

February 15, 2001

U. S. Maritime Administration  
ATTN: Joseph Seelinger, Acting Director  
Office of Ship Operations  
Department of Transportation  
MAR-610.1  
Washington, D.C. 20590

SUBJECT: NRC INSPECTION REPORT NO. 50-238/2001-201 AND NOTICE  
OF VIOLATION

Dear Mr. Seelinger:

This letter refers to the inspection conducted on January 17, 2001, at the James River Reserve Fleet office near Ft. Eustis, Virginia, and on board the N. S. Savannah. The enclosed report presents the results of that inspection.

Areas examined during the inspection are identified in the report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations of activities in progress.

Based on the results of this inspection, the NRC has identified two apparent violations of NRC requirements. These violations are cited in the enclosed Notice of Violation (Notice). The circumstances surrounding them are described in detail in the subject inspection report. The apparent violations are of concern because they indicate a lack of attention to the details and requirements specified in the Technical Specifications.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will use your response in accordance with its policies to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at (the Public Electronic Reading Room) <http://www.nrc.gov/NRC/ADAMS/index.html>.

Should you have any questions concerning this inspection, please contact Craig Bassett at 404-562-4712.

Sincerely,

***/RA/***

Ledyard B. Marsh, Chief  
Events Assessment, Generic Communications  
and Non-Power Reactors Branch  
Division of Regulatory Improvement Programs  
Office of Nuclear Reactor Regulation

Docket No.: 50-238  
License No.: NS-1

Enclosures: 1. Notice of Violation  
2. NRC Inspection Report 50-238/2001-201

cc w/encl: Please see next page

N.S. Savannah

Docket No. 50-238

cc:

Mr. Erhard W. Koehler  
Marine Surveyor  
Division of Ship Maintenance and Repair  
U.S. Department of Transportation  
Maritime Administration  
400 7<sup>th</sup> Street, S.W.  
Washington, DC 20590

Mr. David S. Breeden, Jr.  
Chief, Safety Office  
Humphreys Engineer Center  
Support Activity  
Casey Building, Room 112  
7701 Telegraph Road  
Alexandria, VA 22315-6034

Mr. Michael F. Bagley  
Fleet Superintendent  
James River Reserve Fleet  
Drawer "C"  
Fort Eustis, VA 23604

Mr. Robert Rohr  
Fleet Operations and Maintenance Officer  
James River Reserve Fleet  
Drawer "C"  
Fort Eustis, VA 23604

Should you have any questions concerning this inspection, please contact Craig Bassett at 404-562-4712.

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NOTICE OF VIOLATION

U. S. Maritime Administration  
N. S. Savannah

Docket No.: 50- 238  
License No.: NS-1

During an NRC inspection conducted on January 17, 2001, two apparent violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the violations are listed below:

1. TS Section 3.1, Administrative Responsibility, requires that MARAD shall have a health physicist (HP) on duty or on call within two (2) hours to provide health physics support for radiological emergencies or entry into radiation control areas. In addition to the services of a health physicist, MARAD shall provide an Emergency Radiological Assistance Team in the event of radiological emergencies.

Contrary to the above, no provisions were made to have a health physicist on call within two hours or to secure the assistance of an Emergency Radiological Assistance Team in the event of radiological emergencies after the ship was moved to its current location in 1994.

This is a Severity Level IV violation (Supplement IV).

2. TS Section 3.7.6 requires that an inspection will be conducted at least annually by MARAD's designated personnel to determine any degradation of the primary and secondary systems.

Contrary to the above, since 1994, the licensee failed to complete and document adequate inspections of the primary and secondary systems to check for any degradation.

This is a Severity Level IV violation (Supplement VII).

Pursuant to the provisions of 10 CFR 2.201, the Maritime Administration is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the responsible inspector, U.S. Nuclear Regulatory Commission, Region II, 61 Forsyth St. S. W., Suite 23T85, Atlanta, GA 30303, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other

action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, D.C. 20555-0001.

Because your response will be placed in the NRC Public Document room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure or information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days.

Dated at Rockville, Maryland  
this 15<sup>th</sup> day of February 2001.

