

**STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL**

APPLICATION OF KLEEN ENERGY : DOCKET NO. 225 D
SYSTEMS, LLC FOR A CERTIFICATE OF :
ENVIRONMENTAL COMPATIBILITY AND :
PUBLIC NEED FOR AN ELECTRIC :
GENERATING FACILITY AND :
SWITCHYARD IN MIDDLETOWN : NOVEMBER 15, 2010

**KLEEN ENERGY SYSTEMS, LLC'S INTERROGATORY RESPONSES TO
CONNECTICUT SITING COUNCIL'S FIRST SET OF INTERROGATORIES**

Kleen Energy Systems, LLC ("Kleen Energy") submits the following
interrogatory responses to the Connecticut Siting Council's first set of
interrogatories dated November 1, 2010.

INTERROGATORY RESPONSES:

Q1. If the facility has already been constructed, what versions of the NFPA standards were utilized?

A1. The Kleen Energy Facility, as approved and modified in docket 225, is substantially constructed. At the time of this writing, the Kleen Energy Facility is approximately 92% constructed. The Facility has been constructed in accordance with state and local building codes and is currently being constructed in accordance with NFPA standards that were required as of the time Kleen Energy obtained its building permit from the City of Middletown on or about May 28, 2008.

For purposes of the NFPA standards listed in Interrogatory Number 4, the following standards were in place as of May 28, 2008:

NFPA 37 (2006 edition)

NFPA 54 (2006 edition)

NFPA 850 (2005 edition)

Note, as is explained in greater detail below, the Facility was not built in accordance with the standards found in NFPA 853, since that standard pertains to the construction of fuel cell facilities and therefore does not apply to the Kleen Energy Facility.

Q2. If the facility has yet to be constructed, what versions of the NFPA standards will be utilized?

A2. The Kleen Energy Facility, as approved and modified in docket 225, is substantially constructed. At the time of this writing, the Kleen Energy Facility is approximately 92% constructed. The Facility has been constructed in accordance with state and local building codes and is currently be constructed in accordance with NFPA standards that were required as of the time Kleen Energy obtained its building permit from the City of Middletown on or about May 28, 2008.

For purposes of the NFPA standards listed in Interrogatory Number 4, the following standards were in place as of May 28, 2008:

NFPA 37 (2006 edition)

NFPA 54 (2006 edition)

NFPA 850 (2005 edition)

Note, as is explained in greater detail below, the Facility was not built in accordance with the standards found in NFPA 853, since that standard pertains to the construction of fuel cell facilities and therefore does not apply to the Kleen Energy Facility.

Q3. How would recommendation #6, "Recommendation as to adoption of codes" in the Thomas Commission Executive Report affect the facility?

A3. As discussed in greater detail in the response to Interrogatory number 4, the Kleen Energy Facility was built in accordance with many of the standards referenced in the Thomas Commission Report. With respect to the remaining standards, as also explained in the response to Interrogatory number 4, Kleen Energy has retained the services of an engineering consultant to assist Kleen Energy in understanding exactly what has changed in each code, and how such changes may impact the Kleen Energy Facility.

More importantly, however, Kleen Energy is troubled by the fact that the Thomas Commission Recommendation Number Six, when coupled with Recommendation Number Four seems to stand traditional building code regulatory authority on its head. Ordinarily, projects are permitted in accordance with the standards at the time a permit is in place, and subsequent changes to building codes do not mean that projects should be re-built in accordance with new codes.

The NFPA standards also acknowledge this reality of regulating construction, by recognizing, that new standards "shall not apply to facilities, equipment, structures or installations that existed or were approved for construction or installation prior to the effective date of the standard," unless the provision specifically calls for retroactive application of the new standard. NFPA 37, Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines (2010 edition), sec. 1.4.1. See also, Section 1.3 of NFPA 54,

National Fuel Gas Code (2009 edition). Section 1.3.2 of the 2010 edition of NFPA 850, Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Converter Stations similarly notes that “the recommendations contained in this document are intended for new installations, as the application to existing installations might not be practicable.”

