Naugatuck Valley Audubon Society
P.O. Box 371
Derby, CT 06418

February 3, 2015

Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: Docket 192B – Towantic Energy, LLC Motion to Reopen and Modify the June 23, 1999 Certificate of Environmental Compatibility and Public Need based on changed conditions pursuant to Connecticut General Statutes 4-181a(b) for the construction, maintenance and operation of a 785 MW dual-fuel combined cycle electric generating facility located north of the Prokop Road and Towantic Hill Road intersection in the Town of Oxford, Connecticut.

Dear Members of the Siting Council,

Naugatuck Valley Audubon Society has requested an extension for submittal of testimony regarding our position on CPV Towantic, LLC. We appreciate the opportunity to participate as an Intervenor and, while we continue to gather evidence, we would like to share some of our concerns at this time.

Connecticut has ongoing air quality problems with ozone and is currently not in compliance with federal standards. Although this is largely due to airborne pollutants from other states and vehicle emissions, building a new power plant that will put additional ozone causing chemicals in the air for the lifetime of the plant, which may be upwards of 3o years, will be a contributing factor rather than a solution. Natural gas, when considered from drilling process to final combustion, is also not environmentally friendly. When the impacts of "fracking" and gas leaks, water usage and contamination, earthquakes, clearing for roads and wellpads are considered, natural gas may be no better for our global climate than oil or coal.

For Connecticut as a whole, summer winds are typically southwest or south, winter northwest to north, with a general weather pattern carried by western winds. This would place, not only of the valley towns, but also Naugatuck State Forest in line of the dispersing pollutants from the expected winter use of oil. With five bodies of water over four acres size, multiple streams, uncounted vernal pools, numerous intermittent watercourses, most of which are graded AA or A per Connecticut Water Quality Standards, any local source of acid rain is a cause for concern.

For many the environmental wake-up call came in 2006 with the release of "An Inconvenient Truth" by Al Gore leaving the image of the CO_2 graph etched in my memory ever since. When the

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original process for this plant approval began in 1998 it was prior to a time when climate change was considered a problem or that it could actually be a human caused problem. It has only been recently that the majority of the scientific and public communities have acknowledged our role in climate change. According to the NASA Global Climate Change Consensus website beginning with the ***American Geophysical Union*** in 2003, which reaffirmed their position in 2013, "Humanity is the major influence on the global climate change observed over the past 50 years." There are many reasons for this new plant to require a new approval application and not ride on approvals made in a time prior to when we knew better. Gas/oil are not the carbon free renewable technologies that we should be concentrating our efforts and dollars on. Green can also produce the much needed jobs which are assumed to come from this venture.

Also from the NASA Global Climate Change Consensus website, by 2013 "97% of climate scientists agree that climate-warming trends over the past century are very likely due to human activities, and most of the leading scientific organizations worldwide have issued public statements endorsing this position." NASA lists the main causes as; water vapor, carbon dioxide (CO_2), methane, nitrous oxide, and chlorofluorocarbons (CFCs). As of December 2014 CO_2 levels are 399.6 ppm. 2006 ended with a level of 382.65 ppm and in 1999 levels were 368.04 ppm. A new gas/oil plant will not help us take these levels in the direction they need to move. Besides gaseous emissions there are the particulate emissions. PM 2.5 concentration were initially monitored by DEEP in Waterbury in 1999. Levels in 2001 were 13.6 with 2013 levels at approximately 9.2. This is a positive direction which should continue and not be reversed by a gas/oil power plant. This plant may be cleaner than the one initially proposed but it is still not the clean energy that the State of CT has proposed in its plans.

From the United States Environmental Protection Agency flyer on human health and power generation it is apparent that sulfur dioxide and nitrogen oxide are serious toxins when released into the environment. They impact human health, contribute to ozone formation, and are a major source of acid rain. All of the northeastern United States has streams, rivers, lakes and ponds that have been acidified due to emissions from power plants. The SO_2 and NO_x and resulting other pollutants can be carried for hundreds of miles, for a year or more. The monitoring systems to determine how much is deposited where are not capable of assessing local impacts. From the current research by Greaver et al. it also seems that the present air quality standards are not sufficient to prevent these pollutants from impacting ecosystems (2012).

