

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

November 20, 1975

M. Bender, Chairman
C. F. Braun Subcommittee

SCHEDULE FOR ARCHITECT-ENGINEER BALANCE OF PLANT (C. F. BRAUN) SUBCOMMITTEE
MEETING, DECEMBER 3, 1975

The Architect-Engineer Balance of Plant Subcommittee will meet on December 3, 1975 in Room 1062 at 1717 H Street N.W., Washington, DC to review the application by C. F. Braun and Company for preliminary design approval for the Braun Standard Safety Analysis Report (Braun SAR). The tentative schedule for Wednesday, December 3 is:

- 2:00 p.m. Executive Session (Closed)
- 2:30 p.m. Meeting with C. F. Braun & Company and the Nuclear Regulatory Commission Staff (Open)
- 4:30 p.m. Caucus (Closed)
- 5:00 p.m. Summation and Adjourn (Open)

Topics to be discussed include:

1. Responsibilities of C. F. Braun, the nuclear steam system supplier, and the client utility for the integration of the standard plant elements.
2. Use of Braun SAR for multi-unit sites, with respect to the effect of turbine orientation.
3. Measures to cope with high energy pipe failures outside of containment.
4. The integration of on-site and off-site power for Braun SAR and the balance of plant.
5. Fire protection integration for the turbine-generator island, the balance of plant, and the nuclear steam supply system.
6. The extent of C. F. Braun & Company participation in the overall plant quality assurance program.
7. Coordination of the instrumentation sensors in the turbine-generator island with the displays in the balance of plant or nuclear steam supply system.

ATTACHMENT A

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November 20, 1975

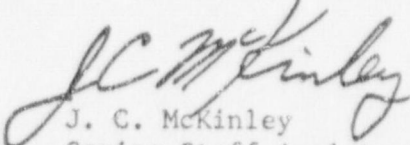
8. Bounding seismic design criteria and the nature of the implicit seismic design margins.
9. Correlation of containment action features with the pressure/temperature of the feedwater/steam system control requirements for the turbine-generator and nuclear steam system.
10. Variations in feedwater and condensate systems necessary to accommodate three different turbine-generator vendors.
11. Criteria for steam valve sealing.
12. "As low as reasonably achievable" criteria for shielding, including source term quantification.
13. Ultimate heat sink interfaces with the nuclear steam supply system and the balance of plant.
14. Industrial security interfaces with the nuclear steam supply system and the balance of plant.

Topics may be added to or deleted from the above list as appropriate.
Attendance by the following ACRS members is anticipated.

Mr. Bender

Dr. Okrent

Dr. Siess


J. C. McKinley
Senior Staff Assistant

cc: ACRS Members
B. Rusche
S. H. Hanauer
D. F. Knuth
H. J. C. Kouts
S. Varga
B. Grier
F. Schroeder
J. Stolz
R. Martin

ACRS SUBCOMMITTEE MEETING
WASHINGTON, D C
DECEMBER 3, 1975

My name is William A Jack. I am Vice-President of C F Braun & Co and Manager of its Power Division.

C F Braun & Co, founded in 1909, specializes in the planning, project management, engineering and construction of process and power plants throughout the world. Our annual business approximates \$350 million, of which over ninety percent involves engineering and construction of large projects. Our pertinent nuclear power work includes contracts with General Electric Company for the preparation of their Standard Reactor Island Design using the design criteria in GESSAR. The resulting design is being used for TVA's four Hartsville units and their two Phipps Bend units. Along with this effort, Braun has undertaken at its own expense and without contract or subsidy, the preparation of a matching Standard Turbine Island Design based upon the design criteria in Braun SAR.

It is our firm belief that maximum standardization of nuclear power plant design and construction is a significant answer to escalating plant costs and elongating schedules. Also, we believe such standardization could be the largest single contributor to reducing our nation's independence from foreign oil supply. Our Turbine Island design, as expressed in the Braun SAR, in conjunction with

ATTACHMENT B

the Reactor Island design identified in the 238 GESSAR, constitutes the maximum practical standardization of a nuclear generating complex. Only the site or client related features are excluded from standardization. We are convinced, therefore, that our current efforts in this field of standardization will contribute significantly to the betterment and stability of the utility industry.

No amount of standardization effort on our part, however, will be effective without assurance that the approved designs will be usable for a reasonable length of time without the requirement of re-review. We urge, therefore, that swift and early resolution of the PDA validity span be given top priority. We believe that three years is the minimum practical time of such validity. Surely, any time less than two years will completely eliminate the necessary incentive for industry's acceptance of standardization.

