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

Office of Ship Operations

1200 New Jersey Ave., SE
Washington, DC 20590

Ref: 10 CFR 50.82, 50.90 and 51.53

May 21, 2024

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 CR-137, *Supplemental Environmental Assessment and Finding of No Significant Impact*

References:
(a) Letter from Mr. Erhard W. Koehler (MARAD) to U.S. Nuclear Regulatory Commission, dated October 3, 2008, *Submittal of Finding of No Significant Impact and Environmental Assessment*
(b) Letter from Mr. Erhard W. Koehler (MARAD) to U.S. Nuclear Regulatory Commission, dated October 23, 2023, *Submittal and Request for Approval of the License Termination Plan*

The Maritime Administration hereby submits CR-137, *Supplemental Environmental Assessment and Finding of No Significant Impact*. This submittal is a supplement to Reference (a) and supports NRC review of Reference (b).

This submittal contains no new Regulatory Commitments.

If there are any questions or concerns with any issue discussed in this submittal, please contact me at: O: (202) 366-2631, M: (410) 776-8268, and/or e-mail me at erhard.koehler@dot.gov.

Respectfully,

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

Enclosure

NMSS01
NMSS

Docket No. 50-238; License NS-1; N.S. *SAVANNAH*
Submittal of Submittal of CR-137, *Supplemental Environmental Assessment and Finding of No Significant Impact*
May 21, 2024

Enclosure:

1. Submittal of CR-137, *Supplemental Environmental Assessment and Finding of No Significant Impact*

cc:

Electronic copy
NSS ESC
NSS SRC

MAR 610, 612, 615

Hardcopy, cover letter only
MAR-600, 640, 640.2

Hardcopy with all enclosures
MAR-100, 640.2 (rf)
USNRC (Tanya Hood, Andrew Taverna)
USNRC Regional Administrator - NRC Region I
MD Department of the Environment (Eva Nair)

EWK/jmo

U.S. Department
of Transportation

**Maritime
Administration**

Office of Ship Operations

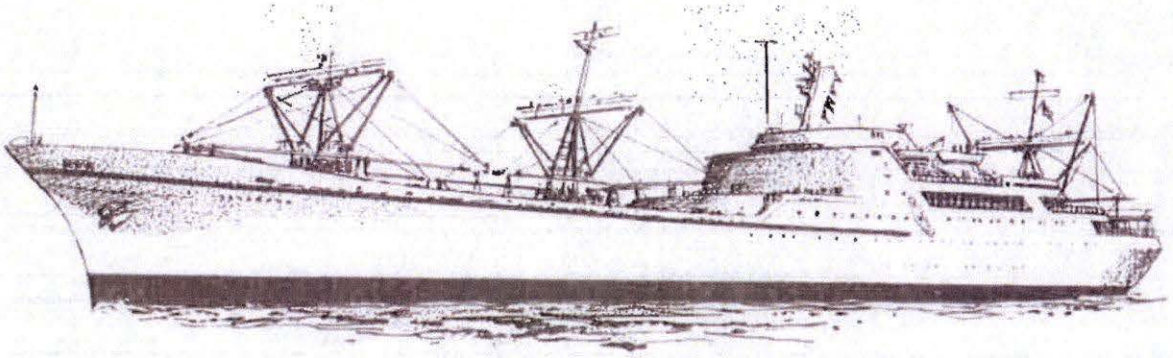
1200 New Jersey Ave., SE
Washington, DC 20590

Docket No. 50-238; License No. NS-1; N.S. *SAVANNAH*

Enclosure 1 to Submittal of CR-137, *Supplemental Environmental Assessment and Finding of No Significant Impact*

CR-137 *SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT*

U.S. Department of Transportation
Maritime Administration



ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

CR-137

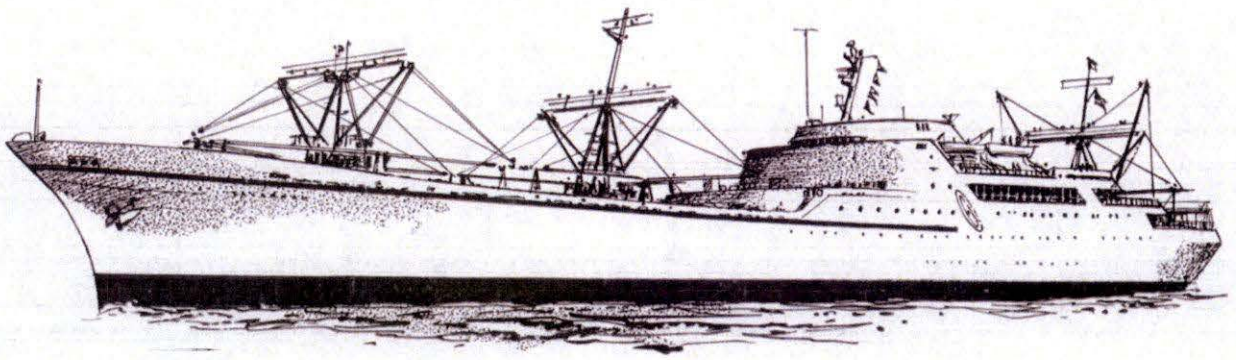
Prepared By
MARAD

MARAD Accepted: 01/06/2021

Name Title Date

This Report is being delivered to MARAD in accordance with the current contract.

U.S. Department of Transportation
Maritime Administration



ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

CR-137

Prepared By
MARAD

MARAD Accepted: _____

Name Title Date

This Report is being delivered to MARAD in accordance with the current contract.

FOREWORD

This document, Contractor Report (CR)-137, is a supplement to CR-106, *Environmental Assessment and Finding of No Significant Impact*. Even though CR-137 was written by MARAD, it will be classified as a Contractor Report in order to keep it grouped with CR-106. Note that while CR-106 was actually written by Volpe National Transportation Systems Center, a MARAD contractor, it was incorrectly assigned as written by MARAD.