U.S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF NUCLEAR REACTOR REGULATION

Docket No.: 50-238

License No.: NS-1

Report No.: 50-238/2001-201

Licensee: U. S. Maritime Administration  
Washington, D. C. 20509

Facility Name: N. S. Savannah

Location: James River Reserve Fleet  
Ft. Eustis, VA

Inspection Conducted: January 17, 2001

Inspector: C. H. Bassett

Approved by: Ledyard B. Marsh, Chief  
Events Assessment, Generic Communications and  
Non-Power Reactors Branch  
Division of Regulatory Improvement Programs  
Office of Nuclear Reactor Regulation

## EXECUTIVE SUMMARY

### N. S. Savannah NRC Inspection Report No. 50-238/2001-201

In accordance with the applicable NRC inspection procedure, this special, announced inspection included onsite review of selected aspects of the licensee's safety program since the last NRC inspection of this facility. The licensee's program was generally acceptably directed toward the protection of public health and safety, and in compliance with NRC requirements, however, two apparent violations were identified.

#### Staffing

- The licensee's staffing remains in compliance with the requirements specified in the Technical Specifications.
- The Technical Specifications will be revised by the licensee.

#### Radiological Surveys

- One apparent violation was identified concerning the failure to have a health physicist on call within two hours of the ship and failure to have an Emergency Radiological Assistance Team available in case of a radiological emergency.

#### Surveillances

- One apparent violation was identified for failure to perform an adequate annual inspection of the primary and secondary systems to check for degradation as required.



## **REPORT DETAILS**

### **Summary of Plant Status**

The N. S. Savannah was removed from service and mothballed in 1970. The reactor fuel was subsequently removed and all primary and secondary systems have been drained of fluids in 1975. All radioactive resins were also removed from the ship at that time. (The majority of remaining radioactive material is contained within reactor systems.) The ship is currently moored port side of the MH-1A Floating Nuclear Power Plant STURGIS in the middle of the James River in Virginia. Access to the vessel and to the restricted areas of the vessel is being provided by James River Reserve Fleet (JRRF) personnel. The U. S. Maritime Administration (MARAD) is the current licensee.

#### **1. Staffing (40755)**

##### **a. Inspection Scope**

The inspector reviewed the following regarding the licensee's staffing and audits to ensure that the requirements of TS Section 3.6 were met:

- staffing requirements for maintenance of the vessel
- the composition of the Review and Audit Committee (RAC)
- RAC responsibilities and meeting minutes

##### **b. Observations and Findings**

Through observation of daily activities and discussions with licensee personnel, the inspector determined that the staffing was adequate to support the maintenance of the N. S. Savannah.

Through attendance at the annual RAC meeting, the inspector determined that the RAC was composed of those individuals stipulated in the TSs. The RAC continued to meet once a year to review and discuss the status of the ship and the other issues outlined in the TSs.

The issue of revising and updating the TS for the N. S. Savannah was identified by the NRC as an Inspector Follow-up Item (IFI) during a previous inspection in April 2000. During the RAC meeting the status of the Technical Specification (TS) was reviewed. It was agreed that they are still in need of revision. It was concluded that MARAD personnel would be the ones responsible for this action. The revision and updating the TS will continue to be followed by the NRC as an Inspector Follow-up Item (IFI) and will be reviewed during a future inspection.

##### **c. Conclusions**

The licensee's staffing remains in compliance with the requirements specified in the TS. The TS will be revised by the licensee.

2. Radiological Surveys (40755)

a. Inspection Scope

The inspector reviewed the following to verify compliance with Section 3.1 of the TS:

- health physics survey
- documentation of inspections of the ship
- annual reports

This was also reviewed through interviews with licensee and contractor personnel.

b. Observations and Findings

TS Section 3.1, Administrative Responsibility, requires that MARAD shall have a health physicist (HP) on duty or on call within two (2) hours to provide health physics support for radiological emergencies or entry into radiation control areas. In addition to the services of a health physicist, MARAD shall provide an Emergency Radiological Assistance Team in the event of radiological emergencies.

During an inspection in April 2000, the issues of having an HP on call within two hours and establishing the services of an Emergency Radiological Assistance Team were discussed with site personnel. It was not apparent at that time whether or not such arrangements had actually been made. When this issue was discussed with JRRF and MARAD personnel during this inspection, it was acknowledged that no such provisions had been made to meet the requirements of the TS. The licensee was informed that failure to provide for an HP on call within two hours and failure to provide for an Emergency Radiological Assistance Team would be considered an apparent violation (VIO) of TS 3.1 (VIO 50-238/2001-201-01).

c. Conclusions

One apparent violation was identified concerning the failure to have a health physicist on call within two hours of the ship and the failure to have an Emergency Radiological Assistance Team available in case of a radiological emergency.

3. Surveillances (40755)

a. Inspection Scope

The inspector reviewed the following to verify that the licensee was providing adequate surveillances in compliance with TS 3.7.2 requirements:



- contractor reports
- documentation of inspections of the ship
- annual reports

b. Observations and Findings

TS Section 3.7.6 requires that an inspection will be conducted at least annually by MARAD's designated personnel to determine any degradation of the primary and secondary systems.