Q4. How would the following codes affect construction or modification of the facility:

- a. **NFPA 37 (2010 edition);**
- b. **NFPA 54 (2009 edition);**
- c. **NFPA 54 Temporary Interim Amendment 09-3 (August 25, 2010);**
- d. **NFPA 850 (2010 edition);**
- e. **NFPA 853 (2010 edition);**
- f. **ASME B31; and**
- g. **ASME B31.1 Appendices IV and V.**

A4. The Kleen Energy Facility is currently being constructed in accordance with the codes referenced in subsections (f) and (g). Therefore, the imposition of these codes on the current construction or modification of the Kleen Energy Facility would have no impact since Kleen is already constructing its Facility to the standards delineated in these codes. The imposition of NFPA 853 (2010 edition) referenced in subsection (e) should also have no impact on the continuing construction or modification of the Kleen Energy Facility, since that standard, the Standard for the Installation of Stationary Fuel Cell Power Systems, does not apply to the Kleen Energy Facility. With respect to the Temporary Interim Amendment referenced in subsection (c), Kleen Energy does not expect that this imposition of this Temporary Interim Amendment should have any impact on the Facility. However, Kleen Energy notes that section 8.3.2.1(5) of this standard makes reference to the fact that "the piping shall be purged by the gas supplier in accordance with written procedures." Kleen Energy cannot know what the impact of the imposition of this standard will have on its gas supplier, or if Kleen Energy's gas supplier either can or will adhere to such standards.

With respect to subsections (a), (b) and (d), the Kleen Energy Facility has not been constructed in accordance with these standards since they were not

promulgated until after Kleen Energy obtained its building permit in 2008. The Kleen Energy Facility was designed in accordance with these standards as they existed in 2008. Currently, Kleen Energy has retained Thielsch engineering to assist Kleen Energy to determine what impact the imposition of changes to these specific code provisions will have on the completion and/or modification of the Kleen Energy Facility. Thielsch must first determine exactly what changes were made between versions of the applicable NFPA standards, and then next determine what impact those changes would have on the Kleen Energy Facility as it is currently designed. Kleen Energy expects the results of Thielsch's impact analysis in the next 3 to 4 weeks and will provide this analysis to the Siting Council as a supplement to this interrogatory response as soon as this analysis is completed.

Q5. What is useful lifespan of the natural gas piping/pipelines located within and to the facility?

A5. The useful lifespan of the natural gas piping/pipelines at the Kleen Energy Facility is anticipated to be the same useful life as the Facility as a whole. Kleen Energy expects that the Facility, including the natural gas piping/pipelines will have a lifespan of 30 years.

Q6. Would the natural gas piping/pipelines within and to the facility need to be replaced during the life of the facility?

A6. The natural gas piping/pipelines within and to Kleen Energy Facility are anticipated to have the same useful life as the rest of the Facility. Accordingly, it is not anticipated that any natural gas piping/pipelines would need to be replaced during the life of the Facility.

Q7. Do you foresee any circumstances that would require replacement of a section of natural gas piping/pipeline within and to the facility?

A7. The natural gas piping/pipelines within and to Kleen Energy Facility are anticipated to have the same useful life as the rest of the Facility. Accordingly, it is not anticipated that any natural gas piping/pipelines would need to be replaced during the life of the Facility. The only foreseeable circumstance that would require additional sections of natural gas piping/pipeline would be if Kleen Energy decided to expand the Facility. Kleen Energy does not have any such plans for expansion at this time, however, it is possible that such expansion could happen in the future.

Should such expansion occur, however, Kleen Energy would first need to come before the Siting Council and other regulatory agencies to obtain approval of that expansion. Kleen Energy anticipates that the Siting Council, and other agencies that would have jurisdiction over such expansion would place requirements on the expansion that would include appropriate construction and safety requirements.

