

# 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:

[Signature]  
Impell Corp.

Date

10/14/83

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

[Signature]

Date

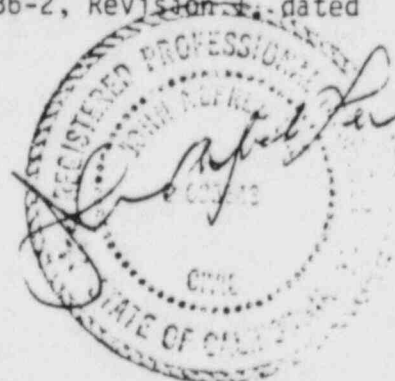
10/20/83

**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



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PDR ADOCK 05000413  
PDR



IMPELL  
CORPORATION

DUKE POWER COMPANY  
 CATAWBA NUCLEAR POWER STATION, UNITS 1 AND 2  
 REVIEW OF CALCULATIONS FOR  
 IIT 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

1. IDENTIFICATION

YES  
NO

ACCEPTABLE  
UNACCEPTABLE

- Name of Equipment
- Classification
- Description
- Location
- Number Required
- Name of Vendor

X	X
X	X
X	X

X	X
X	X
X	X

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

X	X
X	X
X	X
X	X
X	X
X	X
X	X
X	X
X	X

X	X
X	X
X	X
X	X
X	X
X	X
X	X
X	X
X	X



3. APPLICABLE DESIGN CRITERIA

FSAR/PSAR  
 ASME Section III  
 General Design Specification  
 Individual Equipment Specification  
 Other: Specification CNS-1205.04-00-0001, Add. 3  
 3/11/80

YES  
NO

A  
N/A

X	
X	

X	
X	

4. ANALYTICAL PROCEDURE

Manual Calculations  
 Computer Calculations  
 Test Results Report No. W-156-A, Sept. 1980  
 Other: Static Deflection Test Procedure No 2344  
 Rev. 2, 2/25/80

X	
X	
X	
X	

X	
X	
X	
X	

5. LOADS CONSIDERED

Self-Weight  
 Thermal  
 Pressure  
 Seismic OBE  
 Seismic DBE  
 Rupture  
 External/Mechanical  
 Other: As per specification

X	
X	
X	
X	
X	
X	
X	

X	
X	
X	
X	
X	
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 - Imep11 Calc. 136-1  
 Not Acceptable

X	