FINAL
Environmental Assessment
Decommissioning of
Nuclear Ship SAVANNAH

April 2019

Prepared by the
U.S. DOT Maritime Administration

Finding of No Significant Impact

U. S. DEPARTMENT OF TRANSPORTATION MARITIME ADMINISTRATION

FINDING OF NO SIGNIFICANT IMPACT (FONSI) FOR THE DECOMMISSIONING OF THE NUCLEAR POWER PLANT ONBOARD THE NUCLEAR SHIP SAVANNAH (NSS)

Pursuant to the Council on Environmental Quality (CEQ) regulations, 40 *Code of Federal Regulations* (C.F.R.) §§ 1500-1508, implementing procedural provisions of the National Environmental Policy Act (NEPA), DOT Order 5610.1C and Maritime Administrative Order MAO 600-1, the Maritime Administration (MARAD) gives notice that a Supplemental Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) have been prepared for the decommissioning of the nuclear power plant onboard the Nuclear Ship SAVANNAH (NSS), which is currently moored in Baltimore, Maryland and that an Environmental Impact Statement (EIS) is not being prepared.

Background: NSS has been inactive since being defueled in 1971 and is in a state of mothballed protective storage, as a monitored deactivated defueled nuclear plant, since 1976. MARAD has no anticipated current or future need for the vessel or onboard reactor. NSS is located at Pier 13, Canton Marine Terminal in Baltimore, Maryland where it has been since 2008. NSS was listed in the National Register of Historical Places (NRHP) in 1983 and designated a National Historic Landmark in 1991 as one of the most visible and intact examples of the Atoms for Peace program.

Proposed Action: The Proposed Action would be to decommission NSS's nuclear power plant via the Nuclear Regulatory Commission's (NRC) DECON method.

The purpose of the Proposed Action is to reduce residual radioactivity to levels that allow termination of the NRC license. Low Level Radioactive Waste (LLRW) would be segregated and enclosed while still onboard the vessel, removed from the vessel via crane directly onto the transportation mode (rail, highway, barge), and transported to licensed/permitted facilities for final disposal following Federal and/or state regulations. The Proposed Action is needed now to reduce costs associated with maintaining NSS and meet the MARAD mission objective to decommission its nuclear reactor and terminate its NRC license. This project is referred to as Decommissioning-License Termination (DECON-LT). Under the provision of the Consolidated Appropriations Acts for 2017 and 2018, full funding was appropriated to MARAD to begin decommissioning, based on implementing the DECON method.

Alternatives Analyzed: The Proposed Action would be implemented at existing commercial facilities located in one of three alternative locations: (1) Baltimore, MD, the Preferred Alternative; (2) Hampton Roads, VA; and (3) Philadelphia, PA. The Supplemental EA analyzes three Proposed Action Alternatives and the No-Action Alternative.

The project sites, in Baltimore and the two other alternative locations, are located in developed areas along the waterfront and have restricted access. If MARAD decides to implement the Proposed Action, construction of new facilities and dredging would not be required because all three locations have existing infrastructure and deep water to accommodate NSS and support decommissioning.

Since the vessel is defueled, the nuclear power plant is inoperable rendering NSS incapable of self-propulsion. NSS requires the use of towing services for transit to and from a facility for

Finding of No Significant Impact

decommissioning. If necessary, MARAD would tow NSS to and from a facility as part of the decommissioning process in accordance with a U.S. Coast Guard issued certificate. The towing would meet the requirements for safety, navigation, environmental, and other safeguards. All waste transportation and disposal activities would be conducted in compliance with applicable Federal and state environmental laws.

If the Government is unable to award a contract, the No-Action Alternative would result by default. 10 C.F.R. 50.82(a)(3) provides the regulatory requirement for decommissioning within 60 years of the plant ceasing operation. NSS will be regulated until the license is terminated. The No-Action Alternative includes continuous berthing of NSS at Baltimore and MARAD's continued environmental liabilities and costs associated with continuing to maintain the vessel in a protective storage condition. The No-Action Alternative does not meet MARAD's mission objectives and may result in future significant unplanned and unbudgeted expense.

Environmental Effects: The Supplemental EA presents a review and analysis of the potential environmental impacts associated with the three Proposed Action Alternative locations, as well as the No-Action Alternative. Impacts to relevant resources that were evaluated include water resources, biological resources, air quality, waste management, and health and safety. The environmental consequences associated with implementation of the Proposed Action and the No-Action Alternative are compared below in Table 1.

Table 1. Summary of Impacts

Resource Area	Baltimore, MD, Preferred Alternative	Hampton Roads, VA, Alternative	Philadelphia, PA, Alternative	No-Action Alternative
Water Resources	Minimal adverse impacts	Minimal adverse impacts	Minimal adverse impacts	No significant impacts
Biological Resources	• No reasonably foreseeable takes are expected for marine mammals. • No effect on Essential Fish Habitat.	• No reasonably foreseeable takes are expected for marine mammals. • No effect on Essential Fish Habitat.	• No reasonably foreseeable takes are expected for marine mammals. • No effect on Essential Fish Habitat.	No significant impacts
Air Quality	Insignificant temporary impacts	Insignificant temporary impacts	Insignificant temporary impacts	No impacts
Waste Management	No significant impacts	No significant impacts	No significant impacts	No impacts
Health and Safety	No significant impacts	No significant impacts	No significant impacts	No impacts

The Proposed Action would not adversely affect these resources other than the vessel itself, due to listing on the National Register of Historic Places. Through consultation with the NRC, the National Park Service, the Advisory Council on Historic Preservation, and the Maryland Historical

Finding of No Significant Impact

Trust, which serves as the State Historic Preservation Officer, a Programmatic Agreement will be implemented as mitigation efforts for DECON-LT. MARAD is in the process of finalizing the details of the PA, which will formally document the agreed upon mitigation measures required for Section 106 compliance. This EA demonstrated that implementation of any one of the Proposed Action Alternatives would result in no significant impacts to human health or the environment.

Preferred Alternative: The Proposed Action would comply with all Federal and state regulations, guidelines, and agreements. All Proposed Action Alternatives are environmentally equal. However, Baltimore, MD is the Preferred Alternative because the vessel is already there and may not need towing. There would be minor differences with respect to towing distances and waste transportation and disposals depending on the alternatives. However, none of the differences would produce significant impacts.