During the preparation of Braun SAR, extensive discussions took place between Braun and major equipment suppliers. From these discussions, we gained assurance that our design incorporates proven systems and equipment to the maximum extent. We achieved our design goal to not incorporate untried systems or equipment. And we believe that our design approach provides for selection of equipment, apparatus, systems and materials through competitive bidding.

In the course of the development of the design we had the benefit of review and comments from GE, TVA, Yankee Atomic, and Niagara Mohawk. We received valuable, up-to-date operating and maintenance information which are factored into our concept. And following our application we have continued to broaden our utility contracts. We see some indications of utility acceptance of the standard plant design approach. Granting a PDA for Braun SAR with its attendant guarantee of freedom from ratcheting is a key ingredient for positive acceptance.

Now, Mr William Shepherd, our Braun SAR Project Manager, will present the principal features and application of the Braun Standard Plant.

BRAUN SAR

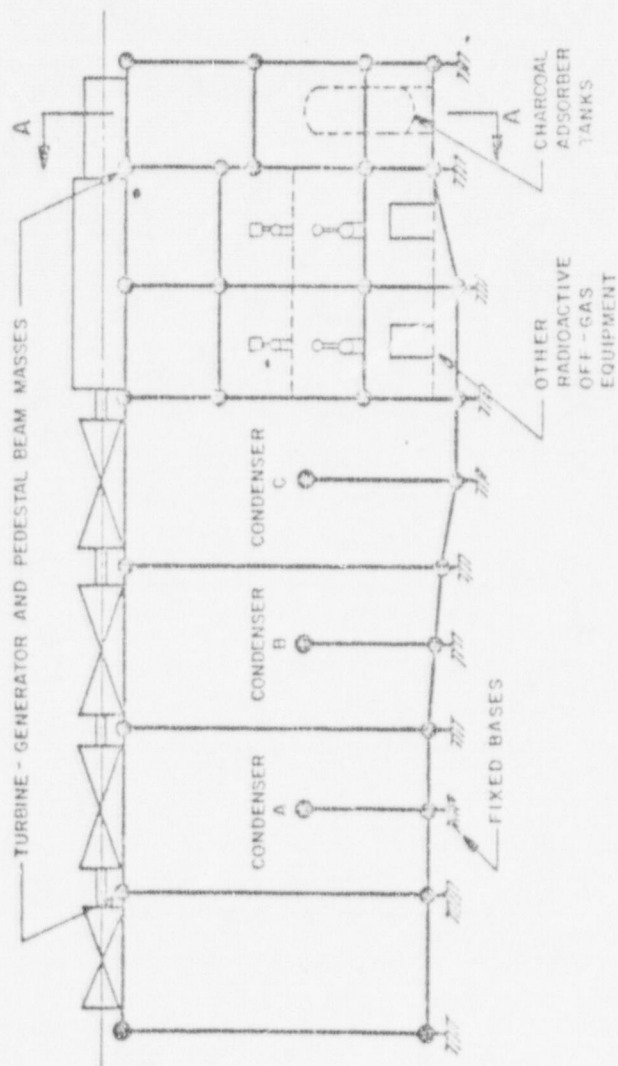
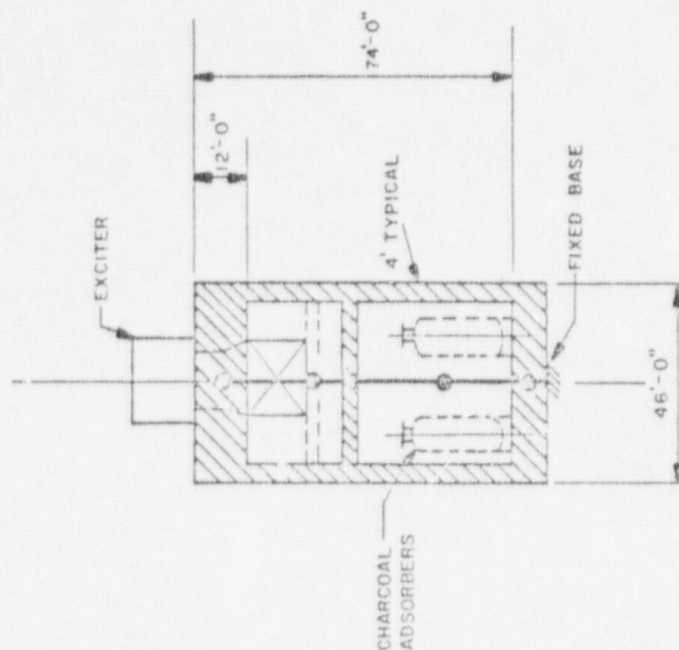
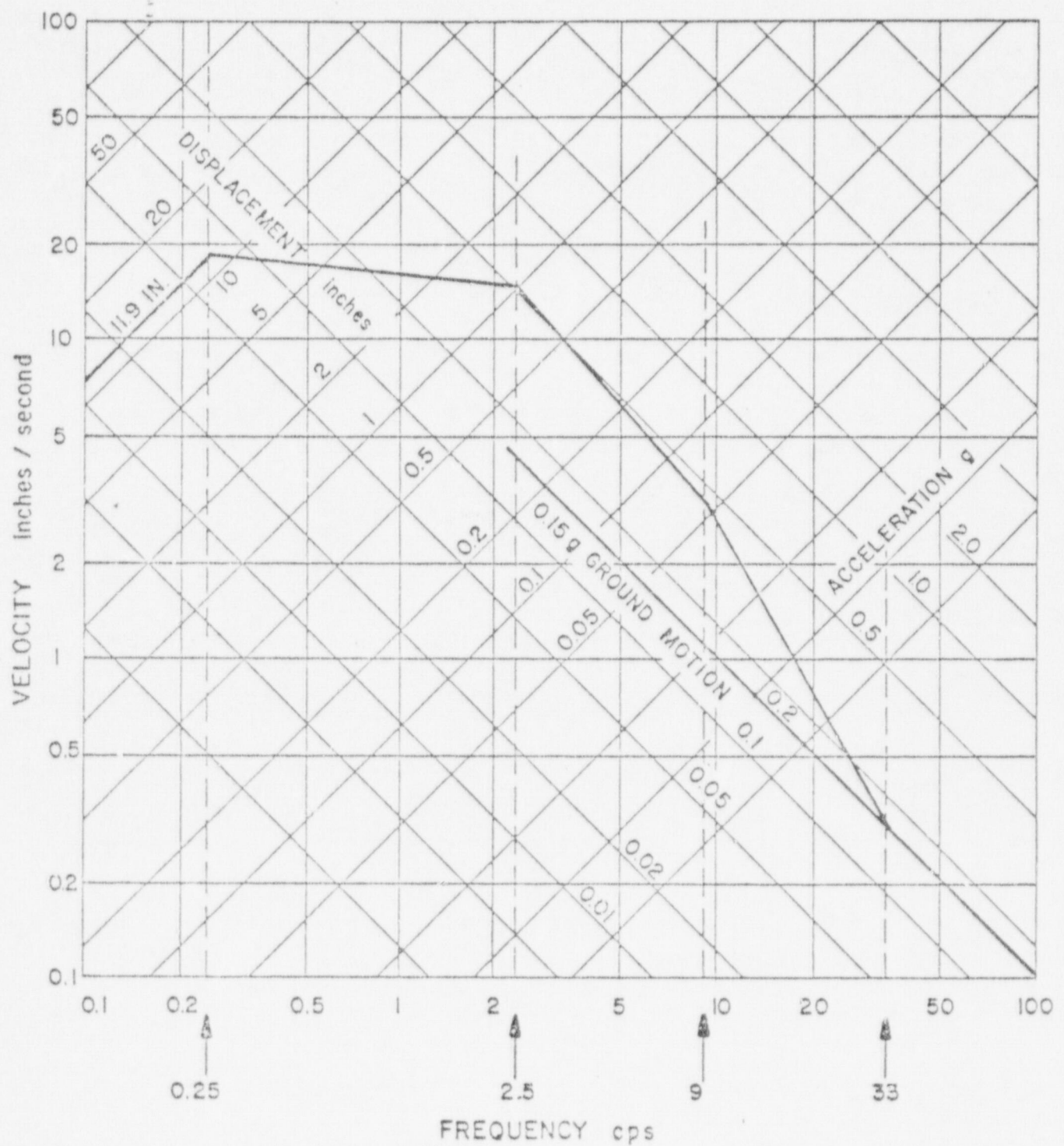


FIGURE 3.2 -1
TURBINE GENERATOR
PEDESTAL MODEL
AMENDMENT 3
May 30, 1975

BRAUN SAR



Viewgraph 56

FIGURE 3.2-2
HORIZONTAL DESIGN RESPONSE
SPECTRA FOR OFF-GAS
SYSTEM ENCLOSURE
AMENDMENT 3
MAY 30, 1975