During the NRC inspection in April 2000, site personnel were asked whether MARAD designated personnel were completing an annual inspection of the primary and secondary systems to check for any degradation that might have occurred. JRRF personnel stated that the contract HP performed the inspection when he conducted the annual radiation survey. It was not clear during the 2000 inspection whether this person was qualified to accurately assess the status of the primary and secondary systems and thus satisfy the requirements of the TS and also not clear if records of the inspection were maintained.

During this inspection, it was determined that there was no actual guidance provided (i.e., a procedure or written guidelines) for this type of surveillance activity. Also, there were no records kept documenting the completion of the inspection of the primary and secondary systems by anyone. The contract HP did state that he had observed the conditions of the areas he entered as he completed the various radiological surveys but that no record was kept of the findings. He also stated that no guidelines had been given for determining what would be considered acceptable degradation and what should be flagged for further review.

The licensee was informed that failure to complete and document an adequate inspection of the primary and secondary systems to check for any degradation would be considered as an apparent violation of TS 3.7.6 (VIO 50-238/2001-201-02).

The inspector and accompanying NRC personnel (including one who was a former N. S. Savannah deck officer, licensed reactor operator and health physicist) toured the secondary system compartment areas with the licensee's contract HP. Scaling was observed on the deck of the lower level secondary system compartment. This was to be expected considering the past high humidity conditions the ship was in while at Charleston, South Carolina. The licensee has in operation an air control system to help control the rust and paint flaking in the various secondary system compartment areas. Liquid was observed in the sump in the lower secondary system compartment. This was probably condensation runoff mixed with the system oil leakages from earlier times. If additional condensation were to accumulate in the future, consideration should be given to pumping the sumps out to prevent running over into the lower secondary system compartment deck and likely spreading contamination.



c. Conclusions

One apparent violation was identified for failure to perform an adequate annual inspection of the primary and secondary systems to check for degradation as required. The material condition of the secondary system compartment appeared acceptable.

4. Exit Interview

The inspection scope and results were summarized on January 17, 2001, with licensee personnel. The inspector described the areas inspected and discussed the inspection findings. No dissenting comments were received from the licensee. The licensee did not identify as proprietary any of the material provided to or reviewed by the inspector.

## **PARTIAL LIST OF PERSONS CONTACTED**

### **Licensee Employees**

M. Bagley, Fleet Superintendent, JRRF, MARAD, Department of Transportation (DOT)  
E. Koehler, Marine Surveyor, MARAD, DOT  
J. McMahon, South Atlantic Region Ship Operation and Maintenance Officer, MARAD, DOT  
R. Rohr, JRRF Fleet Operation and Maintenance Superintendent, MARAD, DOT  
J. Seelinger, Acting Director, Office of Ship Operations, MARAD, DOT

### **Other Personnel**

J. Davis, Contractor Health Physicist, General Health Physics

### **Accompanying NRC Personnel**

A. Adams, Senior Project Manager, NRR  
W. Britz, Health Physicist, Region IV

## **INSPECTION PROCEDURE USED**

IP 40755      Class III Non-Power Reactors

## **ITEMS OPENED, CLOSED, AND DISCUSSED**

### **Opened**

50-238/2001-201-01	VIO	Failure to have a health physicist on call within two hours of the ship and the failure to have an Emergency Radiological Assistance Team available in case of a radiological emergency as required by TS
50-238/2001-201-02	VIO	Failure to perform and document an adequate annual inspection of the primary and secondary systems to check for degradation as required by the TS.

### **Closed**

50-238/00-201-02	URI	Follow-up on the availability of a health physicist to be on call within two hours of the ship and the ability of MARAD to deploy an Emergency Radiological Assistance Team in case of a radiological emergency.
50-238/00-201-03	URI	Follow-up on whether the health physicist is qualified to accurately assess the status of the primary and secondary systems as required by the TS.

### **Discussed**

50-238/00-201-01	IFI	Follow-up on the revision and updating of the TS for the N. S. Savannah.
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### **LIST OF ACRONYMS USED**

CFR	Code of Federal Regulations
DOT	Department of Transportation
HP	Health Physicist
IFI	Inspector Follow-up Items
IP	Inspection Procedure
JRRF	James River Reserve Fleet
MARAD	Maritime Administration
NPR	Non-Power Reactor
NRC	Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulation
PDR	Public Document Room
RAC	Review and Audit Committee
TS	Technical Specification
URI	Unresolved Item
VIO	Violation