Finding: Based on information gathered and analyzed within the Supplemental EA, MARAD finds that implementing the Proposed Action will not significantly impact the quality of the natural or human environment; therefore, an EIS is not required.

Conclusion and Approval: After careful and thorough consideration of the facts contained herein, and in the Supplemental EA, the undersigned finds that the proposed federal action is consistent with existing national environmental policies and objectives set forth in Section 101(a) of NEPA and that it will not significantly affect the quality of the human environment of otherwise include any condition requiring consultation pursuant to Section 102(2)(c) of NEPA. Therefore, a FONSI is warranted, and preparation of an EIS, pursuant to NEPA is not required. This FONSI is based on the attached Supplemental EA, which has been independently evaluated by MARAD and determined to adequately and accurately discuss the environmental issues and impacts of the proposed project. MARAD takes full responsibility for the accuracy, scope, and content of the attached Supplemental EA.

Kristine Gilson		4/22/19
Reviewer	Title	Date

I have considered the information contained in the Supplemental EA, which is the basis for this FONSI. Based on the information contained in the Supplemental EA, and this FONSI document, I agree that the Proposed Action as described above, and in the Supplemental EA, will have no significant impact on the environment.

	Assoc. Admr. for Env. & Compliance (Acting)	4/22/19
Authorizing Signature	Title	Date

No Legal Objection:

	Chief Counsel	4/22/19
Signature	Title	Date

EXECUTIVE SUMMARY

Purpose and Need

This Supplemental Environmental Assessment (EA) contains an evaluation of the potential environmental impacts resulting from the Department of Transportation Maritime Administration (MARAD)'s decommissioning of the Nuclear Ship SAVANNAH's (NSS's) nuclear power plant utilizing the Nuclear Regulatory Commission's (NRC) DECON method. This Supplemental EA presents an analysis of the potential environmental consequences that may result from implementation of the alternatives for proposed decommissioning actions and all reasonably foreseeable, connected actions. The Supplemental EA identifies and analyzes potential effects on the natural and human environment in sufficient detail to determine the significance of impacts on the affected environment so that a preferred alternative and location may be selected and the decommissioning of NSS's nuclear power plant may be implemented. Upon completion of the decommissioning, the NRC license (NS-1, Docket 50-238) will be terminated and the vessel will be released to MARAD to pursue vessel disposal opportunities. This project is referred to as Decommissioning-License Termination (DECON-LT).

MARAD has prepared this Supplemental EA in accordance with The National Environmental Policy Act (NEPA) of 1969; the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 C.F.R. §§ 1501-1508); 42 U.S.C. §§ 4321-4370f; and Maritime Administrative Order MAO 600-1.

NSS has been inactive since being defueled in 1971 and has been in a state of mothballed protective storage, as a monitored deactivated defueled nuclear plant, since 1976. NSS is located at Pier 13, Canton Marine Terminal in Baltimore, MD where it has been since 2008. Under the provision of the Consolidated Appropriations Acts for 2017 and 2018, funding was appropriated to MARAD to begin decommissioning, based on implementing DECON-LT. The Proposed Action is needed now to reduce costs associated with maintaining NSS and meet the MARAD mission objective to decommission its nuclear power plant and terminate its NRC license.

NSS was listed in the National Register of Historical Places (NRHP) in 1983 and designated a National Historic Landmark (NHL) in 1991 as one of the most visible and intact examples of the Atoms for Peace program. MARAD initiated the National Historic Preservation Act (NHPA) Section 106 consultation with the NRC, the National Park Service, the Advisory Council on Historic Preservation, and the Maryland Historical Trust, which serves as the State Historic Preservation Office (SHPO). The consultation has been handled separately from, but coordinated with, this Supplemental EA.

Description of Proposed Action and Alternatives

The purpose of the Proposed Action is to reduce residual radioactivity to levels that allow termination of the NRC license. Low Level Radioactive Waste (LLRW) would be segregated and enclosed while still onboard the vessel, removed from the vessel via crane directly onto the transportation mode (rail, highway, barge), and transported to licensed/permitted facilities for final disposal following Federal and/or state regulations.

DECON-LT is expected to be completed by the end of 2024. The project would be completed in three phases. Phase 1 includes pre-decommissioning planning, engineering, hazardous materials abatement, infrastructure preparation, and license amendment actions (which would be completed at the current berthing site) that takes about two years. Phase 2 includes the removal

of the systems, structures, and components related to the nuclear power plant and disposal of these items at licensed radioactive waste disposal facilities in the United States, which takes about four years. Phase 3 includes a final status and confirmatory survey conducted by the NRC with license termination, which can take up to one year and may be conducted at an alternate location from the decommissioning site.

Phase 2 of the Proposed Action would be implemented at existing commercial facilities located in one of three alternative locations: (1) Baltimore, MD, the Preferred Alternative; (2) Hampton Roads, VA; and (3) Philadelphia, PA. These alternative locations were identified during an Alternative Location Screening Analysis which eliminated other locations which did not meet a series of screening criteria. The Supplemental EA analyzes the three Proposed Action Alternatives and the No-Action Alternative.

All three Proposed Action Alternatives are located in developed areas along the waterfront and have restricted access. If MARAD decides to implement the Proposed Action, construction of new facilities and dredging would not be required because all three locations have existing infrastructure and deep water to accommodate NSS and support decommissioning of its nuclear power plant.

Since the vessel is defueled, the nuclear power plant is inoperable rendering NSS incapable of self-propulsion. NSS requires the use of towing services for transit to and from two of the three decommissioning alternative locations. NSS would be towed if necessary, in accordance with a U.S. Coast Guard issued certificate. The towing would meet the requirements for safety, navigation, environmental, and other safeguards. All waste transportation and disposal activities would be conducted in compliance with applicable Federal and state environmental laws.

If the Government is unable to award a contract, the No-Action Alternative would result by default. NSS will be regulated until the license is terminated. The No-Action Alternative includes continuous berthing of NSS at Baltimore, MD and MARAD's continued environmental liabilities and costs associated with continuing to maintain the vessel in a protective storage condition. The No-Action Alternative does not meet MARAD's mission objectives and may result in future significant unplanned and unbudgeted expense.

