

Witness: Fred Sellars

Question Westover-1:

You have stated that you do not anticipate that the roadway monitors set up by the DEEP beginning in 2013 and ending in Dec. 2015 will not change the attainment status our region for NO_x (see transcript from hearing on Feb 10, 2015). On what basis can you make this judgment call? Please provide studies or sources of information.

My question is asked because on Table 4-6 of Exhibit 1, the total impact plus background is very close the NAAQS. Wouldn't it seem precautionary to wait until the road study is complete before moving ahead? If the total impact plus background for NO_x exceeds the NAAQS, what impact will that have on the plant going forward? Would more offsets need to be obtained?

Response:

All of Connecticut is currently designated as in attainment of the National Ambient Air Quality Standard (NAAQS) for nitrogen dioxide (NO₂). In response to the United States Environmental Protection Agency's (USEPA's) requirement to implement roadway NO₂ monitors, the Connecticut Department of Environmental Protection (DEEP) proposed and USEPA approved the near-road location at 17 Huntley Place in Hartford, located proximate to Route I-84. Measured concentrations at this new monitor for 2013 – 2014, while a little higher than previous non-roadway monitoring data, are still only a little more than half of the NAAQS and, therefore, re-designation of Connecticut to nonattainment for NO₂ would not be supported, nor is any such re-designation proposed or contemplated.

Cumulative modeling analyses are used to ensure new projects will not result in violations of the NAAQS, and not to confirm an area's attainment status. By nature, the required cumulative modeling analyses are very conservative. For example, the cumulative modeling reflected in Table 4-6 assumes that the maximum hourly emission rate for the Facility would occur at the same time the interacting sources would be emitting at their maximum permitted emission rates, under the meteorological conditions that result in the highest combined impacts. The contribution of the Facility (12.9 µg/m³) is then added to the contribution from interacting sources, plus measured background. These results deliberately "double count" the contribution of emissions from existing interacting sources, whose impact is already a component of the measured background monitoring data. Further, it should be noted that the contribution of the interacting source, Unit #3 at Bridgeport Harbor (68.9 µg/m³), is based on that source's maximum permitted NO_x

emission rate of over 12,000 tons per year, while its actual emissions are approximately 2,112 tons per year.

Substituting the concentrations measured thus far at the new roadway monitor from 2013-2014 (94.9 $\mu\text{g}/\text{m}^3$) for the background data approved by DEEP and used in the cumulative modeling would not change the conclusion of the Facility's cumulative modeling analysis, as compliance with the NAAQS would still be demonstrated.

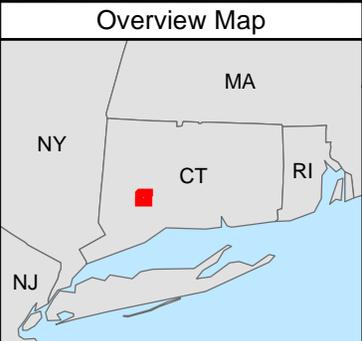
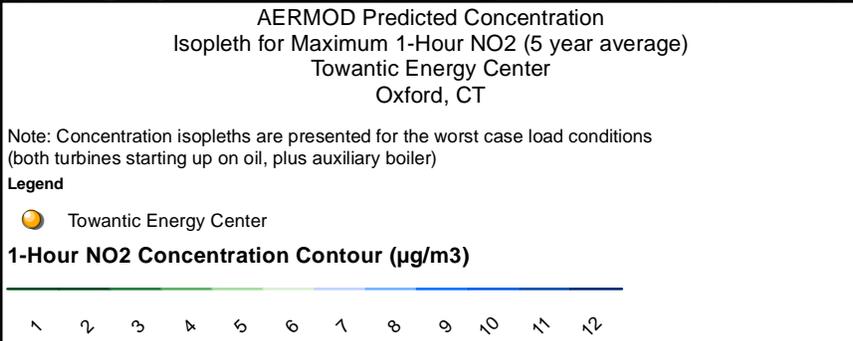
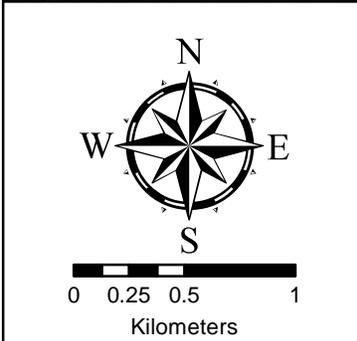
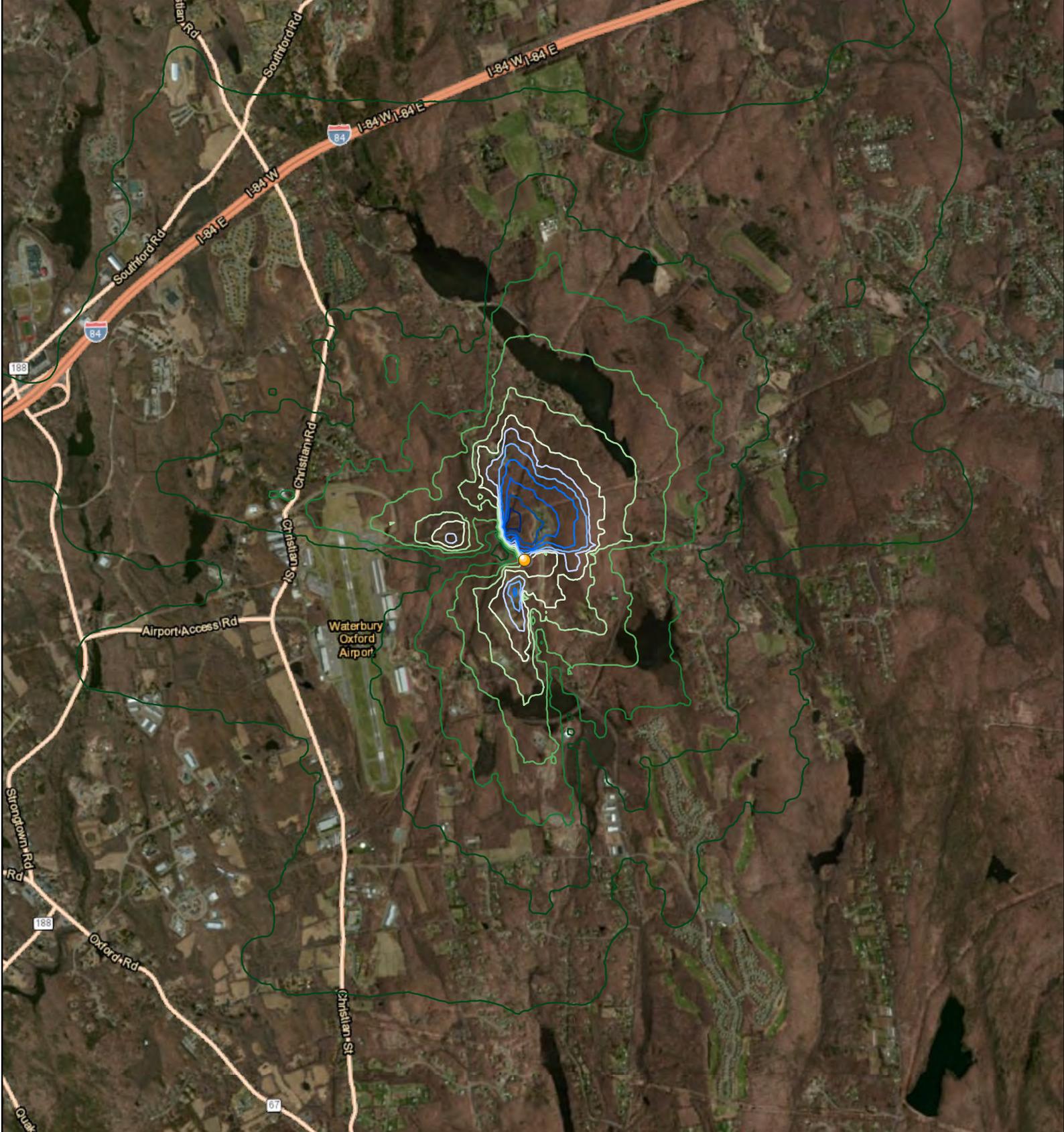
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Question Westover-2:

