QA CONDITION 1

IMPELL CORP.

FOR
DUKE POWER COMPANY
ENGINEERING DEPARTMENT, MECHANICAL SECTION
VERIFICATION OF DESIGN CALCULATIONS

DOCUMENT CONTROL DATE
DEC 2 1983
DUKE POWER COMPANY
DESIGN ENGINEERING

Station and Unit Number	Catwba Nuclear Station, Units 1 and 2
Title of Calculation	ITT Grinnell Seismic Qualification Documents
Revision Number and Date	including the below specified reports.*
Equipment Identification	4"-150# Active Diaphragm Valve with 14 NAT1 Rotork, Safety Class 2, Duke Item 5B-473, MPSC P.O. E-66449-11
Reference: Duke File No.	CN-1205.04
EDS Number	0093-210-476.2

I certify that the above calculation has been reviewed as described, and is in accordance with the design criteria established by Duke Power Company Specification CNS-1205.04-00 -001, through Addendum 3, dated March 11, 1980.

Reviewed by: _____ Date 10/19/83
Impell Corp.

Based on the above independent review of a certified stress report, this document verifies Duke Power Company Design Analysis requirements, and is hereby approved.

By _____ Date 10/20/83

CNM 1205·04-0445

* - Seismic Calculations No. W-156, Appendix B, Revision 1, dated September 1983
- Static Deflection Test Results Report No. W-156-A, dated September, 1980
- Impell Seismic Qualification Analysis No. 136-2, Revision 1, dated October 10, 1983

APPROVED
DUKE POWER CO.
DATE: DEC 2 1983
S. K. BLACKLEY, JR.
CHIEF ENGINEER
By: MECHANICAL DIVISION

REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

IMPELL CORPORATION

DUKE POWER COMPANY
CATAWBA NUCLEAR POWER STATION, UNITS 1 AND 2
REVIEW OF CALCULATIONS FOR
ITT GRINNELL SEISMIC QUALIFICATION DOCUMENTS
4"-150# ACTIVE DIAPHRAGM VALVE W. 14NAT1 ROTORK
SAFETY CLASS 2, DUKE ITEM 5B-473
MPSC P.O. E-60449-11

	YES	NO	ACCEPTABLE	UNACCEPTABLE
1. IDENTIFICATION				
Name of Equipment				
Classification				
Description				
Location				
Number Required				
Name of Vendor				
2. FORMAT AND PRESENTATION				
Title of Report				
Name of Person Performing Calculations				
Name of Person Checking Calculations				
Index of Report Contents				
References:				
Drawings and Sketches				
Data				
Applicable Sections of Codes				
Computer Programs				
Formulae				
Others				
Vendor Certification				
Statement of Assumptions				
Statement of Limitations				
Presentation of Results:				
Tabulation of Stresses				
Tabulation of Displacements				
Comparison with Allowables				
Equipment Anchorage/Support				
Presentation of Conclusions				
Description of Modeling				
Description of Equipment Operation & Performance				

	YES	NO	A	N/A
3. APPLICABLE DESIGN CRITERIA				
FSAR/PSAR				
ASME Section III	X		X	
General Design Specification				
Individual Equipment Specification				
Other: Specification CNS-1205.04-00-0001, Add. 3 3/11/80	X		X	
4. ANALYTICAL PROCEDURE				
Manual Calculations				
Computer Calculations	X		X	
Test Results Report No. W-156-A, Sept. 1980	X		X	
Other: Static Deflection Test Procedure No 2344 Rev. 2, 2/25/80	X		X	
5. LOADS CONSIDERED				
Self-Weight	X		X	
Thermal				
Pressure				
Seismic OBE	X		X	
Seismic DBE	X		X	
Rupture				
External/Mechanical				
Other: As per specification	X		X	
6. LOAD COMBINATIONS				
Normal				
Upset				
Emergency				
Faulted				
Other: As per specification	X		X	

7. SUMMARY OF REVIEW

The seismic qualification documents submitted by ITT-Grinnell Corp. are acceptable with the additional analysis of Impell Calc. No. 136-1, Rev. 1, regarding they fundamental frequency of 20.12 Hertz and the structural adequacy of the replaced SA 193, GR B7, pillars. The change of the pillar steel is indicated on Duke letter dated September 28, 1983.

8. CONCLUSIONS

Acceptable as Presented	
Acceptable with Additions - Impell Calc. 136-1	X
Not Acceptable	

IMPELL