Affected Environment and Environmental Consequences

The Supplemental EA presents a review and analysis of the potential environmental impacts associated with the three Proposed Action Alternative locations, as well as the No-Action Alternative. Impacts to relevant resources that were evaluated include water resources, biological resources, air quality, waste management, and health and safety. Due to the fact that NSS would be towed and decommissioned at a commercial facility with no construction required and with controlled and limited access, the project would have no impact on land use, geology, soils and seismicity, socioeconomics and environmental justice, transportation, noise, utilities, aesthetics or visual resources. The environmental consequences associated with implementation of the Proposed Action and the No-Action Alternative are compared below in Table 1.

Table 1. Summary of Impacts

Resource Area	Baltimore, MD, Preferred Alternative	Hampton Roads, VA, Alternative	Philadelphia, PA, Alternative	No-Action Alternative
Water Resources	Minimal adverse impacts	Minimal adverse impacts	Minimal adverse impacts	No significant impacts
Biological Resources	• No reasonably foreseeable takes are expected for marine mammals. • No effect on Essential Fish Habitat.	• No reasonably foreseeable takes are expected for marine mammals. • No effect on Essential Fish Habitat.	• No reasonably foreseeable takes are expected for marine mammals. • No effect on Essential Fish Habitat.	No significant impacts
Air Quality	Insignificant temporary impacts	Insignificant temporary impacts	Insignificant temporary impacts	No impacts
Waste Management	No significant impacts	No significant impacts	No significant impacts	No impacts
Health and Safety	No significant impacts	No significant impacts	No significant impacts	No impacts

Cumulative Impacts

Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 C.F.R. § 1508.7). To be considered cumulative impacts, the effects must meet the following criteria: the effects would occur in a common locale or region; the effects would not be localized (i.e., they would contribute to effects of other actions); the effects would impact a particular resource in a similar manner; and the effects would be long term (short-term impacts are temporary and would not typically contribute to significant cumulative impacts). To analyze cumulative impacts, a region must be identified for which the Proposed Action and other past, proposed, and reasonably foreseeable actions would be cumulatively recorded or experienced. The cumulative impacts analysis considers impacts arising from the Proposed Action for each Proposed Action Alternative location combined with the impacts of other known past, present, and reasonably foreseeable future actions within each region. Other projects that are ongoing in all three regions are generally larger in scope than the Proposed Action, and have their own environmental analysis. These ongoing projects would potentially have a more significant impact on each Proposed Action Alternative location area than the DECON-LT. No significant cumulative effects were identified.

Other Considerations Required by NEPA

This EA evaluated other considerations required by NEPA including: compliance with Federal acts, executive orders, policies, and plans; coordination with state and regional agencies; compliance with applicable state, local, and regional plans, policies, and controls; and evaluation of energy requirements and conservation potential, irreversible or irretrievable commitment of natural or depletable resources, and the relationship between short-term use of the environment

and the impacts that such use could have on the maintenance and enhancement of long-term productivity of the affected environment. This EA demonstrated that implementation of the Proposed Action would comply with existing Federal, state, regional, and local regulations, policies, and programs and would not result in any significant immitigable impacts other than those that will be stipulated in the Programmatic Agreement.

Conclusion

This EA demonstrated that implementation of any one of the Proposed Action Alternatives would result in no significant impacts to human health or the environment. The Proposed Action would not adversely affect these resources other than the vessel itself, due to its NRHP listing. Through consultation with the NRC, the National Park Service, the Advisory Council on Historic Preservation, and the Maryland Historical Trust, which serves as the SHPO, a Programmatic Agreement will be implemented as mitigation efforts for DECON-LT. MARAD is in the process of finalizing the details of the PA, which will formally document the agreed upon mitigation measures required for Section 106 compliance.

The Proposed Action would comply with all Federal and state regulations, guidelines, and agreements. All Proposed Action Alternatives are environmentally equal. However, Baltimore, MD is the Preferred Alternative because the vessel is already there and may not need towing. There would be minor differences with respect to towing distances and waste transportation and disposals depending on the alternatives. However, none of the differences would produce significant impacts. Based on the findings from this EA, a FONSI has been prepared.

TABLE OF CONTENTS

List of Appendices

ACRONYMS AND ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing material
AQCR	Air Quality Control Region
CAA	Clean Air Act
CATEX	Categorical Exclusion
CEQ	Council on Environmental Quality
C.F.R.	Code of Federal Regulations
Ci	Curie
cm^2	square centimeter
CMP	Coastal Management Program
CO	carbon monoxide
CO_2	carbon dioxide
COMAR	Code of Maryland Regulations
CWA	Clean Water Act
CWF	Compact Waste Facility
cy	cubic yards
CZMA	Coastal Zone Management Act
DDE	dichlorodiphenyldichloroethylene
DDT	dichlorodiphenyltrichloroethane
DECON-LT	Decommissioning-License Termination
DEM	Department of Environmental Management
DEQ	Department of Environmental Quality
DEP	Department of Environmental Protection
DHR	Department of Historic Resources
DO	dissolved oxygen
DOE	Department of Energy
DOT	Department of Transportation
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
ELMR	Estuarine Living Marine Resources
EO	Executive Order
EPA	United States Environmental Protection Agency
ERL	Environmental Research Laboratories
ESA	Endangered Species Act
FERC	Federal Energy Regulatory Commission
FONSI	Finding of No Significant Impact
FR	Federal Register
ft	feet
ft^2	square feet
FWF	Federal Waste Facility
GEIS	Generic Environmental Impact Statement
h	hour

