

## Comments on Proposed Cricket Valley 1000 MW combined cycle facility.

My name is Robert M. Herzog. My family has had a house in Dover Plains for 55 years, on Lake Ellis, roughly 1.5 miles east of the proposed site. In addition, I founded and am a former Director of the New York City Energy Office. In that capacity, I managed the City's representation regarding several proposed power plant sitings, as well as in rate hearings and other regulatory matters. I also managed the City's \$150 million energy conservation program, and was responsible for the construction of several alternative energy, small hydro and cogeneration facilities.

The proposed Cricket Valley Plant proposes to use a state-of-the-art combined cycle system, which is more efficient than conventional single-pass boiler systems. The use of natural gas inherently generates less pollution than using oil (there's no point in comparing it to coal, which is not an option here). At the same time, a number of questions and issues must be addressed to determine if this plant receives regulatory approval to proceed. These include.

### Need

The proposed plant is projected to cost over \$1 billion. In dealing with proposed sitings for New York City, we established that spending that sum on energy conservation and alternative renewable energy sources could achieve the equivalent output of a major power plant with considerably greater economic and environmental benefits. A complete assessment of New York State need must be done to determine if this plant is required, or if its output equivalent could be obtained in better ways.

Specifically, the organization responsible for planning and overseeing New York State's electricity picture, the New York Independent Service Operator, stated in its 2009 evaluation Power Trends evaluation that "Based on current NYISO projections, the state's wholesale electric power system will continue to meet accepted reliability standards through 2018." Accordingly, this plant is currently not needed to meet New York State's energy needs, as determined by the industry's own operators. Any consideration regarding it should be deferred until such time as the need for it has been established, at the earliest 2018. It is also possible that during these years various alternative energy sources may be developed to the point where they are more attractive than a new fossil fuel fired plant.

In the absence of a compelling short term need, and with the increasing research and development of alternative sources, there is no justification for immediate siting, and every reason to postpone it. The no action alternative is the only reasonable approach to take, as it is the least environmentally harmful alternative, given the absence of compelling reasons to build a plant that will be a strictly commercial venture, seeking to sell its power where it can in or out of the state, needlessly subjecting local residents and the State to its impacts.

## Greenhouse Gases, Climate Change and Regulatory Mandates

Federal and State law and policy require the consideration of climate change and greenhouse gases in reviewing this application. The draft Commissioner's Climate Change policy entitled "Climate Change and DEC Action" states, "DEC must incorporate climate change considerations in all aspects of its activities, including but not limited to decision-making, planning, permitting..." DEC must take into account mitigation of climate change, through reductions in GHG emissions. DEC staff, within their areas of responsibility, are directed to maximize the use of their existing authorities to reduce GHG emissions. Department staff are directed to make greenhouse gas (GHG) reductions a fundamental goal and to integrate specific mitigation objectives into DEC programs, actions and activities."

Through the Mitigation Objectives of the policy, DEC is directed to "Encourage development of environmentally sustainable, core strategies necessary for a low-carbon economy such as energy efficiency and conservation, zero or near-zero carbon energy production." In a conference on Climate Change in the Northeast, Professor Cameron P. Wake of the Climate Change Research Center Institute for the Study of Earth, Oceans and Space at the University of New Hampshire, stated, "The future climate of the Northeast therefore depends fundamentally on the decisions we make now and in the near future regarding how we produce and use energy."

SEQR itself currently requires the consideration of climate change as well as energy use and conservation. The State's Energy Plan recommends that State Agencies consider CO<sub>2</sub> emissions and mitigation in environmental reviews. New York's first mitigation program specifically focused on carbon dioxide (CO<sub>2</sub>, the principal greenhouse gas) is underway, namely, the Regional Greenhouse Gas Initiative (RGGI), a ten-state program under which power-sector CO<sub>2</sub> emissions are reduced. New York State has an Office of Climate Change charged with reducing CO<sub>2</sub> emissions. The Office is "responsible for evaluating the feasibility and benefits of alternatives to fossil-fuel technology and of other mitigation and adaptation approaches."

In July 2009, Governor Paterson issued Executive Order 24 to establish the goal of reducing statewide emissions of greenhouse gases to 80 percent of their 1990 levels by 2050 ("80 by 50"). Operating this plant is not consistent with the Executive Order, nor with other state initiatives, including the Energy Efficiency Portfolio Standard, which is intended to reduce the State's electricity consumption by 15 percent below projected levels by 2015. That goal will further push out the time when new generating capacity is required. The State also has a "45 x 15" Initiative, the goal of which is to meet 45% of New York's electricity needs through improved energy efficiency and clean renewable energy by 2015. Clearly a new fossil fuel-fired plant is inconsistent with that objective.

