



U.S. Department
of Transportation
**Maritime
Administration**

1200 New Jersey Ave., SE
Washington, DC 20590

Ref: 10 CFR 50.75(f)(1); 50.82(a)(7) and 50.82(a)(8)(v)-(vii)

April 23, 2015

ATTN: Document Control Desk

U.S. Nuclear Regulatory Commission
Washington, DC 20555

SUBJECT: Docket No. 50-238; License No. NS-1; N.S. *SAVANNAH*
Submittal of Decommissioning Funds Status Report for CY 2014

The Maritime Administration (MARAD) hereby submits Revision 0 of the CY 2014 Decommissioning Funds Status Report for the Nuclear Ship *SAVANNAH* (NSS) as Enclosure 1.

This letter contains no commitments.

If there are any questions or concerns with any issue discussed in this report, please contact me at (202) 366-2631, and/or e-mail me at erhard.koehler@dot.gov.

Respectfully,

Erhard W. Koehler
Senior Technical Advisor, N.S. *SAVANNAH*
Office of Ship Disposal

Enclosures

NMSS20

Docket No. 50-238; License NS-1; N.S. *SAVANNAH*
Submittal of Decommissioning Funds Status Report for CY 2014, Revision 0
April 23, 2015

Enclosures

1. Decommissioning Funds Status Report for CY 2014, STS – 192

Docket No. 50-238; License NS-1; N.S. SAVANNAH
Submittal of Decommissioning Funds Status Report for CY 2014, Revision 0
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cc:

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NSS ESC

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MAR 610, 612, 615

Hardcopy, cover letter only

MAR-600, 640, 640.2

Hardcopy w/ all enclosures

MAR-100, 640.2 (rf)

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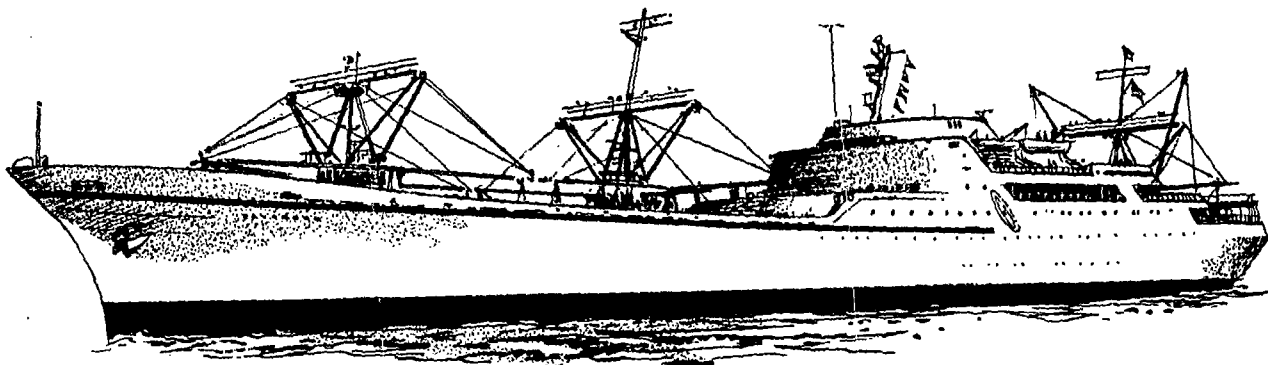
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Enclosure 1 to Submittal of Decommissioning Funds Status Report for CY 2014

DECOMMISSIONING FUNDS STATUS REPORT FOR CY 2014, STS - 192



U.S. Department of Transportation
Maritime Administration



N.S. SAVANNAH

DECOMMISSIONING FUNDS STATUS REPORT FOR CY 2014

STS - 192

Revision 0

Approved: _____

Date: _____

04/23/2015

Manager, N.S. SAVANNAH Programs

Prepared by:
SAVANNAH Technical Staff

Record of Revisions

Revision	Summary of Revisions
0	The original version of the Decommissioning Funds Status Report for CY 2014

List of Effective Pages

Page No.	Rev. No.	Page No.	Rev. No.	Page No.	Rev. No.
1	0	2	0	3	0
4	0	5	0	6	0
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1.0 INTRODUCTION

This Decommissioning Funds Status Report is submitted by the Maritime Administration (MARAD) as licensee for the Nuclear Ship *SAVANNAH* (NSS) and covers the CY 2014 reporting period. This report incorporates the guidance contained in Regulatory Guide (RG) 1.159, “Assuring the Availability of Funds for Decommissioning Nuclear Reactors,” Rev 1, Reference (a). The report is arranged in four sections following this introduction.

