

**ADVISORY COMMITTEE ON REACTOR SAFEGUARDS**  
**UNITED STATES ATOMIC ENERGY COMMISSION**  
**WASHINGTON, D.C. 20545**

November 24, 1965

Honorable Glenn T. Seaborg  
Chairman  
U. S. Atomic Energy Commission  
Washington, D. C.

Subject: REPORT ON DRESDEN NUCLEAR POWER STATION - UNIT 2

Dear Dr. Seaborg:

At its sixty-seventh and sixty-eighth meetings, the Advisory Committee on Reactor Safeguards considered the Dresden 2 reactor which the Commonwealth Edison Company proposes to build on the Dresden site. The applicant proposes a boiling water reactor with pressure suppression containment designed by the General Electric Company. The design power level, 2255 MW(t), is about three times that of Dresden 1. The Committee had the benefit of discussions with representatives of the applicant, the General Electric Company, Sargent & Lundy, and the AEC Staff and its consultants, and of the documents listed. A Subcommittee of the ACRS met to review this project on September 1, 1965.

At the sixty-eighth meeting, an extensive development program was described by the representatives of the General Electric Company. The results of these mockup experiments and calculations are still preliminary. The program is intended to answer questions on the following: jet pump monitoring and system stability, metal-water reactions, instrumentation, and blow-down and emergency cooling. The Committee recommends continued studies of pipe-whipping and the generation of missiles which might violate the containment during a postulated accident involving failure of the primary system piping. The possible effect of fuel movement upon reactivity transients will also be considered by General Electric. The Committee recommends that the AEC Staff follow the results of these programs closely.

The Committee urges that the designers of the pressure vessel be especially attentive to problems which may arise due to its large size. In particular, the Committee would like to learn if any effects such as bellmouthing or vibration become important as vessel sizes increase. In addition, the Committee recommends that a careful check be made of the vessel designer's Stress Report for the applicant by General Electric or by independent experts. The Committee also urges that efforts be made to provide means of access for periodic inspection of the reactor vessel for flaws.

While the isolation valves and fittings in the high pressure steam lines from the reactor to the turbine are being designed carefully, the Committee recommends that special attention be given to insure that no single rupture can lead to sequential failure and loss of containment.

It is the opinion of the ACRS that the problems outlined above can be resolved during construction and that the Dresden 2 reactor can be built and operated at the proposed site without undue risk to the health and safety of the public.

Sincerely yours,

/s/

W. D. Manly  
Chairman

References attached.

References:

1. Letter dated April 15, 1965 from Murray Joslin, Commonwealth Edison Company, to Atomic Energy Commission, with attachment "Application for Construction Permit and Operating License for Dresden Unit 2".
2. Dresden Nuclear Power Station, Unit 2, Plant Design and Analysis Report, Volume III, Plant Site and Environs, Commonwealth Edison Company, undated, received April 19, 1965.
3. Letter dated May 17, 1965 from Murray Joslin, Commonwealth Edison Company, to Dr. R. L. Doan, AEC Division of Reactor Licensing, transmitting Dresden Nuclear Power Station, Unit 2, Plant Design and Analysis Report, Volume I and Volume II, Drawings.
4. Letter dated July 9, 1965 from Murray Joslin, Commonwealth Edison Company to Dr. R. L. Doan, AEC Division of Reactor Licensing, transmitting Amendment No. 1 to the Dresden Nuclear Power Station Unit 2 Plant Design and Analysis Report, dated July 12, 1965.
5. Replacement page 2 of Amendment 1, undated, received July 20, 1965.
6. "Contents of Amendment No. 2", dated August 17, 1965 with attached errata and addenda, and transmitting Dresden Nuclear Power Station, Unit 2, Plant Design and Analysis Report, Amendment No. 2, Answers to AEC Questions, Commonwealth Edison Company.
7. Letter dated August 19, 1965 from Murray Joslin, Commonwealth Edison Company, to Dr. R. L. Doan, AEC Division of Reactor Licensing, with attachments constituting Amendment No. 3.
8. Letter dated September 16, 1965 from Murray Joslin, Commonwealth Edison Company, to Dr. R. L. Doan, AEC Division of Reactor Licensing, submitting Dresden Nuclear Power Station, Unit 2, Plant Design and Analysis Report, Amendment No. 4, Answers to AEC Questions and Dresden Unit 2 Fuel Allocation.
9. Letter dated October 21, 1965 from Murray Joslin, Commonwealth Edison Company, to Dr. R. L. Doan, AEC Division of Reactor Licensing, submitting Dresden Nuclear Power Station, Unit 2, Plant Design and Analysis Report, Amendment No. 5, Answers to AEC Questions.