DOCKET NO. 103 - AN APPLICATION OF BIO-GEN TORRINGTON PARTNERSHIP FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION OF A 15.0 MW (GROSS) WOOD-BURNING ELECTRIC GENERATING FACILITY IN THE CITY OF TORRINGTON, CONNECTICUT.

CONNECTICUT

SITING

COUNCIL

NOVEMBER 22, 1989

ORIGINAL

OPINION

On December 5, 1989, the Bio-Gen Torrington Partnership (Bio-Gen) applied to the Connecticut Siting Council (Council) for a Certificate of Environmental Compatibility and Public Need (Certificate) to construct, operate, and maintain a facility to generate electricity from the burning of wood chips in the City of Torrington, Connecticut. The proposed facility would generate 13 MW (net) of electricity which would be sold to the Connecticut Light and Power Company (CL&P).

The General Assembly has declared it is the policy of the State of Connecticut to conserve energy resources by avoiding energy consumption which is unnecessary and wasteful, consuming energy resources efficiently, developing and utilizing renewable energy resources, and replacing imported energy resources which are vulnerable to interruption with indigenous fuels. This project would help the State to meet those goals. The project would help to diversify the State's energy mix, and reduce Connecticut's dependence on imported oil by over 9.7 million gallons a year, consistent with the Council's charge in 16-50g to foster new and improved energy sources.

Wood chips are a renewable fuel in the sense that the trees cut within the State's forests, which the applicant proposes would supply 15 to 50 per cent of the fuel for this project, are capable of regrowth and replacement. Proper forest management would benefit many species of wildlife, which respond to the cutting of patches of forest and the succession of plants which follow. Healthier, more productive forests would result.

The applicant proposes the fuel to consist of 50 to 85 per cent of recycled wood. Wood chips from recycled wood would also be a fuel in the sense that such wood is continually discarded in the State's landfills as waste. The State's environment would benefit by a reduction in the amount of demolition wood and bulky wood waste which would otherwise be deposited in over-burdened landfills. Landfills could then be reserved for other wastes that could not be as readily recycled as wood.

Overall, some 125,000 tons of wood chips would fuel this project annually. There is an abundant supply of both recycled wood and wood in the State's forests to sustain the needed fuel for the foreseeable future.

This project has been approved by the Department of Public Utility Control (DPUC) as part of a 450 MW block of private power projects. At the time the DPUC approved these projects, known as Block One, the electricity from such projects was expected to be necessary to prevent a shortfall in electrical supply within Connecticut in the mid-1990's. However, the exact date of such need is now uncertain. Among the variables influencing the timing of electrical need are the economy, changing Canadian electrical commitments, uncertain foreign oil supplies and prices, reliance on the State's four nuclear generators, conservation and load management programs, and the weather. What is certain however, is that Connecticut will need additional electricity in the future, and that a potential fuel for such electrical generation is wood, which is in abundant supply within Connecticut.

In its effort to balance the protection of the environment with the public need for additional electrical generation, the Council held 13 hearings, including one evening session, within the City of Torrington. At these hearings, a voluminous record was developed documenting the proposed project's potential effects on the environment, including its particular effects on the State's air, water, wildlife, scenic areas, traffic, noise, roads, public health and safety, waste disposal, recycling and resource recovery, historic and recreational values, and forests and wildlife.

As a result of these concerns, the applicant modified its application in several important aspects, including water use, water discharge, air pollution controls, building size and location, and hours of operation.

As originally submitted, the facility was to use a conventional cooling tower requiring 300,000 gallons per day of water (peak use) and either obtain this water from on-site wells or from water supplied by the Torrington Water Company. The applicant now prefers the use of a dry condenser for cooling which would require 25,000 gallons per day of water during peak use. It appears that the project might obtain its water from the Torrington municipal water supply, dispose of its sanitary waste on-site, and use its waste water within the industrial process. Regardless of the technology used, there would be no process waste water discharge to the nearby Still River. If a dry cooling system is used, all waste water would be used for ash quench and in the thermal de-NOx system.