Have you mapped the concentration of NO_x with distance from the plant as it disperses from the stacks under no or low wind conditions? If you have done so, could you tell me where to find this map? If not, will you produce such a map?

Response:

The attached isopleth map reflects maximum 1-hour NO₂ concentrations based on modeling using five years (2008-2012) of hourly surface and upper air meteorological data collected, processed and provided by the Connecticut DEEP. The five year meteorological data set includes numerous hours of very low wind conditions. Note that the modeling conservatively assumes that the worst-case hourly emissions scenario, in this case, both turbines simultaneously starting up firing ultra-low sulfur distillate (ULSD) oil, plus full-load operation of the auxiliary boiler.



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Question Westover-3:

Will air quality be monitored for criteria pollutants in an ongoing way once the plant is in operation? Will the plant's emissions be self-monitored or overseen by a government agency such as the DEEP? Where will air quality monitors be placed on the 26 acre site?

Response:

Air quality is monitored by the DEEP at a network of air quality monitoring stations located throughout the State. To ensure that the Facility will comply with air quality standards, emissions will be directly monitored in the stack. NO_x, carbon monoxide (CO), and ammonia (NH₃) emissions will be continuously monitored using continuous emissions monitoring systems (CEMS). Emissions of sulfur dioxide (SO₂) and carbon dioxide (CO₂) will be tracked by continuously monitoring the fuel flow rate, which is converted to applicable emissions algebraically. Emission levels of particulate matter (PM, PM₁₀, PM_{2.5}) and volatile organic compounds (VOC) will be determined based on periodic stack sampling and continuously tracked based on monitoring of fuel flow. These monitoring data will be reported quarterly to the USEPA and annually to the Connecticut DEEP. However, any exceedances of permit limits must be reported to the Connecticut DEEP within 24 hours of occurrence.

Witness: **Fred Sellars**
 Andrew J. Bazinet

Question Westover-4:

Would CPV consider funding long term air quality monitors (for NO_x, PM_{2.5}, ozone, and SO₂) at several school sites at varying distances and directions from the plant? This would serve to safeguard the plant and assure all that levels of criteria pollutants have not significantly changed as a result of the new 785 MW power plant and serve as an educational tool for the students in the area to learn about criteria pollutants and Connecticut's ambient air quality.

Response:

As discussed above, air quality is monitored by the DEEP using a network of air quality monitoring stations located throughout the State. Compliance with air quality standards has been demonstrated by thorough and conservative modeling based on maximum permitted emission limits, and the Facility's compliance with those emissions limits will be continuously monitored, tracked and reported. Additional ambient air quality monitoring stations are, therefore, not necessary. Further, as the regular fluctuation of background concentrations of criteria pollutants exceeds the modeled impacts of the Project, monitoring stations installed at distal locations such as the Westover School would not be able to measure a change in air quality independently attributable to the operation of the Project. However, CPV is committed to educational programs aimed at energy and environmental science and engineering and would be willing to work with the Westover School to help develop educational tools to enable students to learn more about air quality and energy.