In the event that any gas piping/pipeline does need to be replaced, Kleen Energy would proceed in accordance with its certificate and development and management plan approvals and in accordance with all applicable codes and standards that were in place at such time. As the Siting Council is aware, Kleen Energy has agreed that it will not use natural gas to conduct purges/gas blows to clean any gas piping/pipeline at the Kleen Energy Facility and that has been incorporated into Kleen Energy's certificate approval, and will continue to be in force unless the certificate is amended otherwise.

Q8. If so, would a new section of natural gas piping/pipeline within and to the facility be installed and require cleaning?

A8. The natural gas piping/pipelines within and to Kleen Energy Facility are anticipated to have the same useful life as the rest of the Facility. Accordingly, it is not anticipated that any natural gas piping/pipelines would need to be replaced during the life of the Facility. In the event that any gas piping/pipeline does need to be replaced, Kleen Energy would proceed in accordance with its certificate and development and management plan approvals and in accordance with all applicable codes and standards at such time.

Prior to becoming operational, all natural gas piping/pipelines must be cleaned in order to satisfy manufacturers' warranties for the equipment that utilizes natural gas at the Facility. As the Siting Council is aware, Kleen Energy has agreed that it will not use natural gas to conduct purges/gas blows to clean any gas piping/pipeline at the Kleen Energy Facility and that has been incorporated into Kleen Energy's certificate approval. In addition, the Governor's Executive Order, Number 45, dated September 22, 2010, has banned the use of natural gas in such purges/gas blows. Therefore, any additional or replacement gas piping/pipeline installed at the Kleen Energy Facility will be cleaned to manufacturers' specifications in accordance with Kleen Energy's certificate as amended and in accordance with all applicable codes and standards.

Q9. What type of material is the natural gas piping/pipeline within and to the facility composed of?

A9. The natural gas piping/pipeline at the Kleen Energy Facility is made of carbon steel or stainless steel.

Q10. How many linear feet of natural gas piping/pipeline are located within and to the facility?

A10. There are 2574 linear feet of natural gas pipes located within the Kleen Energy Facility. There are 1956 linear feet of natural gas pipes leading from the meter at the Algonquin take station through the gas compressor building to the auxiliary boiler at the Kleen Energy Facility.

Q11. What is operating pressure (psig) of the natural gas piping/pipeline within and to the facility?

A11. The natural gas pipes located within the Kleen Energy Facility operate at various approximate pressures, including 600 psig, 125 psig, and 30 psig. The natural gas pipes leading from the meter at the Algonquin take station to the Kleen Energy Facility operate at a pressure of approximately 675 psig.

Q12. What is the nominal pipe size in inches within and to the facility?

A12. The natural gas pipes located at the Kleen Energy Facility have a variety of diameters, including 12 inches, 10 inches, 8 inches and 3 inches. The natural gas pipes leading from the meter at the Algonquin take station to the Kleen Energy Facility have a diameter of 12 inches.

Q13. What is the length in feet of piping/pipeline that requires/required purging within and to the facility?

A13. As discussed during the Siting Council's hearing in Docket 225C, there is approximately 800 linear feet of gas piping/pipeline that still needs to be cleaned at the Kleen Energy Facility. As the Siting Council is aware, Kleen Energy has agreed that it will not use natural gas clean any gas piping/pipeline at the Kleen Energy Facility and that has been incorporated into Kleen Energy's certificate approval. In addition, the Governor's Executive Order has banned the use of gas purges/gas blows. Therefore, Kleen Energy will be cleaning the remaining gas piping with an alternative method of cleaning.

Respectfully Submitted,
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CERTIFICATE OF SERVICE

I hereby certify that on this day a copy of the foregoing was delivered by electronic mail and/or U.S. Mail, first class postage prepaid, to all parties and intervenors of record on November 15, 2010 as follows:

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