HAPC	Habitat Areas of Particular Concern
km	kilometer
kph	kilometers per hour
LBP	lead based paint
lbs	pounds
LLRW	Low Level Radioactive Waste
LNG	Liquefied natural gas
m	meter
m2	square meter
MAFMC	Mid-Atlantic Fishery Management Council
MAIA	Mid-Atlantic Integrated Assessment
MARAD	Maritime Administration
MBTA	Migratory Bird Treaty Act
MD	Maryland
MDE	Maryland Department of the Environment
MDNR	Maryland Department of Natural Resources
mm	millimeter
MMPA	Marine Mammal Protection Act
mph	miles per hour
MW	megawatt
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NOx	nitrogen oxides
NOAA	National Oceanic and Atmospheric Administration
NPL	National Priorities List
NRC	United States Nuclear Regulatory Commission
NRHP	National Register of Historic Places
NSPS	New Source Performance Standards
NUREG	NRC Regulatory Guidance
O_3	Ozone
OSHA	Occupational Safety and Health Administration
OTR	Ozone Transport Region
PA	Pennsylvania
PADEP	Pennsylvania Department of Environmental Protection
PAH	Polycyclic Aromatic Hydrocarbons
Pb	lead
PCB	polychlorinated biphenyl
PEL	Probable Effects Level
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
ppm	parts per million

ppt	parts per thousand
RCRA	Resource Conservation and Recovery Act
RONA	Record of Non-Applicability
RPV	Reactor Pressure Vessel
SAFSTOR	Safe Storage
SAV	Submerged Aquatic Vegetation
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO_2	sulfur dioxide
SO_x	sulfur oxides
STS	Savannah Technical Staff
T&E	Threatened and Endangered
TEL	Threshold Effects Level
TMDL	Total maximum daily loads
UFC	Unified Facilities Code
U.S.	United States
U.S.C.	United States Code
USGS	United States Geological Survey
USFWS	United States Fish and Wildlife Service
VA	Virginia
VDH	Virginia Department of Health
VHWMR	Virginia Hazardous Waste Management Regulations
VOC	volatile organic compound
VSWMR	Virginia Solid Waste Management Regulations
WAC	Waste Acceptance Criteria
WCS	Waste Control Specialists
$\mu g/m^3$	micrograms per cubic meter
µR	micro-Roentgens

1. PURPOSE AND NEED

1.1 Introduction

This supplemental Environmental Assessment (Supplemental EA) contains an evaluation of the potential environmental impacts resulting from the Department of Transportation Maritime Administration (MARAD)'s decommissioning of Nuclear Ship SAVANNAH's (NSS's) nuclear power plant utilizing the Nuclear Regulatory Commission's (NRC) DECON method. NSS is currently berthed in the Port of Baltimore, Maryland under a long-term lay-berth contract with Canton Marine Terminal (see Figure 1.1 in Appendix A).

NSS has been moored at this location since 2008. In March 2008, MARAD completed a Final Environmental Assessment and Finding of No Significant Impact (Report No. STS-106) (FEA/FONSI), which analyzed the environmental impacts of decommissioning of the NSS's nuclear power plant via the DECON, SAFSTOR, and ENTOMB options described in the NRC Generic Environmental Impact Statement (GEIS) on the decommissioning of nuclear facilities. The FEA/FONSI does not identify a preferred alternative for decommissioning the NSS and notes that appropriate facilities need to be identified and selected to complete the decommissioning of its nuclear power plant. The FEA/FONSI also recognizes that a supplemental, site-specific environmental review is necessary to complete the NSS decommissioning of its nuclear power plant process. This Supplemental EA presents an analysis of the potential environmental consequences that may result from implementation of the alternatives for proposed decommissioning actions and all reasonably foreseeable, connected actions. The Supplemental EA identifies and analyzes potential effects on the natural and human environment in sufficient detail to determine the significance of impacts on the affected environment.

This Supplemental EA has been prepared by MARAD in accordance with The National Environmental Policy Act (NEPA) of 1969; the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 C.F.R. §§ 1501-1508); 42 U.S.C. §§ 4321-4370f; and Maritime Administrative Order MAO 600-1.

The action proponent and lead agency for the Proposed Action is MARAD. There are no cooperating agencies for the preparation of this Supplemental EA.

1.2 Project Location

NSS is currently moored at Pier 13, Canton Marine Terminal in Baltimore, MD. Portions of this project may take place at another location or locations. MARAD would tow NSS, if necessary, to a facility to complete decommissioning via a contractor that would be responsible for the segregation of wastes and decommissioning to support license termination. Low Level Radioactive Waste (LLRW) would be enclosed, removed and transported to the final disposal location following Federal and/or state regulations further described in Section 2.1. When the decommissioning is completed, the NRC license (NS-1, Docket 50-238) will be terminated; this project is referred to as Decommissioning-License Termination (DECON-LT).

MARAD Savannah Technical Staff has procedures for waste management for the Proposed Action and potential impacts are discussed in Chapter 3. There is adequate space on NSS for all waste processing and packaging then removal via crane straight to the transportation mode (rail, highway, barge) to a waste disposal facility in the United States. Of the three options outlined in Section 2.2.1, this option would minimize the handling of the waste and the potential

environmental effects and be most efficient. Potential decommissioning locations were screened and the sites determined to be the most feasible were evaluated as Proposed Action Alternatives. Possible locations for proposed decommissioning operations are described in Section 2.2 Alternatives. It is important to note that the alternative locations represent a range of viable locations that could be selected to complete the Proposed Action.

1.3 Vessel History

NSS was removed from service in 1970; the reactor was defueled in 1971; and MARAD determined not to refuel and reactivate it in 1973. These actions were retroactively declared a permanent cessation of operations, with an effective date of December 3, 1971. NSS has been in a state of mothballed protective storage since 1976. In 2006, MARAD started exploring the DECON option, as well as SAFSTOR, as a means to terminate its NRC license. The FEA/FONSI was completed in 2008 analyzing the environmental impacts of the available decommissioning options. Ultimately, the decision was made to keep the NSS in protective storage and in 2008 the NSS was drydocked for maintenance and berthed in Baltimore, MD until funding was appropriated for decommissioning. 10 C.F.R. 50.82(a)(3) provides the regulatory requirement for decommissioning (license termination) within 60 years of the plant ceasing operation. The license termination deadline is this December 3, 2031. The NSS will be regulated until the license is terminated.

NSS was listed in the National Register of Historical Places (NRHP) in 1983 and designated a National Historic Landmark (NHL) in 1991 as one of the most visible and intact examples of the Atoms for Peace program. MARAD initiated the National Historic Preservation Act (NHPA) Section 106 consultation with the NRC, the National Park Service, the Advisory Council on Historic Preservation, and the Maryland Historical Trust, which serves as the State Historic Preservation Office (SHPO). MARAD also invited non-government consulting parties (see Appendix B) to participate in the Section 106 process. The consultation has been handled separately from, but coordinated with, this Supplemental EA.