Advanced Power's statement that CO<sub>2</sub> emissions will be 40% less than those of a coal-fired plant is disingenuous at best. Coal is not a fuel option or alternative source for the Northeast. Moreover, natural gas is not a zero-emission or renewable source. It is a fossil fuel, whose CO<sub>2</sub> emissions would be subject to regulation under cap-and-trade

proposals pending in Congress. This statement seems intended to preempt considerations of CO<sub>2</sub> emissions, which in fact must be addressed. According to NY State's *Guide for Assessing Energy Use and Greenhouse Gas Emissions in an Environmental Impact Statement*, emissions of CO<sub>2</sub> account for an estimated 89% of the total annual GHG emissions in New York State. The overwhelming majority of these emissions — estimated at 250 million tons of CO<sub>2</sub> equivalent per year — result from fuel combustion. Advance Power should be required to identify the expected CO<sub>2</sub> emissions using to the maximum possible extent the methodologies specified in the federal EPA's Mandatory Reporting of Greenhouse Gases Final Rule, 74 Fed. Reg. 56,260 (Oct. 30, 2009).

SEQRA and state law are explicit with regard to the mandate to consider alternatives to the proposed facility, including the no action alternative. The Envir. Conservation Law, Article 8 (Envir. Quality Review) 8-0109 Preparation of EIS, states:

2. an EIS to be prepared and shall include

(d) alternatives to the proposed action [though not every conceivable alternative need be considered]

And Regulation 6 NYCRR section 617.9 (b)(5)(v) requires:

(v) a description and evaluation of the range of reasonable alternatives to the action that are feasible, considering the objectives and capabilities of the project sponsor. The description and evaluation of each alternative should be at a level of detail sufficient to permit a comparative assessment of the alternatives discussed. The range of alternatives must include the no action alternative. The no action alternative discussion should evaluate the adverse or beneficial site changes that are likely to occur in the reasonably foreseeable future, in the absence of the proposed action.

New York State energy policy and regulations demand that all alternatives to such emissions be considered. In the case of Cricket Valley, the clear alternative in the near term is to defer any decision until such time as the NYSIO and the DEC determine that there is an absolute need for new conventional generating capacity, which at the earliest would be 2018. And in the “reasonably foreseeable future” there is both no need for the plant and every reason to expect more sustainable alternatives with less environmental and better economic impacts. It is clear that an approval of this plant at the current time would violate New York State regulations and policy, and would be vigorously contested should it be granted.

The Project also requires federal permits that will require assessment under the National Environmental Policy Act (NEPA). In February of this year, the Council on Environmental Quality (CEQ) provided opportunity for public comment on its draft guidance memorandum that would require federal agencies to take into account GHGs under NEPA. CEQ, National Environmental Policy Act (NEPA) Draft Guidance, “Consideration of the Effects of Climate Change and Greenhouse Gas Emissions,” 75 Fed. Reg. 8046 (Feb. 23, 2010). The comment period recently closed, and it is virtually certain that CEQ will adopt the fundamental point of the Guidance – that GHGs must be taken into account in assessing environmental impacts. Many Federal agencies are

already doing so. NEPA requires analysis of alternative sources and opportunities, including a no-action alternative. The rapid pace of alternative energy source development and conservation initiatives would require a thorough new analysis at such time as the plant is reconsidered, since it is increasingly likely that more sustainable, lower impact alternatives will be developed by then.

## Noise

The application states that the plant's state of the art systems will limit noise to an average 50db level. While the website says this is the sound of light rainfall, it neglects to say it is also the sound of light traffic. What this means is that the surrounding community will be subject to an incessant, 24/7 dull hum in the background. And any industrial plant will have peaks above its average.

Noise can have especially serious impacts on children, and the close proximity of the plant to Dover High School, which is less than half a mile from the site, makes the site particularly inappropriate. Researchers have found that everyday traffic noise harms the health and well-being of children. A study by Cornell University environmental psychologists, published in the Journal of the Acoustical Society of America (Vol. 109, March 2001), found that "even the low-level but chronic noise of everyday local traffic can cause stress in children and raise blood pressure, heart rates and levels of stress hormones."

"We found that even low-level noise can be a stressor because it elevates psychophysiological factors, triggers more symptoms of anxiety and nervousness when the children are stressed (by taking a test) and can diminish motivation," the study said. Elevated blood pressure in childhood is thought to predict higher blood pressure later in life. Boosts in stress hormones also are of concern because they are linked to adult illnesses, some of which are life-threatening, including high blood pressure, elevated lipids and cholesterol, heart disease and a reduction in the body's supply of disease-fighting immune cells. The study adds evidence to Evans' previous research showing that noise can have serious health, learning and task-motivation effects in children and adults exposed to chronic noise.

A study for the European Commission (known as RANCH) investigated road traffic and aircraft noise exposure and children's cognition and health. It was found that children exposed to noise levels over 55dB(A) achieved lower scores in reading tests. Affected children will be disadvantaged in their development of speech and reading abilities as well as more general communication skills. Noise may also have effects on fetal development due to (stress) effects on expectant mothers. Environmental noise also has cognitive effects in older children and adults, due to hindering communication, as shown by studies of aggression, mental health and anxiety.

Adverse affects from noise are not confined to children. The World Health Organization (WHO) "recognizes community noise, including traffic noise, as a serious

public health problem.” There is a general consensus about the noise levels which cause health impacts:

- Environmental noise above 40-50dBA Leq is likely to lead to significant annoyance.
- Outdoor noise levels of 40-60 dBA Leq may disturb sleep.

