



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TEXAS 76011-4005

December 27, 2007

Mr. Glen R. Mills  
P.O. Box 3393  
Mission Viejo, CA 92690

Dear Mr. Mills,

Thank you for your letter to the NRC's Office of the Inspector General (OIG), dated September 17, 2007. The OIG has forwarded your letter to our region for resolution. We value your views and I hope that this letter is responsive to your concerns. In general, you expressed the following concerns:

- The instrument air systems at commercial nuclear facilities are typically non-safety related and you believe that they should be classified as "safety-related."
- You believe that soldered joints and corrosion in the instrument air system are unacceptable and both must be eliminated.
- You suggested that the San Onofre Units 2 and 3 shared instrument air system be separated into two independent systems. In addition, the connection to service air introduces an additional vulnerability.
- You believe that giving life extensions to plants is unwise because of potentially unknown faulty construction practices.

### **Safety Classification**

The definition of safety related is documented in 10 CFR 50.2. The regulation states, in part:

*Safety-related* structures, systems, and components means those structures, systems and components that are relied upon to remain functional during and following design basis events [emphasis added] to assure:

- (1) The integrity of the reactor coolant pressure boundary;
- (2) The capability to shut down the reactor and maintain it in a safe shutdown condition; or
- (3) The capability to prevent or mitigate the consequences of accidents [emphasis added] which could result in potential offsite exposures comparable to the applicable guideline exposures set forth in 10 CFR 50.34(a)(1) or 10 CFR 100.11 of Title 10 of the Code of Federal Regulations, as applicable.

Design basis accidents are typically documented in Chapter 15 of the licensee's Final Safety Analysis Report. The equipment that is credited in the design basis accident analysis is classified as safety-related. If equipment is not credited in the accident analysis, it is not required to be classified as safety-related by NRC regulations. Each design basis accident

analysis and equipment safety classification was reviewed and approved by the NRC during initial plant licensing.

The San Onofre instrument air system is not classified as safety-related because it was not credited for accident mitigation in any of the events discussed in Chapter 15 of the licensee's Updated Final Safety Analysis Report. However, any safety-related components that receive instrument air (like some containment isolation valves) are required to: 1) have a safety-related backup air source; or 2) be fail safe. Specifically, they must have a safety-related accumulator to provide the necessary air demands for as long as the safety function is needed or they must fail to their safe position in response to a loss of instrument air.

### **Instrument Air Soldering and Corrosion**

The NRC issued inspection findings (NRC Inspection Report 05000361;362/2007013) to address San Onofre's performance deficiencies associated with degraded soldered joints and corrosion in the instrument air system. We have reviewed the licensee's preliminary corrective measures, and noted that the licensee performed numerous temporary repairs to ensure system availability until permanent repairs could be completed during the next refueling outages. The NRC considers the licensee's short term corrective measures acceptable. Longer term corrective measures will be reviewed during future NRC inspections.

### **Separation of Units 2 and 3 Instrument Air Trains**

The San Onofre Units 2 and 3 share a common instrument air system. However, the system design includes components that automatically separate the air headers if the header on one unit is ruptured. This system worked as designed on June 20, 2007, when the systems' excess flow check valves isolated the Unit 3 header and a backup nitrogen gas unit provided the required gas pressure to Unit 3 components. As a result, Unit 3 did not automatically shutdown. The NRC concluded that the licensee's current system design remains adequate.

### **License Extension and Potential Faulty Construction**

The current regulatory process continues to help ensure public health and safety associated with operating nuclear power plants. In addition, during plant construction, the NRC required tests and surveillances to ensure proper construction and installation of safety related systems, structures, and components. For example, nondestructive testing was performed on piping welds and licensees were required to perform preoperational tests to ensure system performance was consistent with their design basis accident assumptions.

San Onofre has not applied for license renewal. Additional information on NRC's license renewal process can be found in 10 CFR 54 and on the internet at:

<http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/license-renewal-bq.html>

If you have any questions regarding our response to your letter, please feel free to contact Mr. Jeffrey Clark of my staff at (817) 860-8147.

Sincerely,

***/RA T.Pruett for/***

Arthur T. Howell III  
Director, Division of Reactor Projects

SUNSI Review Completed: GDR ADAMS:  Yes  No Initials: GDR  
 Publicly Available  Non-Publicly Available  Sensitive  Non-Sensitive  
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