In accordance with the requirements of 10 CFR 50.75(f)(1), each power reactor that has already closed is required to report annually the status of its decommissioning funds to the Nuclear Regulatory Commission (NRC) on a calendar year (CY) basis. Section 2.0 of this Decommissioning Funds Status Report includes the seven (7) reports required by 10 CFR 50.75(f)(1).

In accordance with the requirements of 10 CFR 50.82(a)(8)(v)-(vii), each power reactor that has already submitted its site-specific Decommissioning Cost Estimate (DCE) is required to provide a financial assurance status report annually to the NRC on a calendar year (CY) basis. MARAD submitted a summary of its DCE with its Post Shutdown Decommissioning Activities Report (PSDAR), Rev 1, Reference (b). Section 3.0 of this Decommissioning Funds Status Report includes the reports required by 10 CFR 50.82(a)(8)(v)-(vii).

Section 4.0 of this report provides specific information regarding the funds made available to and expended by MARAD during the reporting period.

Finally, Section 5.0 of this report provides information on regulatory commitments made by MARAD that are germane to decommissioning funding.

Because the Federal fiscal year (FY) does not align with the CY, each annual decommissioning funds status report will include information from at least the two FYs that directly provide funds for expenditure during the reporting period. Prior to the submission of the report on (or about) March 31, the President will submit a budget request to the Congress for the upcoming FY. Because NSS activities are funded on an annual basis, the President’s budget request is an early, although not definitive, indicator of future NSS decommissioning funding. Because that future funding can impact the decommissioning schedule described in the PSDAR, MARAD includes this public information for context, and in partial satisfaction of the 10 CFR 50.82(a)(7) requirement to notify the NRC of expected changes to content in the PSDAR.

1.1 Decommissioning Status

The NSS is presently in protective storage. This phase of decommissioning activities is characterized by active surveillance, monitoring and maintenance of the nuclear facilities housed onboard the ship, and custody and maintenance of the ship as the primary physical boundary and protective barrier of the licensed site. Collectively, these are referred to as MARAD’s licensed activities, and are reported annually to the NRC.

As described in the PSDAR, and elsewhere, the license termination deadline for the NSS is December 3, 2031.¹ Final decommissioning of the NSS nuclear facilities will be performed by the DECON method. In the interim, a project to bring the NSS into conformance with contemporary NRC SAFSTOR criteria (known as “SAFSTOR Preparations”) has been described and committed to in the PSDAR.

This report addresses the funding status for all three of these decommissioning phases – licensed activities, SAFSTOR Preparations, and DECON.

¹ December 3, 1971 is the de facto date of permanent cessation of operations. On that day, MARAD completed the reactor defueling by tensioning the reactor vessel head with six studs.

1.2 Decommissioning Funding Sources

MARAD is a modal agency of the United States Department of Transportation (DOT). It is a Federal licensee as defined by the NRC. As such, funds for decommissioning and termination of the NSS license will be provided by Federal appropriations. The budget process by which such appropriations are requested is deliberative and privileged, and is subject to Executive Branch priorities and direction. Furthermore, the legislative review and authorization / appropriation actions taken on such requests are fully within the purview of the Congress. MARAD by itself cannot guarantee that decommissioning funds will be requested by the President or authorized and appropriated by the Congress in any given fiscal year.

2.0 STATUS OF DECOMMISSIONING FUNDS ANNUAL REPORT

This section provides a discussion of the seven items required by 10 CFR 50.75(f)(1), and incorporates the guidance contained in RG1.159. The reporting requirements and corresponding MARAD information are provided below.

