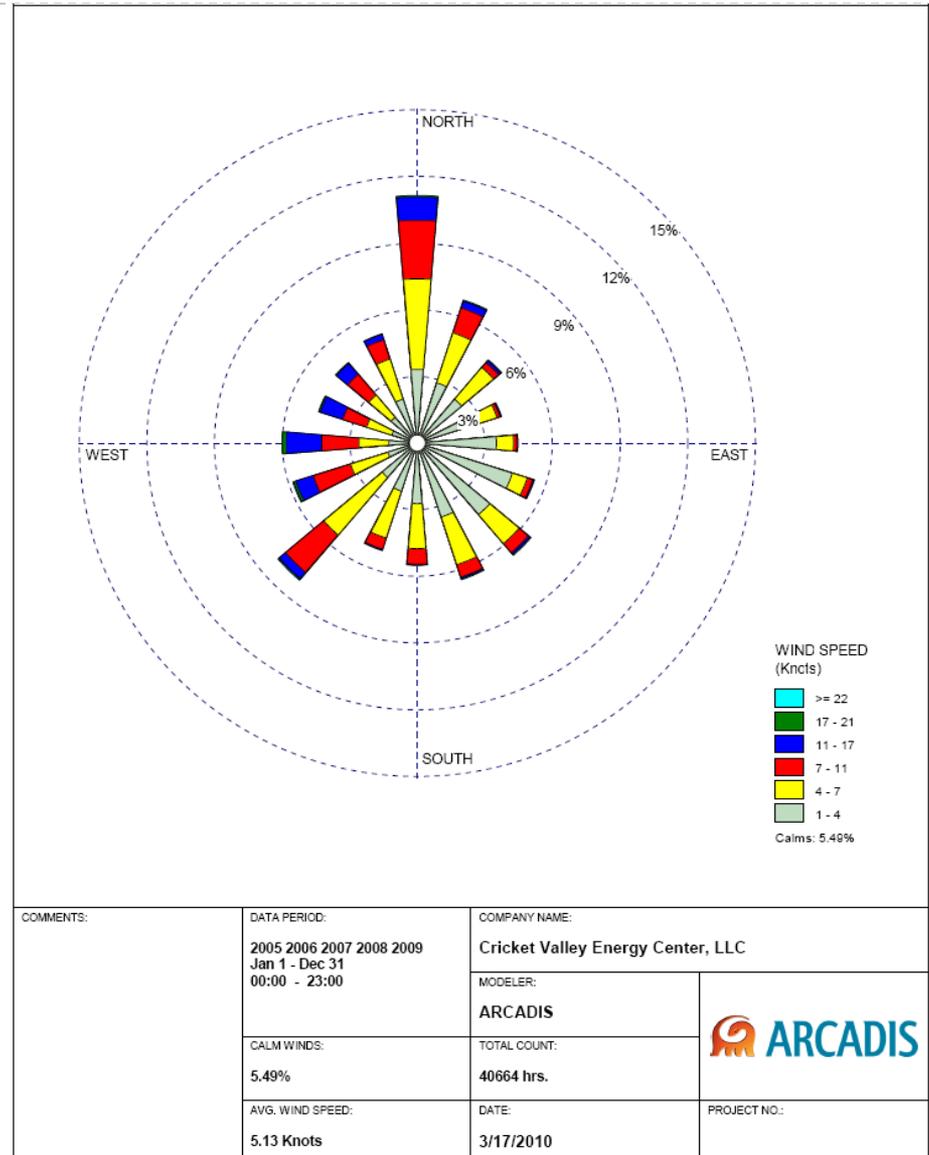
- ❑ **Collect data from approved regional air quality and meteorology monitoring stations:**
 - ❑ Real time hourly meteorological data for approximately 5 years
 - ❑ Most current 3 years of air quality monitoring data
- ❑ **Air quality dispersion modeling for each regulated pollutant**
 - ❑ NO₂, SO₂, PM_{2.5}, PM₁₀, CO, and over 40 individual air toxics
- ❑ **Compare maximum impacts to appropriate standards and guidelines**

Data Resources



Modeling Approach

- ❑ NYSDEC/USEPA approved modeling protocol and data assumptions
- ❑ Modeled approximately five years of hourly average meteorological data which were derived from one-minute observations
- ❑ Calculated impacts at 1,507 receptors covering an 8 km X 8 km area
- ❑ Maximum permitted emission rate and the full range of operating conditions



Conclusions Contained in Permit Application

- ❑ Project will not cause or significantly contribute to violations of National Ambient Air Quality Standards, which have been set to be protective of health of even the most vulnerable individuals, including those with asthma and emphysema
- ❑ By complying with PSD Increments, the project will not significantly degrade existing air quality
- ❑ Impacts of non-criteria (toxic) pollutants are well below all health-based guidelines
- ❑ Contribution to acid rain resulting from air quality impacts is insignificant
- ❑ Modeling of a “worst-case” hypothetical accidental release of ammonia indicates no off-site health risk
- ❑ No significant or disproportionate impacts to disadvantaged communities
- ❑ There is no significant visual impact on the nearest park and natural resource: James Baird State Park and the Catskill Mountains
- ❑ No significant air quality impacts to soils or vegetation
- ❑ Emission levels represent BACT/LAER

Quantifying Displacement Benefits

- ❑ The SEQR Scoping Document directs CVE to discuss the project's purpose, public need, and benefits in its Draft Environmental Impact Statement
- ❑ Public need and benefits are demonstrated through, among other things, a Dispatch Analysis, which shows how CVE will displace the operation of older, less efficient units, yielding economic and environmental benefits
- ❑ Dispatch Analysis is required for a Certificate of Public Convenience and Necessity from the Public Service Commission (PSC) - the regulatory agency for electric and gas utilities

What is “Dispatch”?