1.4 Purpose of and Need for the Proposed Action

Under the provision of the Consolidated Appropriations Acts for 2017 and 2018, funding was appropriated to MARAD to begin decommissioning, based on implementing the DECON method. The purpose of this Supplemental EA is to analyze specific alternatives and locations for completing the decommissioning work via DECON-LT such that a preferred alternative and location may be selected and the DECON-LT of the NSS may be implemented. Since MARAD has received the required funding, decommissioning needs to occur as soon as possible.

The Proposed Action meets the decommissioning objectives of protecting the environment and human health and doing so with available equipment and resources. The Proposed Action will comply with the applicable regulatory requirements for decommissioning identified in 10 C.F.R. 50.59, 10 C.F.R. 50.82, the NS-1 License (hereinafter "license") and its appended Technical Specifications.

1.5 Resource Analysis

This Supplemental EA documents MARAD's evaluation and assessment of the potential environmental impacts associated with the decommissioning of NSS's nuclear power plant. The NEPA, CEQ regulations, and MARAD's procedures for implementing the NEPA specify that an EA should only address those resource areas potentially subject to impacts. In addition, the level of analysis should be commensurate with the anticipated level of environmental impact. The

proposed Federal action would not be expected to involve major construction activities at the alternative locations, there would only be minor alterations to the NSS itself to aid in decommissioning actions.

Environmental resources potentially affected by the Proposed Action and all reasonably foreseeable actions to be evaluated in this Supplemental EA include:

- Water Resources
- Biological Resources
- Air Quality
- Waste Management
- Health and Safety

Because the vessel would be towed to, if needed, and then it's nuclear power plant decommissioned at a commercial facility, actions would take place on coastal land with controlled and limited access, and because no major construction or modifications to facilities are anticipated, the resources that are not evaluated in detail in this Supplemental EA are:

- Cultural Resources - There would be no effects to cultural resources at any industrial facility; Section 106 for the vessel is ongoing in a separate coordinated action.
- Land Use - There would be no change in land use as a result of the Proposed Action.
- Geology, Soils and Seismicity - There would be no effects to these resources.
- Aesthetics and Visual Resources - The vessel does not have aesthetic value that would be negatively affected. The Proposed Action does not have an effect on the existing visual character or quality of the possible decommissioning sites and their surroundings.
- Socioeconomics - The project would not have a negative effect on the state, local and regional economy, housing, or community services.
- Environmental Justice – This addresses environmental and human health conditions in minority and low-income communities; the Proposed Action would occur at an existing facility and would not require construction of new facilities within minority or low income communities. Waste disposal routes are discussed in Chapter 3 and would not have an impact on environmental justice. Thus, environmental justice concerns are not applicable.
- Transportation - The Proposed Action would not result in increased traffic or number of personnel at the vessel's current location or the decommissioning facilities' locations; waste transportation is part of decommissioning and discussed under waste management.
- Noise - The Proposed Action is considered a routine vessel movement and the decommissioning of its nuclear power plant would not generate any noise above and beyond what is routinely generated at these facilities.
- Utilities - There is no need to provide additional utilities for the Proposed Action.
- Emergency Services - There would be no effect on emergency services resulting from the Proposed Action.
- Wetlands and floodplains - The Proposed Action would not affect wetlands or floodplains.

As part of the NEPA compliance process, MARAD has notified, or informally consulted with, potentially interested local, state and Federal stakeholders, including the following: U.S. Fish and Wildlife Service (USFWS), and National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS). A notice of intent letter and correspondence with

these agencies are included in Appendix B. The Proposed Action will not have an impact on any coastal use or natural resource of the coastal zone.

2. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

The Proposed Action considered in this Supplemental EA is the decommissioning of NSS's nuclear power plant via DECON-LT activities performed solely on the vessel, through an integrated support contractor at one of three locations: Baltimore, MD; Hampton Roads, VA; or Philadelphia, PA. MARAD would tow NSS, if necessary, to, and potentially back from, a facility in accordance with a U.S. Coast Guard issued Load Line Exemption Certificate. MARAD will decommission the NSS nuclear power plant and associated components, segregate wastes, and transport wastes for disposal in accordance with applicable permits, licenses, and Federal, state and local laws and regulations. The decommissioning of the NSS nuclear power plant shall comply with NRC requirements in 10 C.F.R 20, Standards for Protection Against Radiation, 10 C.F.R. 50.59, 10 C.F.R. 50.82, the License and Technical Specifications.

If MARAD decides to implement the Proposed Action, no major construction of new facilities would be anticipated. Moreover, no dredging would be required and there is no seasonal towing restriction.

In addition to decommissioning, NSS is scheduled for its ABS routine drydock in 2019, which will include, at a minimum, surveys of the ship's exterior and underwater hull.

DECON-LT is expected to be completed by the end of 2024. The project is described below.

There are three phases to the project work. Phase 1 includes pre-decommissioning planning, engineering, hazardous materials abatement, infrastructure preparation, and license amendment actions (which would be completed at the current berthing site) that takes about two years. Much of the activities included in the Phase 1 apply to both DECON and SAFSTOR decommissioning options and are not location specific; therefore, the environmental impacts of those activities were analyzed under the 2008 FEA/FONSI. Phase 2 includes the removal of the systems, structures, and components related to the nuclear power plant and disposal of these items at licensed radioactive waste disposal facilities, which takes about four years. Phase 2 activities may take place in one of the three cities analyzed in this EA and could require towing. Phase 3 includes a final status and confirmatory survey conducted by the NRC with license termination, which can take up to one year and may be conducted at an alternate location from the decommissioning site.

There are some vessel modifications needed in cargo holds 3 and 4 to support the decommissioning of its nuclear power plant. Cargo hold 4 will be used for waste receiving, segregation and packaging and work includes removing tween deck hatch leaves, trunking the hatch square, and establishing two ventilation systems; one for slightly negative pressure (dirty), and one for work space outside the hatch trunks (clean). Cargo hold 3 work involves installing a door into cargo hold 4 at the tank top for additional waste packaging spaces, sealing the D Deck hatch as a ventilation boundary, and using the space on B and C Decks for "blue collar" work space (the clean ventilation system extends here).

