

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

November 14, 1962

Honorable Glenn T. Seaborg  
Chairman  
U. S. Atomic Energy Commission  
Washington 25, D. C.

Subject: REPORT ON N.S. SAVANNAH

Dear Dr. Seaborg:

At a special meeting, November 9-10, 1962, the Advisory Committee on Reactor Safeguards reviewed the operational experience of the N.S. SAVANNAH since its departure from Yorktown on August 20, 1962. The Committee had the benefit of the documents referenced below and of discussions with the AEC staff and with the representatives of the AEC/MA Joint Group, and the States Marine Lines.

The Committee is encouraged by the progress that has been made in solving initial shakedown problems and in developing a new administrative organization. Vigorous programs of rectifying operational difficulties, and improvement of procedures, training, and maintenance have been instituted. In general, the Committee believes that the short range program of interim operations interspersed by frequent shutdowns and inspections, can be carried out without undue hazard to the health and safety of the general public. At the same time the Committee reaffirms its belief that, when the vessel is in populated areas, every precaution should be exercised to reduce the effects of accidents which, although they may have a lower probability of occurrence, might be more severe than those postulated. With these facts in mind, the Committee recognizes certain long range problems upon which it believes actions should be initiated immediately. These will be outlined below.

Experience with the N.S. SAVANNAH has shown that it is very important to have available an auxiliary electrical power source in port. It is even more important to have a reliable auxiliary power source at sea or during port entry in event of a scram or other unusual circumstances. The Committee urges early action to provide a reliable auxiliary source of power, with propulsion reversal capability, adequate for safe handling of the ship in ports and at sea.

The Committee would like to point out that the use of inert gas within the containment, a procedure necessary to diminish the fire hazard, has reduced drastically the possibility of carrying out maintenance within the containment and the possibility of making observations of the primary system performance at pressure and temperature. Experience at other reactors has indicated that this is an important facet of reactor safety. The Committee urges that all possible speed be employed to change the present control rod system to one which will avoid the problems observed in the present system and which will permit adequate observation and maintenance within the containment.

The Committee notes that the containment leakage and filter efficiencies are being checked frequently and recommends continued vigilance since performance has not always met specifications. The Committee believes that the proposed scheme for modification of the reactor compartment ventilation, cooling, and filtration system will be a desirable improvement to the effectiveness and safety of this system and urges its early completion.

The ACRS was informed of the proposed plans to visit the ports of San Francisco, Long Beach, Los Angeles, Honolulu, Portland, San Diego, and Balboa before proceeding to Galveston. The N.S. SAVANNAH still has not had a long operational period and therefore decisions as to the ports visited and the docks selected should be made conservatively. In particular, where more than one suitable docking site is available in the same general area, the Committee believes that the more conservative should be chosen regardless of other considerations.

In summary, the Committee believes that by taking all practicable precautions the N.S. SAVANNAH, prior to the Galveston overhaul, can enter ports found suitable under a conservative application of the Interim Port Analysis Factors without undue hazard to the health and safety of the public. However, the Committee recommends that only after the long term problems identified above have been rectified, should consideration be given to any modification of the existing Interim Port Analysis Factors except to clarify them or make them more conservative.

Sincerely yours,

/s/

F. A. Gifford, Jr.  
Chairman

References Attached

References:

1. Memo frm Robb to Price, dated 8/30/62 - 970/4608, Subject: Memorandum & Authorization dated August 3, 1962 in matter of N.S. SAVANNAH; Proposed Significant Change No. 13.
2. Memo frm Robb to McCool, dated 10/2/62 - 970/4870, Subject: Memorandum & Authorization dated August 3, 1962 for Operation of the N.S. SAVANNAH.
3. Memo frm Robb to Price, dated 10/9/62 - 970/4918, Subject: Memorandum & Authorization dated August 3, 1962 in matter of N.S. SAVANNAH; Proposed Significant Change No. 17.
4. Memo frm Robb to Price, dated 10/15/62 - 970/4955, Subject: Memorandum & Authorization dated August 3, 1962 in matter of N.S. SAVANNAH; Proposed Significant Change No. 17, Amendment No. 1.
5. Memo frm Robb to Price, dated 10/19/62 - 970/4967, Subject: Memorandum & Authorization dated August 3, 1962, in matter of N.S. SAVANNAH.
6. Memo frm Robb to Price, dated 10/24/62 - 970/4984, Subject: Memorandum & Authorization dated August 3, 1962 in matter of N.S. SAVANNAH; Significant Change No. 17, Amendment No. 2.
7. Memo frm Robb to Price, dated 10/23/62 - 970/4990, Subject: Memorandum & Authorization dated August 3, 1962 in matter of N.S. SAVANNAH; Significant Change No. 17, Amendment No. 2.
8. Memo frm Robb to Price, dated 11/2/62 - 970/5096, Subject: Memorandum & Authorization dated August 3, 1962 in matter of N.S. SAVANNAH; Proposed Significant Change No. 19.
9. N.S. SAVANNAH Operation Analysis for the Period - May 1, 1962 - November 1, 1962 - 970/4978 SML-NSS 3.