2.1 The amount of decommissioning funds estimated to be required.

- a) *Current licensed activities require approximately \$3.00 million annually. MARAD plans to dry-dock the NSS for regular maintenance once during the protective storage period, in 2018, at an estimated cost of \$6.80 million.²*
- b) *The December 2014 revised SAFSTOR project cost estimate is \$11.7 million.*
- c) *The December 2014 revised site-specific DECON-License Termination cost estimate is \$105.00 million.*

2.2 The amount accumulated to the end of the calendar year preceding the date of the report.

Accumulation of funds is not applicable to the NSS. As a Federal licensee, 10 CFR 50.75(e)(1)(iv) allows funding for decommissioning activities to be obtained by appropriations when necessary.

2.3 A schedule of the annual amounts remaining to be collected.

Annual collection of funds is not applicable to the NSS. As a Federal licensee, 10 CFR 50.75(e)(1)(iv) allows funding for decommissioning activities to be obtained by appropriations when necessary.

2.4 The assumptions used regarding rates of escalation in decommissioning costs, rates of earnings on decommissioning funds, and rates of other factors used in funding projections.

The 2014 revised site-specific DECON-License Termination cost estimate used 5.00% escalation for disposal of low level radioactive waste (LLRW). Transportation costs were escalated at 0.00%. Electric costs were escalated at 7.02%. All other industrial task costs were escalated at 2.18%. Escalation factors were determined referencing NUREG 1307, Revision 15 (Waste Disposal costs) and by direct data from Bureau of Labor Statistics from <http://www.bls.gov/data/> Series ID for the latest 2014 values available at the time of the calculation:

1. *Wpu0543 (Industrial electric power)*
2. *Wpu0573 (Light fuel oils)*
3. *CIU2010000002101 (Total compensation, private industry, Northeast region).*

² The drydocking cost estimate is escalated to a 2018 basis from the \$4.1 million contract cost for drydocking the NSS in CY 2008.

Due to funding constraints in FY 2014, the NRC was unable to fund the Pacific Northwest National Laboratories contract and consequently there was no December 2014 revision to NUREG-1307. As noted in Reference (c), licensees may use LLRW burial charge data contained in Revision 15 of NUREG-1307 when preparing the CY 2014 decommissioning funds status report. MARAD has disposal sites available at substantially less cost than the Washington and South Carolina disposal site costs in NUREG-1307. Therefore, MARAD has conservatively used 5% escalation for LLRW disposal for this report.

Transportation escalated costs for 2014 was a negative value. Due to the highly volatile nature of this factor, a conservative value of 0.0% escalation was used for Transportation cost for 2014 estimate purposes.

Based on the above factors, the simple escalation rate from 2013 to 2014 was 2.65%. The SAFSTOR project cost estimate was revised by escalating the 2013 estimate at 2.65%.

There are no rates of earnings on decommissioning funds.

- 2.5 Any contracts upon which the licensee is relying pursuant to paragraph (e)(1)(v) of this section.

Not applicable because MARAD, as a Federal licensee, is funded per the 10 CFR 50.75(e)(1)(iv) method.

- 2.6 Any modifications occurring to a licensee's current method of providing financial assurance since the last submitted report.

There have been no modifications to MARAD's financial assurance methodology, which is limited to the use of Federal appropriations. Please refer, however, to the response in Section 4.1 below for more information.

- 2.7 Any material changes to trust agreements.

Not applicable because MARAD, as a Federal licensee, is funded per the 10 CFR 50.75(e)(1)(iv) method. Consequently, no trust agreements exist.

3.0 FINANCIAL ASSURANCE STATUS ANNUAL REPORT

This section provides a discussion of the ten items required by 10 CFR 50.82(a)(8)(v)-(vii). Effective December 17, 2012, Section 50.82 imposed new reporting requirements on licensees who previously submitted to the NRC site-specific decommissioning cost estimate (DCE). The reporting requirements and corresponding MARAD information are provided below.