Decommissioning

Decommissioning procedures may vary slightly among facilities. The following general description is the basis for the analysis in Chapter 3.

According to the NRC's Consolidated Decommissioning Guidance NUREG-1757, decommissioning means to safely remove a facility or site from service and reduce residual radioactivity to a level that permits termination of the license. This process involves waste removal, transport and disposal.

It is anticipated that three low level radioactive waste categories would be generated during decommissioning activities: solid radioactive waste, liquid radioactive waste, and mixed waste. The radioactive potential contaminants of concern are primarily in the form of activation and corrosion products. All radioactive materials above guidance limits would be removed. The reactor pressure vessel (RPV) and ancillary components (e.g. piping, valves, pumps) within the containment vessel would be disconnected and removed piece by piece. It is anticipated that the RPV would remain intact and removed as one piece. The components would be enclosed in DOT approved containers for appropriate transport to an approved waste disposal site.

The LLRW material removed would be transported to a disposal location via secure methods and routes typically used to ship low-level radioactive waste. The NRC, DOT, and Department of Energy (DOE) regulate the transport and disposal of radioactive waste, and have specific regulations for shipping and planning for potential accidents. Trucks and tractor-trailers, as well as railways and barges, are typically used to transport low-level radioactive wastes, and are placarded to comply with DOT requirements to indicate that hazardous materials are contained within the waste packages. Waste transporters are trained and licensed for the safe handling and transport of these materials. Local agencies and states have emergency response plans in place in case of accidents.

The radioactive waste removed from NSS would be disposed of according to Federal regulations and applicable state regulations at an approved facility. The NRC, DOE, EPA and individual states govern the operations of waste disposal sites to protect human health and the environment. Potential licensed commercial waste sites capable of receiving NSS waste include: EnergySolutions facility in Clive, Utah and Waste Control Specialists (WCS) in Texas. WCS operates both a Compact Waste Facility (CWF) and a Federal Waste Facility (FWF).

The NSS decommissioning process is described in MARAD's 2008 Post Shutdown Decommissioning Activities Report (PSDAR), Rev 1. The current condition and configuration of the NSS nuclear power plant is described in MARAD's current (2017, and updated biennially) Updated Final Safety Analysis Report (UFSAR), Revision IX. Additionally, the proposed decommissioning of NSS will comply with the applicable requirements of 10 C.F.R 20.1402, 10 C.F.R. 50.59, 10 C.F.R. 50.82, the License and Technical Specifications.

2.2 Alternatives

2.2.1 Waste Management Activities

Nuclear power plant decommissioning waste management activities could potentially occur in three ways:

1. Solely on the vessel;
2. Solely in a land-based facility adjacent to the vessel;
3. Partially on the vessel and partially in a land based facility as necessary.

However, the NRC license applies to the entire NSS vessel and waste management actions done within the vessel. Option 1 is the only method that is covered by the existing license and it would also minimize the handling of the waste and the potential environmental effects and be

most efficient. Option 2 and 3 would require NSS license amendments approved by the NRC and involve multiple waste handling activities in the physical environment outside of the NSS, which would increase the potential for environmental effects. As discussed in Section 1.2 regarding adequate space on the vessel and the reasons mentioned above, Option 1 was chosen for all waste management activities. Options 2 and 3 are not viable for NSS and will not be further discussed in this Supplemental EA.

2.2.2 Locations for Phase 2

Twelve years ago, MARAD began exploring options to decommission NSS's nuclear power plant at existing industrial facilities along the East and Gulf Coast by taking into account facility availability and multiple waste types. Facilities were investigated that would have the ability to host decommissioning of the vessel's nuclear power plant with respect to adequate facility size, crane capacity and other equipment.

The waste management activities discussed above may be implemented at commercial facilities located in one of three alternative locations: (1) Baltimore, MD, the Preferred Alternative; (2) Hampton Roads, VA; and (3) Philadelphia, PA.

The No-Action Alternative for this Proposed Action is that NSS's nuclear power plant would not be decommissioned and the vessel would remain in Baltimore, MD in protective storage. These alternative locations are shown in the Project Area Map (Figure 2.4 in Appendix A).

Alternative Location Screening Analysis

NSS has the following characteristics, which were considered in the screening analysis:

Length Overall: 596 feet (ft) Beam: 78.0 ft Draft: 29.5 ft

Screening criteria were developed to identify reasonable alternatives based on the purpose and need of the Proposed Action and to eliminate those that did not meet the criteria. For an alternative to be considered reasonable, it must:

- Be at an approved commercial industrial facility with sufficient infrastructure and without limitations (including extra permits) for working with radioactive materials and that is within a region that will allow for the disposal of radioactive waste at a licensed/permitted disposal facility.
- Have waterways leading up to the facility that are currently deep enough to allow NSS to be towed to the site without dredging.
- Have adequate laydown space for a 100 ton landside crane and contiguous land for decommissioning.
- Have adequate space/support for a 1000 ton crane, as either a barge-mounted shear leg derrick or a land-side polar crane.
- Have multiple transportation routes (barge, rail, highway) for waste transport.
- Remote access and no residential area within one mile (preferred).
- Preferably be geographically close to Baltimore, MD to minimize potential environmental impacts from long-distance open-ocean towing.

Alternatives Considered but Eliminated

Whales (as discussed in Section 3.2) are rare visitors to the Chesapeake Bay and port, but the area outside of the Bay and farther offshore in open ocean are high use areas, especially during migration. Potential impacts to whales, sea turtles and manatees are much greater for open ocean tows.

The following alternative locations were considered for NSS but ultimately eliminated from further review:

- Galveston, TX has a requirement for obtaining a Specific Use Permit for decommissioning
- Savannah, GA has poor arrangement, and no space for the largest crane needed and a lack of transportation
- New London, CT has inadequate space for required cranes and no remote access
- Wilmington, NC has inadequate space for cranes and laydown, insufficient transportation, and a lack of suitable infrastructure and industrial facility for this project
- Charleston, SC and Jacksonville, FL would require long-distance open-ocean tows that could potentially impact whales and sea turtles.

