

**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



Eric S. Kaufman
Manager, Product Safety Engineering
GE Energy Infrastructure
300 Garlington Road
Greenville, SC 29615

MAR 12 2012

Dear Mr. Kaufman:

As you know, the U.S. Chemical Safety and Hazard Investigation Board (CSB) issued two recommendations to GE 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-UR4:

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-UR10:

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.*

As you will recall, the Board voted on September 8, 2011, to close Recommendation No. 2010-07-I-CT-UR4. I am now writing to inform you that the Board voted on February 22, 2012 to designate the second Recommendation, No. 2010-07-I-CT-UR10, with the status "**Closed-Acceptable Action**." This status reflects the Board's determination that GE has met the intent of the CSB's recommendation and that no additional action is necessary. The Board was pleased to learn that GE 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*.

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

Thank you again for GE's efforts to protect the safety and health of workers and the public at large.

Sincerely,

A handwritten signature in black ink that reads "Daniel Hovsing for RME". The signature is written in a cursive style.

Rafael Moure-Eraso, PhD, CIH
Chairperson

cc: Larry Danner, Senior Professional Engineer/Principal Engineer for Product Safety, GE
Energy Infrastructure

Don Holmstrom, Investigations Supervisor, CSB

Manuel R. Gomez, Director of Recommendations, CSB

Christina Morgan, Recommendations Specialist, CSB