

<p>DOCKET NO. 225C - Kleen Energy Systems, LLC Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a Electric Generating Facility and Switchyard on River Road, Middletown, Connecticut. Reopening of this docket pursuant to Connecticut General Statutes § 4-181a(b) limited to Council consideration of changed conditions and of the attachment of conditions to the certificate consistent with the findings and recommendations contained in the Final Report issued by the Kleen Energy Plant Investigation Review Panel.</p>	<p>} Connecticut } Siting } Council October 7, 2010</p>
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Findings of Fact

Introduction

1. On November 21, 2002, the Connecticut Siting Council (Council) granted a Certificate of Environmental Compatibility and Public Need (Certificate) to Kleen Energy Systems, LLC (Kleen) for the construction of a 620-megawatt natural-gas fired combined cycle electric generating facility off of River Road in Middletown. (Kleen 1)
2. As a condition of the Council’s Decision and Order, the Certificate would expire if construction was not completed by November 21, 2006. On August 31, 2006, the Council approved the Development and Management Plan and a request for an extension of time to November 21, 2009 to complete construction of the facility. (Kleen 1; Docket 225 Record)
3. On November 19, 2009, the Council granted a second extension of time until November 30, 2010 to complete construction. (Docket 225 Record)
4. On February 7, 2010, there was an explosion at the facility. The explosion was caused by the release and combustion of natural gas that was being used to clean natural gas piping at the facility, a procedure otherwise known as a “gas blow”. (Kleen 1; Kleen 2)
5. After the explosion, Governor M. Jodi Rell established a commission, the Kleen Energy Plant Investigation Review Panel, chaired by Judge Alan Nevas (the “Nevas Commission”), that included representatives of the Department of Environmental Protection, Department of Labor (DOL), Connecticut State Police (including the State Fire Marshal and the Office of the State Building Inspector), Department of Consumer Protection (DCP), and the Department of Public Utility Control, to identify the cause and origin of the explosion. (Council Administrative Notice Item 29)
6. The Nevas Commission issued a Final Report on June 3, 2010 that included findings and recommendations regarding pipe cleaning procedures used at the facility. In addition, the report included an analysis of existing regulations concerning such activities and recommended changes to regulatory criteria to prevent such an event in the future. (Council Administrative Notice Item 29)
7. The United States Chemical Safety and Hazard Investigation Board, an independent federal agency, also investigated the cause of the explosion and developed its own set of recommendations to prevent similar accidents. The board issued its final report on June 28, 2010. One of the recommendations of the board is to ban the use of flammable gas that is released into the atmosphere as a pipe cleaning procedure at power plants. (Council Administrative Notice Item No. 30)
8. The project was estimated to be 97 percent complete at the time of the explosion. (Kleen 3)

9. On June 23, 2010, Kleen filed a Request for an Extension of its Certificate with the Council to allow for additional time to repair and complete construction at the site, through and including June 30, 2011. The project was estimated to be 80 percent complete at the time of the filing. (Kleen 1)
10. At a regular meeting of the Council held on July 1, 2010, in response to Kleen's Request for an Extension, the Council initiated its own motion to reopen the proceeding on changed conditions under C.G.S. §4-181a(b) and to hold a hearing specifically limited to Council consideration of changed conditions and of the attachment of conditions to the Certificate consistent with the findings and recommendations contained in the Final Report issued by the Nevas Commission. (Minutes of Council meeting, July 1, 2010).
11. Pursuant to General Statutes § 16-50m, the Council, after giving due notice thereof, held a public hearing on August 3, 2010, beginning at 1:20 p.m. at the Council's office, 10 Franklin Square, New Britain, Connecticut. (Council's Hearing Notice dated July 9, 2010; Transcript 1, 08/13/10, 1:20 p.m. [Tr. 1], p. 4)
12. Parties to the proceeding are Kleen and the Town of Portland. Intervenors to the proceeding are NRG Middletown Power LLC, The Connecticut Light and Power Company, the City of Middletown, the Connecticut River Watershed Council, State Senator Eileen Daily, State Representative James O'Rourke, and Earle Roberts. (Tr. 1, p. 8)
13. Public notice of the hearing was published in the Middletown Press on July 13, 2010. (Record)