The de-NOx system was added to lower the emissions of nitrogen oxides (NOx). To control particulate emissions, Bio-Gen would employ a fabric filter baghouse whose particulate matter emission level would be among the most stringent controls required of any wood fired boiler or resource recovery facility in Connecticut. NOx concentrations, carbon monoxide levels, and gas opacity would be measured in the flue gas by continuous emission monitors linked via telephone with the Department of Environmental Protection (DEP). If these emission parameters were exceeded, the facility could be required to shut down pursuant to their DEP air permit.

The location of the proposed facility within a valley raised concerns about the dispersal of air pollution emissions in the surrounding area. However, temperature inversions within a valley are often so shallow that a thermally buoyant plume from a tall stack, such as the 180-foot stack proposed here, would pierce the top of the inversion layer and cause little impact at ground level. There would be no detectable odor from the exhaust stack, or visible smoke emissions. The DEP has completed its review of Bio-Gen's single source air modeling for complex terrain, and has found it acceptable.

The potential emissions of acid gases from unintended plastics and other non-wood materials in the waste stream might require the alteration of the waste stream and might warrant use of an acid gas scrubbing device on the facility. The DEP Air Compliance Unit is expected to resolve this complex issue during their modeling and permitting process.

The proposed site borders steep slopes to the east and wetlands of the Still River to the west. Although the site has these physical constraints, the City of Torrington has specifically zoned this area for industrial development. The Council has carefully considered the concerns and objections of the City of Torrington. However, the proposed land use would be consistent with the present and intended land use of the site as zoned by the City of Torrington. Futhermore, the Council believes the proposed site would be consistent with adjacent land uses and adjacent zoning districts.

The proposed facility would be visible from nearby portions of Route 800, Route 8, and the nearby Paugnut State Forest. The applicant lowered the height of its wood chip storage silos from 100 feet to 80 feet. The exhaust stack, a 180-foot structure, would be visible from nearby portions of Route 800. Although these tall structures would present visual effects to the area, these structures would be consistent with the industrial zoning of the site designated by the City of Torrington and would not be significant enough to justify the denial of the application.

The area of the proposed site currently meets all State noise standards, and therefore the proposed facility would be limited to a 51 dBA level to residential (Class A) noise receptors to the north, west, and southwest of the proposed site. Bio-Gen would comply with all applicable State noise regulations and would retrofit equipment with additional sound control equipment if needed. The facility would not be allowed to operate if it were found in violation of State noise regulations.

Because the incoming route would be different from the outgoing route, only 23 trucks would pass along any one section of Route 800 as trucks travel to or from the site daily. Routes 800 and 8 could handle this additional traffic, but the Council is concerned about the safety of motorists in the area, and would require the applicant to adopt the proposed truck route and consult with the State Traffic Commission about the posting of traffic warning signs on Route 800.

The applicant's air emissions modeling has shown that all wood fuel could be safely burned, including demolition and recycled wood. To assure this, the Council will order that a fuel screening, sampling, and wood ash testing program be developed to ensure the safe burning of wood chips and, also, the production of a high-quality ash suitable for recycling uses such as land-spreading. The use of ash as a soil conditioner, as a composting agent, or for other beneficial uses would reduce the need for landfill space and benefit the region as a whole. However, both the bottom and fly ashes should be comprehensively evaluated for contaminants. Further, the bottom ash, if it is to be land spread, should be maintained separately in order to prevent its contamination by the potentially more toxic fly ash. No ash should be land spread unless this practice is approved in regulations promulgated by the DEP.

The Council is concerned about the project's potential impacts on wetlands due to the removal of trees from the site during construction, leveling, and grading, and possible erosion from construction activities. In its amended site plan, Bio-Gen moved its proposed building locations to an area farther back from these wetlands. Although no construction would take place within the wetlands on the site, about one-half acre of trees would be removed during construction. Consequently, the Council believes a strict development and management (D&M) plan with conditions that designate a buffer along the perimeter of the site would aid in erosion control and the screening of the building, in compliance with Council orders.

Based on the foregoing, the Council concludes that a Certificate of Environmental Compatibility and Public Need is warranted for the proposed facility, and hereby directs that such a Certificate be issued subject to the terms, limitations, and conditions of the Decision and Order that accompanies this Opinion.