There are concerns for both the construction noise while building and then operating, and ongoing lighting of the site. Research is indicating more that introduced human noise and lights interfere with all kinds of living things, from moths and birds drawn to night lighting, to bird songs changing in response to noise. From "Ecological Light Pollution" Longcore and Rich start with "Changes in light level may disrupt orientation in nocturnal animals." and continue with a series of

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examples. To take an example from most Connecticut yards, there is Mark W. Millers paper "Apparent Effects of Light Pollution on Singing Behavior of American Robins". Another bird native to our state, the Ovenbird, was studied in Canada and found to not do well when near constant human sourced noise; "Chronic Industrial Noise Affects Pairing Success and Age Structure of Ovenbirds Seiurus aurocapilla" by Habib, Bayne and Boutin.

"The Amphibia of Connecticut" by Lewis Babbitt in 1937 tells of Spadefoot Toads *(Scaphiopus holbrookii holbrookii)* in what was once Hotchkiss Pond in Ansonia, CT. At the height of activity1,000 toads were concentrated in the area where a housing development now exists. In his 1993 book "Amphibians and Reptiles of Connecticut and Adjacent Regions" Michael Klemens notes that the "Spadefoots are one of southern New England's rarest amphibians" and there are very few locations they may possibly exist in Connecticut. Global amphibian declines were first recognized in 1989 (Lanno 2005) and the main threats recognized by Semlitsch and Skelly (2008) is noted to be habitat loss and degradation, chemical contamination, global climate change, introduction of exotic species, disease, and commercial exploitation. The wetland areas at the construction site have been and will be sacrificed for this power plant. Our concern is that we have no idea what species loss will occur due to these actions.

As we mentioned, Naugatuck Valley Audubon Society (NVAS) has an interest in the Naugatuck State Forest (NSF) as its 2004 designation as an Important Bird Area (IBA) is due to NVAS nomination. While the IBA initiative began in the 1980s in Europe it was not until 1995 that the National Audubon Society began designating IBA's in the United States.

This 3,436 acre forest is within the boundaries of Naugatuck, Beacon Falls, Oxford, and Bethany but there are many stakeholders as NSF is used by many for a variety of recreational purposes such as hiking, fishing, dog walking, snowmobiling, and birding. According to a 2009 report published by the U.S. Fish and Wildlife Service and the U.S. Department of the Interior, there are 48 million birders in the United States. The most popular birds observed by birders are waterfowl (77%), birds of prey (71%), and songbirds (69%). Of the 431 bird species recorded in CT, 188 of them can be found in NSF. NSF is located in the Atlantic Flyway making it a popular birding spot especially during spring and fall migrations. Expenditures for the year surveyed amounted to $82 billion for equipment, transportation, food, and lodging. In Connecticut 28 % of the population participates in some form of bird watching activities.

Not only birds, but amphibians, reptiles, mammals, fish, and invertebrates, rely on NSF for survival. Of the 188 birds found in NSF, 86 of them were noted as a concern in the 2005 CWCS report. The Key Habitats listed in the CWCS are Upland Forest; Upland Woodland and Shrub;

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Upland Herbaceous; Forested Inland Wetland; Shrub Inland Wetland; Herbaceous Inland Wetland; Tidal Wetland; Freshwater Aquatic; Estuarine Aquatic; Unique, natural, Man-made. Of these the only ones not found in NSF are Tidal Wetland and Estuarine Aquatic. Critical habitats listed in the NSF IBA Conservation Plan are: Pitch Pine *(Pinus rigida)* woodlands, Bear Oak *(Quercus ilicifolia)* shrublands, grassy glades, acidic wet seeps, and vernal pools. There are also the distinct ecosystems found especially on the ridges above the Naugatuck River. "Dry rocky summits, grassy glades, and balds are categorized as imperiled ecosystems in Connecticut by Metzler and Wagner (1998) and as key habitats in the Connecticut CWCS. Among these the Pitch Pine Woodlands on the summits may well be impacted by emissions from the proposed plant. From the study "Injury to Eastern White Pine by Sulfurdioxide and Ozone Alone and in Mixtures" by A. C. Costonis, it was found that an alternating combination of these increased the severity of damage to the needles, with both together the next most damaging. As both these conditions could reasonably be expected to occur it does not bode well for the Pitch Pines.

