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NOV 9 1982

MEMORANDUM FOR: James G. Keppler, Regional Administrator
Region III

FROM: Darrell G. Eisenhut, Director
Division of Licensing

SUBJECT: FINAL DRAFT SER FOR LASALLE

Attached is a copy of the staff's Final Draft of LaSalle SFR. This report was written in response to the recent Braun Report regarding the H-VAC System.

We intend to issue this report sometime within the next week and would like your reaction to it, that is whether you have any major problems.

*Original signed by
Darrell G. Eisenhut*

Darrell G. Eisenhut, Director
Division of Licensing

Enclosure:
As Stated

cc: T. Novak
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JULY 30, 1982 (9)

MTEB Staff Requirements of SER

a notation in SKTs 9.4.1

9.4.2
9.4.3
9.4.4
and 9.4.5

The only involvement in the HVAC area is to review the inservice inspection aspects of that system. The materials design (that is, the material specification call outs) is not reviewed. There are no specific fracture toughness requirements for this system. The supports for this system do not come under review. In short, this system, like, in all probability, many others in the plant, is not reviewed for compliance to any requirements for the applied materials. Rightly or wrongly, the assumption is made that normal commercial quality materials will suffice.

There is no national construction code for HVAC systems. (ASHRAE?)

The NPC does not have written requirements, guidance or positions concerning acceptable inservice inspection of the HVAC. Therefore, MTEB has not performed a review of the inservice inspection of the HVAC on any licensed plant or plants in licensing review.

MTEB Staff Requirements of SER

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told that an entire shipment of four different bar stock sizes ordered to no specification requirements was used for shims and is therefore a "no never mind" item. The order was for 6,240 ft. of bar. In the same vein, there is, in all probability, little loss of potential quality in the substitution of commercial welding rod for that which was specified by S&L. It appears that S&L and CE Co. are able to provide technical justification for acceptance of material deviations from the S&L specifications. Perhaps the materials in the HVAC systems have been over specified by S&L. Because of the press of time, we have not been able to pursue this aspect of the investigation.

In summary, the evidence presented indicates that the materials specified by S&L in the HVAC design have been substituted by materials of differing composition. However, it appears that this has been done at little sacrifice in strength. Because the classes of materials specified are of relatively low control and inspection, there appears that there is little loss in overall quality. Indeed, in many cases, the difference between the specified material and the ordered material is a test report or certificate which would have cost extra. Zach, in an effort to save a substantial amount of money, appears to have chosen this route. They have succeeded.

SYSTEM AS BUILT

The possible impact of the Zach HVAC material control problem is not as severe as a similar loss of control in other systems because most of the materials used in the fabrication of the HVAC are of such low strength that even materials not purchased to a required specification would be adequate.

The materials specified for the construction of HVAC ducting are those of relatively low strength. Indeed, some of the specifications (e.g., ASTM, A 527, A 526, and A 575) have no mechanical property requirements. Some of the specifications (e.g., ASTM A 575) that are called out by the designer, S&L, are for "merchant quality" which is about as low grade material available on a specification.

Generally speaking, the yield strength of a hot rolled mild steel is about 35 ksi. Substitution of lower carbon steel (such as using ASTM A 575 grades 1015 or 1010 for ASTM A 36) will provide a material with a yield strength with a strength in the range of 30 - 35 ksi. Data available from material tested by a Zach vendor show that even M 1008 is only as low as 34 ksi. It would be rare indeed to obtain material with a yield strength of less than 30 ksi. Similarly, the use of low carbon cold rolled bar for fastener materials with specifications requiring higher carbon hot rolled material provides adequate properties - simply arrived at in a different way. The staff has been told by S&L that most of the fasteners materials that appear in the NCRs are for non-structural applications. Similarly, we are