QUADREX FINDINGS PREVIOUSLY REPORTED UNDER 10 CFR 50.55(e)

QUADREX FINDING		HL&P REPORT
3.1(1)(2)	The AFW pump motors to be located at low elevation in the IVC may not be qualified for the currently postulated accident environment. No accident environmental analysis has been performed for outside containment. For ESF system components, this situation is not adequate.	Incident Review Committee Report #67 "Aux. Feedwater Pump Motor Qualification"
4.1.2.1(g)	B&R assumptions regarding MAB dead loads may not be representative of actual conditions. In reviewing the design of the floor elements in the MAB and EAB, it was determined that although the final design may be adequate, there were areas where the calculations were hard to follow and there was evidence the amplification effects of vertical seismic were not properly considered.	Incident Review Committee Report #12 "Underdesigned Beam Connections for Category 1 Structural Steel"
4.3.2.1(a)	The common instrument air line, as depicted in FSAR drawing 9.4.2-2 attached to Question R-6, does not meet the single failure criterion required by IEEE 279-1971 and 10 CFR 50 (see Question E-15). The occurrence of this design error in the late 1970's in concert with the B&R response to other single failure criterion questions suggests that B&R is not sufficiently experienced in the performance of a Failure Mode and Effects Analysis that crosses discipline boundaries. (5)	See extensive HL&P response to NRC question 211.4 regarding BTP RSB 5-1 attached.

NUCLEAR REGULATORY COMMISSION

Docket No. STN 50-493 OL Official Exh. No. @@PNP#82

In the matter of

Staff

Applicant

Intervenor

Conf'g Off'r

Contractor

Other

IDENTIFIED ✓

RECEIVED ✓

REJECTED

DATE 7/15/85

Witness

Reporter TATE

In most organizations, the I&C discipline would detect and immediately correct this type of design error by performing a rigorous examination of the separation provided between redundant divisions in the safety-related portions of the plant for all involved disciplines.

4.3.2.3(g) B&R requires the vendor to interpret and implement applicable portions of industry standards (see Question E-5). It would be more appropriate for B&R to provide detailed guidance to vendors.

Incident Review Committee Report (71) "Electrical Equipment-Vendor Surveillance Breakdown"

(49) "Breakdown in Quality Program Procurement Cycle Purchased Materials"

4.5.5.1(c) Although vendor design calculations and data submittals were receiving a technical review by Brown and Root staff, there are concerns about the adequacy of B&R's review (see Questions M-30, M-49, M-50, and M-51), and the general lack of documentation regarding the depth and findings of such reviews (see Question M-41).

4.3.2.4.(t) No formal procedures for the vendor documentation review process exist (see Question E-3). For example, the assignment and procedures for reviewing approving reliability evaluations within these disciplines was not made clear, yet vendors were being requested to submit such evaluations (see STP document 3N099ES071-E, Section 3.4, and Question E-5).

QUADREX FINDING

4.4.2.4(r)	Refinement of the reactor cavity cooling system pressure drop calculation appears to be necessary (see Question H-15).	Incident Review Committee Report #78 "Cooling of Primary Shield Penetrations"
4.1.2.3(p)	Potential overconservatism was observed in the containment structure and cable tray areas (see Questions C-4 and C-18). The cable tray and conduit supports area was evaluated because of its potential impact on engineering and design manhours. It is also an area that is frequently a bottle neck because of interfacing problems between Engineering and Construction. The systems and procedures developed by Brown and Root for cable tray and conduit support design seem to be well-organized and utilized sound methodology for standardization. However, it is our judgment that the "standard" support system developed by Brown and Root is overly conservative, and may cause increased construction cost and complexities as compared with other industry designs. There seemed to be excessive longitudinal connections between supports.	Incident Review Committee Report #81 Cable Tray Support Design"
4.6.4.5(k)	The division of responsibilities for similar flow and heat transfer analyses between Heavy Civil, Nuclear Analysis, and Mechanical Analysis of the component cooling water (CCW), emergency cooling water (ECW) and the essential cooling pond (ECP) has the potential to cause design interface problems in these systems (see Question N-16).	Incident Review Comittee #23 Report "Safety Injection System Emergency Sump Piping Design"

#100 Cat. 6

#14 Cat. 5

Q-C-4

4.23.1(d) Lic # 2.1114 Cat 7