- ❑ **New York State power is derived from various types/sources:**
 - **Types: Wind, Hydro, Nuclear, Coal, Oil, Natural Gas**
 - **Outside Sources: ISO-New England, PJM (Pennsylvania, New Jersey, Maryland area), Ontario**
- ❑ **Electric generators are “dispatched” by the NY Independent System Operator (NYISO)**
- ❑ **Decisions on which energy resource to dispatch at any given time are made 24/7 from a control room near Albany**
- ❑ **Fuel costs generally determine the order in which power plants are dispatched**

What did the Displacement Analysis Show?

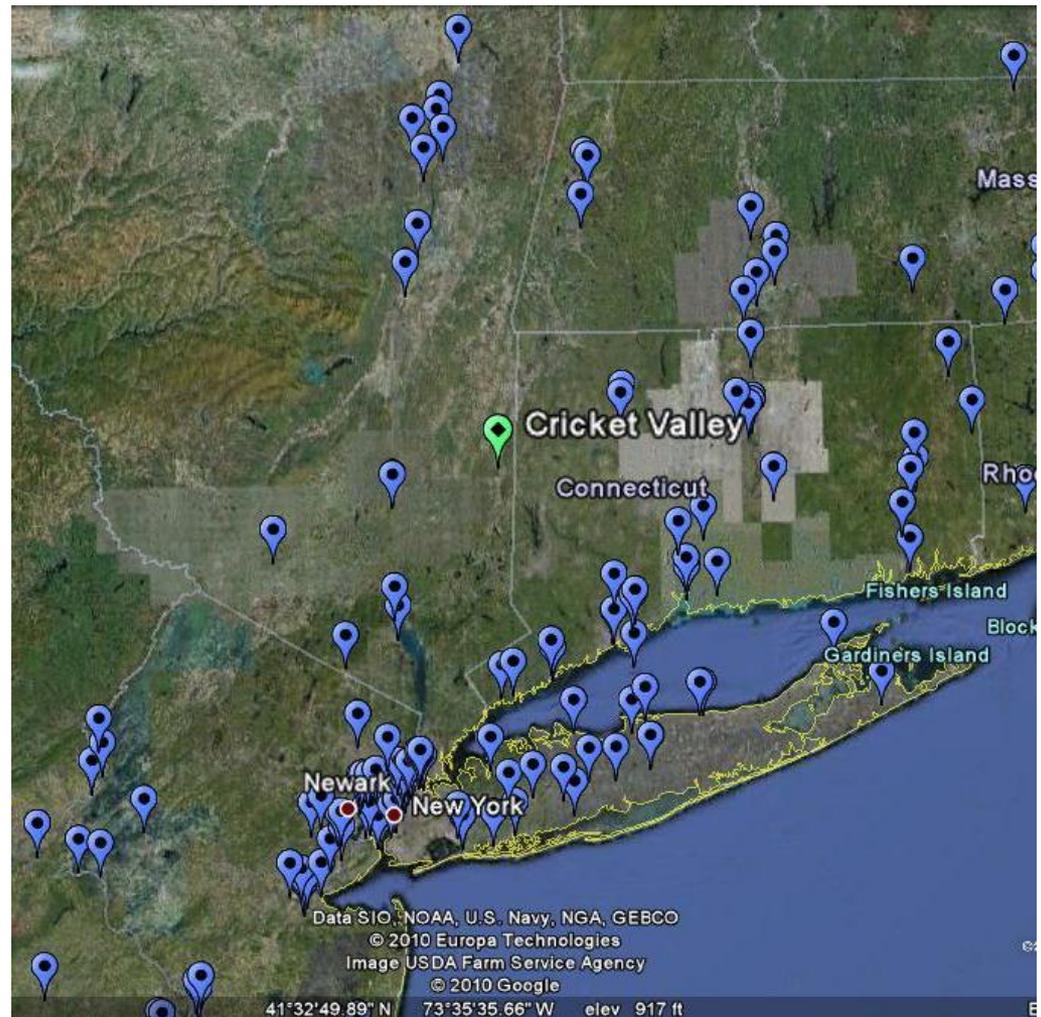
- In 2018, CVE operation would result in annual emissions reductions across New York, New England and PJM of:

NO_x – 1,612 tons

SO₂ – 4,533 tons

CO₂ – 716,818 tons

- Each pinpoint represents an existing fossil fuel energy generating plant



Responses to Agency Comments

- ❑ Cumulative modeling of CVE, plus other major sources within 50 km of the site, plus monitored background demonstrated that the project will not cause or significantly contribute to modeled violations of the new 1-hour NO₂ NAAQS
- ❑ The BACT analysis for greenhouse gases demonstrated that the project represents the most efficient (least CO₂/MW-hr) power plant of its type ever approved and will set the bar for future projects going forward
- ❑ Neither analysis took credit for emissions displacement, which is expected to result in significant regional reductions in emissions of NO₂ and CO₂
- ❑ Both USEPA and NYSDEC have accepted the responses, approved the analyses, and NYSDEC has prepared the draft permit for public comment

Questions & Contacts



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