3.1 Report required by 10 CFR 50.82(a)(8)(v)

(A)

1. The amount spent on decommissioning, both cumulative and over the previous calendar year,

Within the context of protective storage as a phase of decommissioning activities, all of the funds spent by MARAD in CY 2013 and preceding years (FY 2005 - present) have been spent for decommissioning purposes. As a practical matter, no funds have been spent on major actions described in either the SAFSTOR Implementation Plan or the DECON Cost Estimate. As described in STS-191, the CY 2014 Annual Report (Reference d), MARAD planned and completed minor environmental remediation tasks within three radiologically controlled areas during the reporting period. The budgeted cost for these activities was \$65,000.

2. The remaining balance of any decommissioning funds, and

Not applicable because MARAD, as a Federal licensee, is funded per the 10 CFR 50.75(e)(1)(iv) method. Although funds appropriated to MARAD's Ship Disposal account are "available until expended," any year-to-year carryover is applied to immediate requirements. No balance is maintained.

3. The amount provided by other financial assurance methods being relied upon;

None. MARAD, as a Federal licensee, relies solely on the 10 CFR 50.75(e)(1)(iv) method.

- (B) An estimate of the costs to complete decommissioning, reflecting any difference between actual and estimated costs for work performed during the year, and the decommissioning criteria upon which the estimate is based;

MARAD's CY 2014 estimate to complete decommissioning is \$105 million based on escalation from the 2013 estimate (see Section 2.4 above for the escalation basis). This estimate is effective as of December 2014. This estimate does not credit any work performed during the reporting period.

- (C) Any modifications occurring to a licensee's current method of providing financial assurance since the last submitted report; and

There have been no modifications to MARAD's financial assurance methodology, which is limited to the use of Federal appropriations. Please refer, however, to the response in Section 4.1 below for more information.

- (D) Any material changes to trust agreements or financial assurance contracts.

Not applicable because MARAD, as a Federal licensee, relies solely on the 10 CFR 50.75(e)(1)(iv) method.

3.2 Report required by 10 CFR 50.82(a)(8)(vi)

If the sum of the balance of any remaining decommissioning funds, plus earnings on such funds calculated at not greater than a 2 percent real rate of return, together with the amount provided by other financial assurance methods being relied upon, does not cover the estimated cost to complete the decommissioning, the financial assurance status report must include additional financial assurance to cover the estimated cost of completion.

Not applicable to MARAD.

3.3 Report required by 10 CFR 50.82(a)(8)(vii)

After submitting its site-specific DCE required by paragraph (a)(4)(i) of this section, the licensee must annually submit to the NRC, by March 31, a report on the status of its funding for managing irradiated fuel.

The final disposition and status of the Atomic Energy Commission's nuclear fuel utilized by the NSS is described in the September 21, 1973, Operations Report and also in Section 1.3.1 of the Final Safety Analysis Report as follows:

Thirty six spent fuel elements (Core I and Ia) were shipped from Galveston, TX to the US Atomic Energy Commission (AEC) - Savannah River Plant, Aiken, SC in nine shipments from October 4 through December 21, 1972 via a lowboy trailer using the Piqua/Elk River Shipping cask.

The 10 CFR 50.82(a)(8)(vii) report must include the following information, current through the end of the previous calendar year:

- (A) The amount of funds accumulated to cover the cost of managing the irradiated fuel;

MARAD is storing no irradiated nuclear fuel and, therefore, has no accumulated funds to cover such costs.

- (B) The projected cost of managing irradiated fuel until title to the fuel and possession of the fuel is transferred to the Secretary of Energy; and

MARAD is storing no irradiated nuclear fuel and, therefore, has no need to project such costs.

- (C) If the funds accumulated do not cover the projected cost, a plan to obtain additional funds to cover the cost.

MARAD is storing no irradiated nuclear fuel and, therefore, has no need to obtain additional funds to cover such cost.

4.0 CY 2014 FUNDING

The NSS was maintained in mothballed protective storage throughout CY 2014. Approximately \$2.80 million in appropriated funds were available to MARAD to maintain the NSS during the period. Funds were sourced from within MARAD's Ship Disposal appropriations for FY 2014 (January 1 – September 30, 2014) and 2015 (October 1 – December 31, 2014).

