November 18, 1983

MEMORANDUM FOR: Uldis Potapovs, Chief, Vendor Program Branch, RIV

FROM: Richard C. Knop, Chief, Projects Branch No. 1, RIII

SUBJECT: FOLLOW-UP ON CALLAWAY INTEGRATED DESIGN INSPECTION TEAM FINDING (AITS NO. F03057483)

The results of the NRC Integrated Design Inspection (IDI) at Callaway are documented in NRC Inspection Report 50-483/82-22. The licensee's response to the IDI findings and unresolved items was transmitted by a letter from D. F. Schnell to J. G. Keppler, ULNRC-636, dated June 15, 1983. During subsequent telephone conversations among Gordon Edison of NRR, Dennis Allison of IE, Cliff Hale of Region IV, and Jim Konklin of Region III, agreements were reached regarding responsibilities for follow-up and close-out of certain of the IDI team's findings. Those agreements were documented in a memorandum from C. E. Norelius to J. M. Taylor, dated October 7, 1983.

The purpose of this memorandum is to request that you provide the follow-up and close-out actions on finding F4-6 of Report No. 50-483/82-22, as agreed by Mr. C. Hale during the above telephone conversations. Attached for your information is a copy of the page from the licensee's reponse which reiterates and discusses the finding.

If you have any questions regarding the above, please call.

R C Knop

R. C. Knop, Chief
Projects Branch No. 1

Attachment: As stated

cc: J. G. Partlow, IE
D. P. Allison, IE
G. E. Edison, NRR
C. J. Hale, RIV
C. E. Norelius, RIII
R. L. Spessard, RIII
J. H. Neisler, SRI, Callaway

FINDING 4-b

No specific design calculations exist to document the basis for selection of embedded plates as well as their placement on the design drawings. The lack of documented analysis for each plate is contrary to EDPI 4.37-01 which requires such design calculations be made. However, the team was able to conclude that a controlled process for these selections had been in effect.

RESPONSE

The design of embedded plates, utilized on the SNUPPS Project for connection of structures and system supports to concrete walls and slabs, is well documented by design calculations generated and maintained on project. These calculations provide the basis for standard load capacities assigned to each plate type (i.e., maximum moments, shear, pullout and combinations thereof). The selection process utilized to identify the type of plate required to transfer the system design loads to the concrete structure merely involves a comparison of system design loads to the plate capacity. Nomographs based on plate design interaction equations are utilized for quick reference in the plate selection process involving repetitive cases, such as small pipe hangers. These nomographs represent a graphic solution of the interaction equations and are properly documented in project calculations. Where standard plate capacities are exceeded due to unusually large loads, such as those associated with pipe whip restraints, special plates are designed to transfer the loads. The design for these special plates is included in the applicable system support/restraint structure calculations.

With regard to documentation for placement of embedded plates on the design drawings, having determined the type of standard plate to be used from a load capacity consideration, its location is determined in order to coincide with the support configuration and location defined by the system layout drawings or hanger detail drawing. Deviations from the design intent regarding the support or restraint member and embedded plate interface are documented by the field via Middle Third Deviation Notices (MTDNs) and reviewed by engineering on a case by case basis. This serves as a second check on the placement of the plate versus its attachment location.

In summary, a documented analysis for the selection of each specific embedded plate is not necessary, since the parameters involved in standard plate selection and location are retrievable and can be verified with relative ease, and since adequate tracking exists to ensure proper embedded plate/support member interface. The intent of EDPI 4.37-01, therefore, has been satisfied.