Nevas Commission Findings

14. The findings of the Nevas Commission are to be applied by a second, separate commission established by the Governor, the Thomas Commission, whose charge is to recommend any necessary specific legislative or regulatory changes to prevent such an event from occurring again. (Council Administrative Notice Item 29)
15. The Nevas Commission findings are:
 - a. "The Commission finds that the February 7, 2010 explosion was the product of a process used to clean a natural gas pipeline using large quantities of natural gas that came into contact with an ignition source known as a gas blow";
 - b. "The Commission finds that, although the Kleen Energy construction project was heavily regulated by a variety of agencies, no agency regulated the process used – or any process that might be used such as gas purging – to clean the natural gas pipeline that was the source of the explosion"; and
 - c. "The Commission finds, and recommends to the Thomas Panel, that there are significant regulatory steps that should be taken to ensure that the events of February 7, 2010 are not repeated".(Council Administrative Notice Item 29)

16. The Nevas Commission Final Report suggested that the Thomas Commission should examine the following areas pertaining to natural gas blows:
- a. “Determine whether any other state or federal agency has developed regulatory structure applicable to natural gas pipeline cleaning”;
 - b. “Consult with industry experts to determine which methods of gas blowing are used and/or recommended, and identify the advantages and disadvantages of each method”;
 - c. “Identify the agency, or agencies, best suited to regulate the gas blow process”;
 - d. “Recommend the level of training and expertise necessary for that agency to effectively establish and enforce necessary cleaning regulations”;
 - e. “ Consider recommending that the Connecticut Siting Council impose safety conditions upon any entity constructing a power plant that will employ the gas blow cleaning process”;
 - f. “Consider recommending that the Connecticut Department of Consumer Protection and/or the Connecticut Department of Labor identify, if appropriate, special licensing, credentials, and/or training for those assigned to effect power plant gas blows in Connecticut. Further, consider recommending that the latter agencies address whether work schedule limitations are appropriate for those assigned to perform power plant gas blows in Connecticut”;
 - g. consider the establishment of regulations concerning natural gas blow procedures.
- (Council Administrative Notice Item 29)
17. The Nevas Commission Final Report contained a statement by Judge Nevas to the Council urging that the Council attach conditions to Kleen’s Certificate that a) address the findings of the Nevas Commission; and b) incorporate any more specific recommendations made by the Thomas Panel. (Council Administrative Notice Item 29)
18. Additionally, Judge Nevas suggested the following:
- a. “...a coordination council consisting of pertinent state agencies be assembled to share information during the course of construction of a large power facility. The Siting Council might serve as the coordinating entity using its “changed conditions authority if concerns arise that there is a pattern of violations during construction”;
 - b. “The Siting Council should review this report and ultimately the Thomas Commission report to determine whether its “changed conditions” authority would enable it to review all power plants within its jurisdiction to determine whether such plants warrant further attention”;
 - c. “...the Thomas Commission solicit comments and input from the Siting Council as to how the Siting Council might address concerns relative to gas-fired baseload power plant facilities that have been permitted in the past and the records which are now closed”.
- (Council Administrative Notice Item 29)

State Agency Comment

19. Pursuant to General Statutes § 16-50j(h), on May 20 and August 4, 2010, the following state agencies were solicited to submit written comments regarding potential modifications of the Certificate: Department of Environmental Protection (DEP), Department of Public Health (DPH), Council on Environmental Quality (CEQ), Department of Public Utility Control (DPUC), Office of Policy and Management (OPM), Department of Economic and Community Development (DECD), Department of Agriculture (DOAg), Department of Emergency Management and Homeland Security (DEMHS), and the Department of Transportation (DOT). (Record)
20. On July 27, 2010 DEMHS provided a written response to the Council indicating that it had no comment. (DEMHS correspondence of July 27, 2010)

21. On July 29, 2010, the DPH provided written comment to the Council recommending that the following conditions be attached to any extension of the Kleen Certificate for any future construction or maintenance activities;
- a. Prohibit the use of flammable gas for the cleaning fuel gas piping and the identification of a safer alternative prior to the commencement of further pipe cleaning;
 - b. Prohibit the venting of flammable gas indoors or outdoors where it could pose a hazard;
 - c. Prohibit any work activity where the concentration of flammable gas would exceed 10% of the lower explosive limit for that gas with continuous monitoring to ensure compliance;
 - d. Require adherence to the code requirements of the Natural Fuel Gas Code (NFPA 54) even when gas is used at a pressure less than what the code specifies;
 - e. Require compliance with the Occupational Safety and Health Administration Standard 29 CFR § 1910.119;
 - f. Require the inclusion of flammable gas safety procedures that involve contractors, workers, and their representatives in the project development and decision-making process; and
 - g. Prohibit the inclusion of early completion construction contracts.
- (DPH comments received July 29, 2010)
22. The following state agencies did not file written comment on the application: DEP, DOT, CEQ, DPUC, OPM, DOAg and the DECD. (Record)