4.1 FY 2014

FY 2014 began on October 1, 2013 and ended on September 30, 2014. Funding for the 1Q of FY 2014 falls before the reporting period; however, the events of that quarter are important in context. In the absence of an approved budget and appropriations, a partial Government funding gap was imposed beginning on October 1, 2013. MARAD's Ship Disposal Program had sufficient carryover funds available to maintain staffing. Service contracts were funded in FY 2013 with performance periods through November 2013, and were similarly unaffected during the funding gap. During the Continuing Resolution (CR) that followed, funding was sufficient to maintain NSS operations without impact. After passage of the Bipartisan Budget Act of 2013, the Consolidated Appropriations Act, FY 2014, provided funding for NSS activities at the original budget request level of \$2.80 million.

Based on the revised decommissioning schedule submitted in Reference (e), the funding for FY 2014 did not result in a change to the content of the PSDAR, and consequently no 10 CFR 50.82(a)(7) notification was submitted.

4.2 FY 2015

FY 2015 began on October 1, 2014 and will end on September 30, 2015. Funding for FY 2015 was initially provided by a Continuing Resolution (CR) that was effective to December 11, 2014. The Consolidated and Further Continuing Appropriations Act of 2015 provided a lump sum of \$4.00 million for activities funded by the Ship Disposal account. A nominal breakdown of the lump sum provides \$2.00 million for NSS operations, with the balance of program activities funded by prior year carryover.

Based on the revised decommissioning schedule submitted in Reference (e), the projected funding for FY 2015 did not result in a change to the content of the PSDAR during the reporting period, and consequently no 10 CFR 50.82(a)(7) notification was required.

4.3 FY 2016

FY 2016 will begin on October 1, 2015 and will end on September 30, 2016. Although this falls outside the reporting period, MARAD includes this information for context. The President's FY 2016 Budget Request for the Maritime Administration was submitted to the Congress on February 2, 2015. The

request for NSS activities is \$3.00 million. No funds are requested for either SAFSTOR Preparations or DECON.

Based on the revised decommissioning schedule submitted in Reference (e), MARAD anticipates that the projected funding for FY 2016 will not result in a change to the content of the PSDAR, and consequently no 10 CFR 50.82(a)(7) notification is anticipated based on the FY 2016 budget request.

5.0 REGULATORY COMMITMENTS REGARDING DECOMMISSIONING FUNDING

There are four (4) recurring commitments regarding decommissioning funding that are reported on in each annual Decommissioning Funds Status Report. The resolution of any one-time commitments will be described as required. The recurring commitments are described in the following sections.

5.1 Annual Request for Funds

In Reference (f), MARAD made the following regulatory commitment:

Annually, MARAD will request funds specifically for decommissioning. The NRC will be informed of these decommissioning funding requests annually by March 31. [Continuing action]

Beginning in the PSDAR, and in periodic correspondence thereafter, MARAD has reiterated its understanding of its responsibility to request and obtain decommissioning funds in sufficient quantity and time to meet the NS-1 license termination deadline of December 3, 2031. Given the inherent nature of the budget process, MARAD defines its commitment to be satisfied annually when it makes a request for decommissioning funds to the Office of the Secretary of Transportation. MARAD has no independent authority to seek decommissioning funds if the request is not made part of the President's Budget Request for the Department of Transportation. Documentation regarding the annual request is maintained by the licensee, and is available for inspection.

Two budget requests are normally in process during any reporting period. The first is the President's Request that is submitted to the Congress during the first quarter of the CY for the FY beginning on October 1st of the reporting period. The second is the deliberative and privileged internal process that begins in April, continues throughout the reporting period, and culminates in the President's Request to Congress in the following year. Although the submission of the outyear (or second) budget request falls outside of the reporting period, it does normally occur prior to the reporting deadline of March 31. As noted in Section 1.0, this outyear request is a reasonable predictor of future decommissioning funding and activity, and publicly available information about the request is included in this report for context.

Each year in its Decommissioning Funds Status Report, MARAD includes a statement regarding the budget requests prepared during the reporting period.

5.1.1 FY 2015

The President's FY 2015 Budget Request for the Maritime Administration was submitted to the Congress on March 4, 2014. As with the FY 2014 request, no funds were requested for either SAFSTOR Preparations or DECON; however, the budget request narrative includes the following new language related to future decommissioning funding:

While funding at this level does not allow MARAD to begin (decommissioning), this resource-intensive requirement is a near-term concern and the agency is developing formal decommissioning project execution plans and multi-year budget estimates.