Annoyance causes physiological effects demonstrated by stress indicators (hormone release, increased blood pressure). The long-term effects of elevated stress levels can be very serious for cardio-vascular health.

Annoyance and stress result in difficulty concentrating, irritability and increases in aggressive behavior (Bluhm, G., Nordling, E., Berglind, N. (2004). “Road traffic noise and annoyance – An increasing environmental health problem” Noise and Health, Volume 6, Number 24, Jul - Sept 2004, pp. 43-49(7), nRn Publications.)

Furthermore, noise in the evening, early morning or nighttime has substantially more serious annoyance effects, as it is more likely to disturb recreation, relaxation or sleep. Sleep disturbance occurs from 30dB(A), and the WHO recommends maximum nighttime outdoor noise levels of 45dB(A). These levels are considerably quieter than the constant 50db hum the plant developer admits it will emit (and given the industrial nature of the facility, it is reasonable to expect it will often be louder. Sleep disturbance is clearly detrimental to wellbeing, and longer term disturbances are damaging to physical and mental health. Tiredness also reduces concentration spans, which decreases productivity and performance at work or school and increases the risk of accidents.

The WHO also states in its Guidelines for Community Noise that “noise may interfere with speech during the day and sleep at night. It is important that the total adverse health load of noise be considered over 24 hours, and that the precautionary principle for sustainable development be applied.”

The level of sound coming from this plant would irrevocably destroy the quiet rural nature of the surrounding area, which would become similar to living in a central location in a large city. Moreover, there are serious risks concerning adverse health effects and a decline or slower growth in property values. There is no reason nor justification to expose local children, in school or residences, to the constant chronic additional noise impact to the local environment this plant will have, nor should any persons be subjected to the adverse effects of noise from this plant. Sound levels must be reduced to a maximum of 30db, with absolute guarantees events will not occur at higher levels. If that is not feasible this issue should be considered a dispositive siting issue, and the plant must be denied approval.

### Water Usage

The project states it will use 10-60 gallons per minute, 25 hours a day, 7 days a week. Taking an average of 35 gallons a minute, this indicates the project would use over 18 million gallons per year, and possibly much more. An extensive study must be

made on local aquifers, to determine the source of this water and to what extent other underwater aquifers the project's is connected to, as a steady use of this amount of water could have significant impact on local wells and water tables, for agricultural, commercial and residential purposes.

In particular the project will have an impact on the Great Swamp and the Swamp River. The Nature Conservancy conducted a health assessment of the Great Swamp in 1999. The Swamp recharges an underlying aquifer, provides flood control for the region and provides critical habitat for an abundance of wildlife. The aquifer supplies drinking water to 40,000 residents of the watershed. By 2040 it is projected that 88,000 people will depend on this aquifer. The presence of this power plant could have a chilling effect on much of this planned development. The Swamp River flows north out of the Great Swamp to its confluence with the Tenmile River in Pawling.

### Operator

Cricket Valley Energy is being developed by Advanced Power. The Cricket Valley Website states that "Cricket Valley Energy is an affiliate of [Advanced Power Services \(NA\)](#), a leading energy development company based in Boston, Massachusetts. Advanced Power's management has a proven track record of developing more than 9,400 megawatts of power generation projects worldwide." A closer look at Advanced Power indicates that it is in fact a Swiss based firm. Furthermore, the claim to develop 9400 MW is refuted by their own website, which indicates they are in fact simply in the process of developing two facilities of 420MW each, a total of 840MW, neither of which are operational, far below the 9400 MW claimed. Only one of these is in the United States, in Brockton, MA. No project of theirs has commenced operations, and the total of all other projects under development is 3970MW, still far below the 9400MW claimed.

If Advanced Power's claims on a public website turn out to be specious, that would cast serious doubt on the integrity of the developer and would be sufficient grounds to deny them a permit.

In addition, it is clear that Advanced Power is solely a developer of projects, and has sold its interests to other parties in both projects it has under development. If that is their plan for this project, that should be made clear from the outset, and guidelines, financial guarantees and thorough regulatory review must accompany any ownership transfer. Without such protections the community could find itself with a new, unknown owner who may or may not honor operating procedures and commitments made by the original, but then absent, developer in order to secure a permit.

### Fuel

The economics of this plant depend on the price of natural gas, which has often been volatile. Thorough economic studies must be performed to determine the viability of the plant should natural gas prices rise from their current relatively low levels, as has happened in the past. Rising prices could leave the community with a white elephant that

has had a permanent, irrevocable impact on the local environment. Furthermore, it should be made clear that no level of economic hardship would allow for an alternative fuel -- oil -- to be burned at the plant, as that would have serious environmental consequences not contemplated or studied in the current proposal.

#### Air Pollution-Conventional Pollutants

The project will build three 285 stacks to vent emissions. Natural gas when combusted emits pollutants in addition to CO<sub>2</sub>. Downdrafts and varying wind conditions could cause intense local concentrations of plant output. Any permitting of the plant should require one year's worth of local wind data to determine what the greatest point sources of impact might be, and how that impact could be mitigated, if at all, including heat.