Municipal and Public Official Comment

23. The City of Middletown did not participate in the Council's hearing and did not submit comments prior to the hearing. (Record)
24. The Town of Portland, through First Selectwoman Susan Bransfield, requested that any extension of the Certificate include the following conditions:
- a. All affected parties are appropriately compensated and made as whole as possible;
 - b. Include any safety recommendations set forth by the Thomas Commission;
 - c. Include all conditions contained within the Nevas and Thomas Commissions reports;
 - d. Perform pre-and post-property inspections within a specific radius of the facility, both immediately before and after any hazardous activities, to assess impact. Provide a written notification to said properties one week in advance of any hazardous activity. Establish a telephone hotline to support municipal and resident complaints and a response to such complaints within a specified time limit.
- (Portland 1; Portland 2f; Tr. 1, pp. 157-160)
25. Representative James O'Rourke requested the following:
- a. The Council deny Kleen's request for an extension until the Thomas Commission submits its findings to the Council and the public;
 - b. Kleen compensates property owners for any damages to their property resulting from the explosion;
 - c. The Council create a new docket to review in detail Kleen's conformance with the original decision and to consider additional conditions that may increase public safety and minimization of negative visual impacts.
- (O'Rourke 2; Tr. 1, pp. 139-145)

26. Senator Eileen Daily requested that any extension of the Certificate include the following conditions:
- a. Make whole all parties whose property was damaged;
 - b. Conduct property damage assessments using experts selected by the Town of Portland;
 - c. Follow all of the Nevas Commission recommendations;
 - d. Re-open Docket 225 to consider the Thomas Commission findings; and
 - e. Consider the Town of Portland's requests regarding the pre- and post-property inspections and the establishment of a telephone hotline.
- (Daily 1; Tr. 1, p. 145)

Proposed Fuel Gas Piping Cleaning Procedure

27. The Kleen facility utilizes carbon steel piping to transfer natural gas from an Algonquin gas pipeline located on River Road to the power plant. During installation of the piping, debris such as rust, dirt, welding slag or other materials can remain within the interior of the pipe. It is necessary to remove such material in order to provide non-contaminated natural gas to the gas turbines. Contaminated fuel can damage the sensitive blades of the turbines. (Council Administrative Notice Item 30; Tr. 1, pp. 25-26, 60-63)
28. Kleen used high pressure natural gas blows to remove the debris from portions of the fuel supply piping system. On the day of the explosion, natural gas used in the gas blow was vented to the exterior, rear portion of the plant where it ignited, causing the explosion. (Council Administrative Notice Item 30)
29. The use of pressurized natural gas to clean fuel gas lines is common throughout the power plant industry. (Council Administrative Notice Item 30)
30. Kleen estimates 80 percent of the gas fuel piping at the plant was cleaned to specifications prior to the explosion, with approximately 600 to 800 linear feet remaining that would need to be cleaned. (Tr. 1, pp. 28-29, 96)
31. Natural gas would not be used to clean the remaining piping. (Kleen 3)
32. Kleen is currently investigating the use of air or nitrogen blows as a cleaning method for the remaining piping. Neither media has a volatility hazard. (Tr. 1, pp. 24-25, 36)
33. Kleen's engineer and design engineer, as well as a third party engineering firm and a third-party safety organization, are examining these two methods to determine which one to use. (Tr. 1, pp. 25-26)
34. Air and nitrogen blows are commonly used in the United States to clean fuel-gas piping, although the length of pipe that can be cleaned by either method is relatively short, less than 200 linear feet. (Council Administrative Notice Item 30; Tr. 1, pp. 25, 96-97)
35. If air or nitrogen is used to clean the remaining piping, it may be necessary to divide the piping smaller segments using isolation valves. (Tr. 1, pp. 31-32, 96-97)
36. An air blow would require the installation of a temporary air compressor at the site. (Tr. 1, p. 62)
37. Nitrogen would be brought to the facility by truck. (Tr. 1, p. 61)

38. Nitrogen presents an asphyxiation hazard and special procedures need to be followed to assure its safe use. (Tr. 1, p. 56)
39. The cost of air or nitrogen blows is comparable to that of gas blows. (Tr. 1, p. 62)
40. As an alternative to nitrogen or air blows, Kleen is also considering replacing the remaining piping with stainless steel piping, which can be cleaned more easily by low-pressure "pigging". Installing stainless steel piping and cleaning by pigging are commonly done in Europe. (Tr. 1, pp. 25, 60-61)
41. Algonquin examined the portion of piping under its control that connects to the Kleen facility and found no damage resulting from the explosion. (Tr. 1, p. 63)