

**U.S. Chemical Safety and
Hazard Investigation Board**

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Hon. Rafael Moure-Eraso
Chairperson

Hon. John S. Bresland
Board Member

Hon. Mark Griffon
Board Member



Mendy L. Mattingly, Attorney
Solar Turbines, Inc.
2200 Pacific Highway
San Diego, CA 92101

MAR 12 2012

Dear Ms. Mattingly:

As you know, the U.S. Chemical Safety and Hazard Investigation Board (CSB) issued two recommendations to Solar Turbines, Incorporated (Solar) pursuant to its investigation of the February 7, 2010 natural gas explosion at Kleen Energy, a natural gas-fueled, combined-cycle power plant under construction in Middletown, CT.

Those recommendations read as follows:

Recommendation No. 2010-07-I-CT-UR6:

Provide to your customers:

- a. *Comprehensive technical guidance on inherently safer methods for cleaning fuel gas piping, such as the use of air or pigging with air.*
- b. *Comprehensive Cleaning Force Ratio (CFR) guidelines, specifying both the upper and lower limits required to obtain satisfactory cleaning for the fuel gas piping for purposes of the warranties of the turbines.*
- c. *Warnings against the use of fuel gas to clean pipes.*

Recommendation No. 2010-07-I-CT-UR11:

Work with the Electric Power Research Institute to publish technical guidance addressing the safe cleaning of fuel gas piping supplying gas turbines. At minimum:

- a. *For cleaning methodology, require the use of inherently safer alternatives such as air blows and pigging with air in lieu of flammable gas.*
- b. *Provide technical guidance for the safe and effective use of alternative methods for cleaning such as air and pigging with air.*

I am writing to inform you that the Board voted on February 22, 2012 to designate Recommendation No. 2010-07-I-CT-UR11 with the status "**Closed- Acceptable Action.**" This status reflects the Board's determination that Solar has met the intent of the CSB's recommendation and that no additional action is necessary. The Board was pleased to learn that Solar collaborated with the Electric Power Research Institute in the production of its recently published *Guidelines for Fuel Gas Line Cleaning Using Compressed Air or Nitrogen*. With regard to Recommendation No. 2010-07-I-CT-UR11, CSB staff is reviewing your September 29, 2011 correspondence and will follow-up with you shortly regarding any clarifications and/or additional information that may be necessary before the Board may consider this recommendation for closure. Please do not hesitate to contact CSB

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Recommendations Specialist, Christina Morgan, if you have questions or concerns regarding the CSB's recommendation to Solar and/or the policies and procedures of CSB's Office of Recommendations. Ms. Morgan may be reached at 202-261-7642, or Christina.Morgan@csb.gov.

Thank you for your efforts to protect the safety and health of workers and the public at large.

Sincerely,

Daniel Howarth for RME

Rafael Moure-Eraso, PhD, CIH
Chairperson

Enclosure

CC: Don Holmstrom, Director, Western Regional Office, CSB
Manuel R. Gomez, Director of Recommendations, CSB
Christina Morgan, Recommendations Specialist, CSB