For the NSS, there is no technical reason to continue to defer the multi-year decommissioning project and seek license termination.

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From a total cost perspective, ... continued deferral of this project can only increase its total cost to the Government, with no corresponding benefit.

5.1.2 FY 2016

The President's FY 2016 Budget Request for the Maritime Administration was submitted to the Congress on February 2, 2015. As with the FY 2015 request, no funds were requested for either SAFSTOR Preparations or DECON; however, the budget request narrative merely acknowledges the DECON requirement without the additional affirmative language found in the FY 2015 request (see above). This apparent reversion is the result of continuing discussion with responsible Office of the Secretary of Transportation (OST) and Office of Management and Budget (OMB) budget officials, and the balancing of priorities for the FY 2016 budget cycle. Nevertheless, MARAD, OST and OMB are cognizant of the responsibilities and funding commitment requirements for DECON, and these obligations will continue to be examined and balanced during future annual budget development cycles.

5.2 Annual Submittal of New Estimate

In Reference (e), MARAD made a regulatory commitment that was subsequently revised as follows:

Submit a new estimate annually by either revising the site specific estimate based on circumstances that affect its underlying assumptions, or by using cost escalation factors no smaller than those in the most recent revision to NUREG 1307.

The CY 2014 estimate is provided in Sections 2.1 and 2.4 of this report.

5.3 Revised Decommissioning Cost Estimate (DCE)

In Reference (e), MARAD made the following regulatory commitment:

The site specific DCE will be revised at least every five (5) years.

The site specific DCE is scheduled for full revision in CY 2015.

5.4 Content of MARAD Budget Requests

In Reference (g), MARAD made the following regulatory commitment:

Because the privity of the Federal budgeting process precludes public notification of the content of agency budget requests prior to their submittal to the Congress, MARAD has determined that future 10 CFR 50.82(a)(7) notifications will be submitted under a 10 CFR 2.390 request for withholding.

Based on the revised Decommissioning Activities Schedule submitted to the NRC in Reference (e), MARAD determined that no 10 CFR 50.82(a)(7) notification (change to the content of the PSDAR, particularly the decommissioning schedule) was required during CY 2014.

6.0 TIME REMAINING TO COMPLETE DECOMMISSIONING

As of December 3, 2014, 43 years of protective storage had elapsed; more than two-thirds of the allowed 60-year protective storage period.

7.0 REFERENCES

- a. Regulatory Guide 1.159, *Assuring the Availability of Funds for Decommissioning Nuclear Reactors*, Revision 1, October 2003
- b. Letter from Mr. Erhard W. Koehler (MARAD) to U.S. Nuclear Regulatory Commission (NRC), dated December 11, 2008, *Submittal of Post Shutdown Decommissioning Activities Report*, Revision 1

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- c. NRC Regulatory Issue Summary 2014-12: *Decommissioning Fund Status Report Calculations—Update To Low-Level Waste Burial Charge Information*, October 14, 2014
- d. Letter from Mr. Erhard W. Koehler (MARAD) to U.S. Nuclear Regulatory Commission, dated February 28, 2015, *Annual Report for CY2014, Revision 0*
- e. Letter from Mr. Erhard W. Koehler (MARAD) to U.S. Nuclear Regulatory Commission, dated March 31, 2011, *Submittal of Decommissioning Funds Status Report for CY 2010 and updated Governmental Statement of Intent for Decommissioning Financial Assurance*
- f. Letter from Mr. Erhard W. Koehler (MARAD) to U.S. Nuclear Regulatory Commission, dated March 9, 2011, *Response to Receipt of Decommissioning Funds Status Update (CY 2009) for N.S. SAVANNAH*
- g. Letter from Mr. Erhard W. Koehler (MARAD) to U.S. Nuclear Regulatory Commission, dated June 04, 2010, *Submittal of Decommissioning Funds Status Update for CY 2009 and Governmental Statement of Intent for Decommissioning Financial Assurance*