While it is noted in the IBA Conservation Plan that "no formal herpetofauna, but considering the abundance of aquatic and terrestrial habitats, it's conceivable that numerous species exist there." The CT Natural Diversity Database notes a record of the Threatened Five-lined Skink *(Plestiodon fasciatus)* and the forest management plan references the Eastern Box Turtle *(Terrapene c. carolina)* which is a species of Special Concern. I have personally located and photographed a Spotted Turtle *(Clemmys guttata)*, a species noted as Very Important in the CWCS 2015 draft.

In 2011 and 2012 I conducted species inventories in Matthies Park in Beacon Falls for a graduate school project. Matthies Park has habitats, soils, and vegetation similar to that of NSF as it is located across Route 42 from the first Reservoir in the west block of NSF. I conducted call-back surveys, site searches, breeding bird surveys, wildlife observations, camera traps, and trapping of amphibians. In seven traps located in two vernal pools I had 258 Spotted Salamanders *(Ambystoma maculatum)* in one morning. My findings also consisted of Marbled Salamanders *(Ambystoma opacum)*, Eastern Newt *(Notophthalmus viridescens)*, Gray Treefrog, *(Hyla versicolor)*, and Wood Frog *(Lithobates sylvatica)*, which are listed as species of concern in the 2015 CWCS draft. Northern Two-lined Salamanders *(Eurycea b. bislineata)*, Four-toed Salamanders *(Hemidactylium scutatum)*, Northern Red-backed Salamander *(Piethodon cinereus)*, Eastern American Toad *(Bufo a. americanus)*, Fowler's Toad *(Bufo woodhousii fowleri)*, Northern Spring Peeper *(Pseudacris c. crucifer)*, Green Frog *(Rana clamitans melanota)*, Pickerel Frog *(Rana palustris)*, Common Snapping Turtle *(Chelydro s. serpentina)*, Painted Turtle *(Chrysemys picta)*, Eastern Box Turtle *(Terrapene c. carolina)*. It is likely that these species, and possibly many others, may also be found in the many vernal pools located in NSF and possible even the nearby wetlands on which the power plant will be built. We have reached a point of seeing the glimmers of hope in DEEP

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removing species from the special concern lists in the updated Comprehensive Wildlife Conservation Strategy (CWCS) draft for 2015. Let us not regress from our goal of saving our biological diversity.

Our Naugatuck Valley Audubon Society board members reside in the communities of Naugatuck, Beacon Falls, Derby, and Seymour. Our chapter members come from the towns of Ansonia, Bethany, Monroe, Orange, Oxford, Shelton, and Woodbridge. The health of our people, not only in our chapter towns or the valley towns but in all of CT and New England, and our wildlife depend on the health of our environment. Let us remain vigilant and aware and not be swayed by a suitor bestowing gifts of funds for town wishes, jobs that are not guaranteed to go to local residents or even Connecticut residents, in-lieu of fees, tax revenue that is not guaranteed. Do not forget that this romance has a predetermined ending; the completion of this facility will shower environmental consequences upon present and future generations.

We appreciate your time and consideration of our concerns regarding the impact CPV Towantic will have on our air quality, water quality, communities, human health, environment, wildlife, and health and biodiversity of our varied habitats.

Sincerely,

Naugatuck Valley Audubon Board of Directors

Sophie Zyla
Jeff Ruhloff

Babbitt. Lewis H. 1937. The Amphibia of Connecticut. State of Connecticut Geological and Natural History Survey Bulletin No. 57.

