M-53
PDR

Pacific Sierra Nuclear

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PSN-90-222

Mr. John P. Roberts
Section Leader
Irradiated Fuel Section,
Fuel Cycle Safety Branch
Division of Industrial and Medical Safety
U.S. Nuclear Regulatory Commission
One White Flint North
11055 Rockville Pike
Rockville, MD 20852

Dear Mr. Roberts:

The attached responses are to your comments of December 5, 1990. We hope that these responses satisfactorily resolve the issues which are still open and allow you to finalize your Safety Evaluation Report.

In regard to Revision 3 of the Topical Report, we will submit it as soon as we receive your acceptance of our [illegible]ed comments. This revision will have all the modifications requested by the NRC since the last revision.

If you have any questions, please call me or Mr. Boris Chechelnitsky at (408) 438-6444.

Very truly yours,

John V. Massey

John V. Massey, Ph.D.
General Manager

JVM:mao
Enclosure

cc: B. A. Chechelnitsky, PSN
D. E. Engle, CPC
K. C. Leu (2 copies), NRC
D. K. Zabransky, WEPCo
WEP-01 files

I. DESIGN

Comment 1

Attached is a calculation package with an alternative analysis of the MTC wall stresses that includes local bending. The bending is addressed using formula #5 from Table X of Roark, Edition 4. It can be seen that this evaluation results in lower stresses than previously calculated by PSN.

Comments 2 & 3

PSN's response to the request for increased factors of safety has three parts. Each part in and of itself would result in no increased factors of safety and taken together present a defense in depth design for the transfer operation. The three areas are:

1. Lid and bolts are back-up devices to prevent an otherwise acceptable temporary increase in radiation due to operator error, not special lifting devices. They are for ALARA reasons. Therefore, they are not required to meet the ANSI 14.6 safety factor for normal operation, design based loads on special lifting devices.

2. Even if operator error occurred and the lid and bolts failed the movement of the MTC would be less than 12 to 18 inches and, hence, would not cause any damage or require inspection and would not be considered a drop.

3. Even if the movement of less than a few inches is considered a drop, NUREG-0612 would be met by analysis of the consequences. No off-site doses in excess of 1/4 of 10 CFR 100, no criticality and no damage of safety related equipment would be present.

These three areas are discussed below.

The MTC lid and bolts are back-up safety devices and operator aids. They are not special lifting devices. They are mechanical stops to reduce the possibility of an inadvertent lifting of the top portion of the MSB out of the MTC in the case of crane operator error. Therefore, ANSI 14.6 is not applicable. Special lifting devices for critical lifts, as defined by NUREG 0612 and ANSI 14.6, are components specifically designed to lift heavy loads over fuel assemblies or safe-shutdown equipment. Nowhere does NUREG 0612 or ANSI 14.6 specify that all components or parts that might, in an accident or off-normal event, carry a load be designed to critical lift safety factors. Furthermore, when the MSB is lifted slightly the MTC is over the empty VCC. Therefore, the entire lift is not over safety related equipment or fuel. Indeed, if such a drop did occur the only components damaged would be the empty VCC and the empty MTC. The MSB would still be on the crane hook. (A slightly increased radiation field would exist around the inch or two of the MSB sticking out of the dropped cask but this will be less than 200 mrem/hr (same as on top of the shield lid.) This is the same field that would be present if the lid and bolts were not