

*Southern California Edison Company*

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July 24, 1990

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U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington D.C. 20555

Gentlemen:

Subject: Docket Nos. 50-206 and 50-361  
Alloy 690 Steam Generator Tube Plug  
San Onofre Nuclear Generating Station  
Units 1 and 2

- References: 1) June 27, 1990 letter from R.M. Rosenblum (SCE) to Document Control Desk (NRC), Subject: Same as above except this reference is only for Unit 3 (Docket 50-362)
- 2) June 28, 1990 letter from John T. Larkins (NRC) to Harold B. Ray (SCE) and Gary D. Cotton (SDG&E), Subject: Authorization for Use of Alloy 690 as an Alternative to Alloy 600 In Steam Generator Tube Plugs In Accordance with 10 CFR 50.55a(a)(3) (TAC No. 77035).

This letter requests approval for the use of tube plugs fabricated from nickel-chromium-iron UNS N-06690 material (Alloy 690) in the steam generators of San Onofre Units 1 and 2. This request is pursuant to Title 10, Code of Federal Regulations, Paragraph 50.55a(a)(3) and is the same technical request for Units 1 and 2 which was made by reference 1 for Unit 3 and which was approved by the NRC by Reference 2.

This Alloy 690 material is the subject of Code Case N-474-1 of the ASME Boiler and Pressure Vessel Code which has been approved by the Code Committee but not yet published. This Code Case authorizes the use of nickel-chromium-iron UNS N-06690 material (Alloy 690) in additional forms in the construction of Section III, Division I, Class 1 components. The material is specified in ASME Code, Section II material specifications SB-163, SB-166, SB-167, and SB-168. Previously, Alloy 690 in tubing form (SB-163) has been authorized for construction of Class 1 components. Code Case N-474-1 was approved on November 30, 1989.

The alternative use of Alloy 690 for tube plugs is requested as a result of material corrosion considerations. The NRC staff endorsed the use of Alloy 690 for fabrication of mechanical plugs for steam generator tubes in

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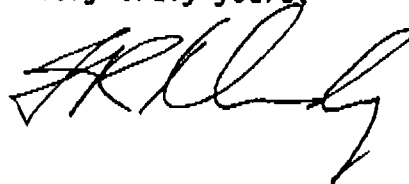
NRC Bulletin No. 89-01, "Failure of Westinghouse Steam Generator Tube Mechanical Plugs," dated May 15, 1989. Additionally, this material is used in the fabrication of plugs which may be welded into steam generator tubes.

Alloy 690 has similar mechanical properties to the Alloy 600 material previously used for tube plugs. The Design Stress Intensity stipulated by the Code Case and used in the design and qualification of the tube plugs is the same as for Alloy 600 material of the same form.

The immediate need for approval to use Alloy 690 plugs is associated with Unit 2 which will be shut down this coming weekend for inspection and repair of the steam generator feedwater rings. Therefore, assuming welded steam generator tube plugs will need to be installed, we need your approval to use the Alloy 690 plugs during this upcoming outage or we will have to use the Alloy 600 tube plugs. Because we may be ready to plug tubes at Unit 2 as early as August 7, 1990, your consideration of this request and approval before this date would be appreciated. In addition, Unit 1 steam generator tube plugging is scheduled to begin on August 29, 1990.

If you have any questions on this request, or require additional information, please call me.

Very truly yours,



cc: J. B. Martin, Regional Administrator, NRC Region V  
C. W. Caldwell, NRC Senior Resident Inspector, San Onofre  
Units 1, 2 and 3  
L. E. Kokajko, NRC Project Manager, San Onofre Units 2 and 3  
J. E. Tatum, NRC Project Manager, San Onofre Unit 1  
H. F. Conrad, Office of Nuclear Reactor Regulations, NRC