CT DEEP PM2.5 Planning Efforts. Available online from: http://www.ct.gov/deep/cwp/view.asp?a=2684&q=322164&deepNav_GID=1619

CT DEEP. 2012. Naugatuck State Forest Bird Checklist. Available online from: http://www.ct.gov/deep/lib/deep/forestry/nsf_bird_checklist.pdf

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Connecticut State Climate Center. Connecticut's Climate: The Cocorahs State Climates Series. 2001. CT: Grey House Publishing Available online from: http://www.cocorahs.org/Media/docs/ClimateSum_CT.pdf

Devine, Buzz. 2012. Important Bird Area Conservation Plan Naugatuck State Forest – East and West Blocks. Audubon Connecticut. Available online from: http://ct.audubon.org/important-bird-areas-11

Gao, Yuan, Michael J. Kennish and Amanda McGuirk Flynn
Atmospheric Nitrogen Deposition to the New Jersey Coastal Waters and Its Implications
Ecological Applications, Vol. 17, No. 5, Supplement: Nutrient Enrichment and Estuarine Eutrophication (Jul., 2007), pp. S31-S41.

Gore, Al. 2006. An Inconvenient Truth. PA: Rodale Press.

Greaver, Tara, L., Timothy J Sullivan, Jeffrey D Herrick, Mary C Barber, Jill S Baron, Bernard J Cosby, Marion E Deerhake, Robin L Dennis, Jean-Jacques B Dubois, Christine L Goodale, Alan T Herlihy, Gregory B Lawrence, Lingli Liu, Jason A Lynch and Kristopher J Novak. 2012.
Ecological effects of nitrogen and sulfur air pollution in the US: what do we know?
Frontiers in Ecology and the Environment, Vol. 10, No. 7 pp. 365-372.

Habib, Lucas, Erin M. Bayne and Stan Boutin. 2007. Chronic Industrial Noise Affects Pairing Success and Age Structure of Ovenbirds Seiurus aurocapilla. Journal of Applied Ecology, Vol. 44, No. 1 (Feb., 2007), pp. 176-184.

Human Health and Environmental Effects of Emissions from Power Generation. Available online from:
http://www.epa.gov/captrade/documents/power.pdf

Klemens, Michael W. 1993. Amphibians and Reptiles of Connecticut and Adjacent Regions. State Geological and Natural History Survey of Connecticut and Bulletin 112.

Lanno, M. 2005. Preface. Pages XIX – XXI in M. Lanno, editor. Amphibian Declines: the conservation status of United States species. University of California Press, Los Angeles, CA.

Longcore, Travis and Catherine Rich 2004. Ecological Light Pollution. Frontiers in Ecology and the Environment, Vol. 2, No. 4. pp. 191-198.

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Miller, Mark W. 2006. Apparent Effects of Light Pollution on Singing Behavior of American Robins. The Condor, Cooper Ornithological Society. 108(1):130-139.

NASA Global Climate Change Vital Signs of the Planet. Available online from: ftp://aftp.cmdl.noaa.gov/products/trends/co2/co2_mm_mlo.txt

NASA Global Climate Change Carbon Dioxide. Available online from: http://climate.nasa.gov/vital-signs/carbon-dioxide/

Schreiber, Kent R. and James R. Newman. 1988. Acid Precipitation Effects on Forest Habitats: Implications for Wildlife Conservation Biology, Vol. 2, No. 3. pp. 249-259.

Semlitsch, R. D. and D. K. Skelly. 2008. Ecology and conservation of pool breeding amphibians. Science and conservation of vernal pools in northeastern North America. CRC Press, Boca Raton, 127-147

Stone, Eric. 2000. Separating the noise from the noise: A finding in support of the "niche hypothesis," that birds are influenced by human-induced noise in natural habitat. Anthrozoos. Vol. 13 Issue 4, p. 225.

U.S. Fish and Wildlife Service. 2011. Birding in the United States: A Demographic and Economic Analysis. http://www.fws.gov/southeast/economicImpact/pdf/2011-BirdingReport--FINAL.pdf

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