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**From:**  
Eugene Keating

**TACs:**  
MC6350

**To:**  
Ledyard Marsh

**\*\*\* YELLOW \*\*\***

**For Signature of:**

**Routing:**

Dyer  
Borchardt  
Sheron  
Carpenter  
NRR Mailroom

**Description:**  
Ltr from Eugene Keating re: South Korea

**Assigned To:**  
DLPM

**Contact:**  
MARSH, LEDYARD (TAD) B

**Special Instructions:**  
DSSA support.



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March 3, 2005

Director: Ledyard (Tad) Marsh  
Division of Licensing Project Management  
U.S. Nuclear Regulatory Commission  
One White Flint North  
11555 Rockville Pike  
Rockville, Maryland 20852-2738

Mr. Marsh,

My name is Gene Keating and I am working in South Korea as a Stone & Webster consultant to the Korean Power Engineering Company (KOPEC). KOPEC is the sole architectural engineering firm that designs the nuclear power plants in Korea. My experience is as a mechanical engineer with 15 years at the DOE-INEEL site with nuclear ventilation systems and BOP systems.

We talked on Jan 25, 2005 about receiving a letter from you concerning the NRC's understanding of equipment replacement requirements. Specifically, we are interested in conforming replacements. The letter we are requesting is intended to demonstrate compliance with the regulations to reviewing Korean agencies. We realize it is not the function of the NRC to direct or even recommend, but rather to prevent unsafe behavior. In this case however, we feel a written clarification from a representative of the NRC helps to maintain perspective on requirements.

As you indicated on the phone, you needed a formal letter with all of the details in order to properly respond. As such, I am including as many details as I can concerning the issue along with our questions.

The particular situation that drove this issue is that the housings for a number of the nuclear Air Cleaning Units (ACUs) for Kori nuclear power plant Units 1 & 2 are to be replaced. The plant was designed by Westinghouse (587 MW, PWR) in 1970 and put into commercial operation in 1978. Some of these ACUs have carbon adsorbers within the housings for gaseous filtration, depending on the need for iodine filtration; other ACUs only contain the HEPA filters for particulate filtration. The plant has run for 26 years without incident and the radiation levels have always been maintained.

At the time of design (design cut-off date), ACUs with carbon adsorbers did not include post filters downstream of the carbon adsorbers. Subsequent and present ASME N509 codes do specify a filter downstream of the carbon adsorber to catch any carbon fines/dust that may be released. The current code specifies a medium efficiency filter. As such, while all subsequent ACUs were specified with the post filter, the existing ACUs within this plant were not. Replacement of the housing with the new housings that include the post filter would entail accommodating the added length of the housing within the space, enlarging the fan to accommodate the higher pressure of the added filter along with the accompanying power changes, modifying the ductwork, modifying operating and maintenance procedures, and the high costs associated with all of the engineering, construction, management, and administrative efforts.

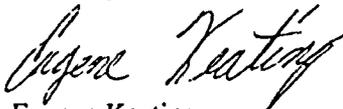
I have reviewed the FSAR and the design basis and all codes, regulations, SRPs, standards, etc to establish that there is no requirement to add the post filter. There are no NRC generic letters that discuss this issue. Given the changes to the facility, the increase in the fan and electrical systems, the administrative effort, and the very high costs required to accommodate this improvement, it has been decided to maintain the existing configuration.

So, in short, we would appreciate your response to the following:

1. To stay within the licensing basis, equipment replacement is always a duplicate replacement. Should it be decided to replace equipment with modified equipment for the sake of improvement, a special analysis with review is required to confirm compliance with the license basis.
2. For a replacement project, shall we follow the latest codes and standards or those at the time of design originally used (design cut-off date),

Your response would be greatly appreciated. A self addressed envelope has been provided for your convenience.

Sincerely,



Eugene Keating

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