2.3 Baltimore, Maryland, Alternative

This alternative would decommission NSS at a commercial facility at or adjacent to the port of Baltimore, MD that has existing infrastructure to support decommissioning the nuclear power plant on a vessel of this size and would not require construction of any new facilities.

Baltimore, MD is on the Patapsco River at the northern end of the Chesapeake Bay. There are no navigational concerns regarding bridges with this alternative. The towing to another location in Baltimore, MD for nuclear power plant decommissioning, if necessary, meets the requirements for safety, navigation, environmental, and other safeguards.

2.4 Hampton Roads, Virginia, Alternative

This alternative would decommission NSS at a commercial facility in Hampton Roads, Virginia that has existing infrastructure to support decommissioning the nuclear power plant on a vessel of this size and would not require construction of any new facilities.

Hampton Roads incorporates the mouths of the Elizabeth River, Nansemond River, and James River with several smaller rivers and empties into the Chesapeake Bay near its mouth leading to the Atlantic Ocean. There would be no navigational concerns regarding bridges with this alternative. The towing to Hampton Roads meets the requirements for safety, navigation, environmental, and other safeguards.

2.5 Philadelphia, Pennsylvania, Alternative

This alternative would decommission NSS at a commercial facility in Philadelphia, Pennsylvania that has existing infrastructure to support decommissioning the nuclear power plant on a vessel of this size and would not require construction of any new facilities.

Philadelphia is located at the intersection of the Delaware and Schuylkill Rivers approximately 80 miles up the Delaware River from the Atlantic Ocean. The river has a depth of 40 feet and two fixed bridges with adequate overhead clearance and no navigational concerns. The towing meets the requirements for safety, navigation, environmental, and other safeguards.

2.6 No-Action Alternative

The NEPA requires that MARAD evaluate a No-Action Alternative in addition to the other reasonable alternatives that are being analyzed for potential environmental impacts. Under the No-Action Alternative, NSS's nuclear power plant would not be decommissioned and the vessel would remain in Baltimore, MD in protective storage. It would require MARAD to maintain its license with the NRC, as well as continue the regular maintenance of the vessel. The No-Action

Alternative is not consistent with NRC license termination requirements, and does not meet MARAD mission objectives to decommission their nuclear power plant and terminate their license. Therefore, this alternative is not considered reasonable.

2.7 Summary of Impacts

This Supplemental EA has determined that implementation of the Proposed Action or the No-Action Alternative would not result in significant impacts to any resource areas. The environmental consequences associated with implementation of the Proposed Action and the No-Action alternative are presented and compared in Table 2-2 of Appendix A. For a detailed description and analysis, refer to Chapter 3, Affected Environment and Environmental Consequences.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Water Resources

Water resources, including water and sediment quality in the project area, is described in existing conditions and potential environmental consequences. Surface water includes bays and estuaries, lakes and ponds, rivers and creeks, and overland precipitation runoff. Sediment quality describes the chemical and physical composition of sediment in bodies of water. For the purposes of this analysis, water and sediment quality is evaluated with respect to possible disturbances of existing conditions associated with the proposed project activities. This project is entirely in-water and all considered alternatives are at hard shorelines developed with piers and other facilities, thus no groundwater would be impacted.

3.1.1 Regulatory Setting

Water resource regulations focus on the protection of beneficial uses of water within the vicinity of the project area. The principal Federal law protecting water quality is the CWA, as amended (33 U.S.C. § 1251 et seq.), which is enforced by the U.S. EPA. Under Section 303(d) of the CWA and EPA's Water Quality Planning and Management Regulations (40 C.F.R. Part 130). States are required to develop total maximum daily loads (TMDLs) for impaired waterbodies unable to meet their designated uses. A TMDL "establishes the amount of a pollutant that a waterbody can assimilate without exceeding its water quality standard for that pollutant."

Section 307(c) of the CZMA requires that any Federal actions that would directly or indirectly affect any land or water use or natural resource of the coastal zone must be consistent to the maximum extent practicable with the state program. The states of Maryland, Pennsylvania, and Virginia have prepared Federally-approved Coastal Management Programs (CMPs).

3.1.2 Affected Environment

Baltimore, MD, Alternative

Water Quality

The water quality in the port city of Baltimore is impaired due to contamination by chlordane, polychlorinated biphenyls (PCBs), metals, low oxygen, and bacteria in tidal waters. Siltation in non-tidal waters, a consequence of urban runoff, habitat alteration, and channelization, results in the failure of some areas to meet all designated uses. Fish consumption advisories are in place for waterways in and around Baltimore, MD (MDE, 2011).

Baltimore, MD lies in the Patapsco watershed. The Patapsco River is a 39-mile-long river in central Maryland which flows into Chesapeake Bay. The river's tidal portion forms the harbor for the city of Baltimore. Maryland Department of the Environment (MDE) has designated the Patapsco River as Classification II for Tidal Water indicating migratory spawning and nursery use (February 1 through May 31), shallow water submerged aquatic vegetation use (April 1 through October 30), open water fish and shellfish use (January 1 through December 31), seasonal deep water fish and shellfish use (June 1 through July 30), and seasonal deep channel refuge (June 1 through September 30).

The Baltimore Harbor is within the Upper Chesapeake Subregion which is part of the Mid-Atlantic Watershed Region of the Chesapeake Bay basin. The Chesapeake Bay basin encompasses 64,000 square miles of land including portions of six states (Maryland, Virginia,

New York, Pennsylvania, West Virginia, and Delaware) and the District of Columbia. Approximately 94 percent of Maryland drains to Chesapeake Bay (USGS, 2007).

In 2012, the Baltimore Harbor was listed as an impaired waterbody for aquatic life and wildlife use (MDE, 2012). The watershed area surrounding the decommissioning facility is primarily urban, with a population of nearly 1.5 million people; it has been impacted by point source and non-point source pollution resulting in water quality degradation. The Baltimore Harbor has TMDL for nutrients, chlordane, bacteria, chromium, PCB, zinc and lead.

Sediment Quality

Sediments in the waterways near Baltimore, MD are composed primarily of clay particles and have been classified as impaired by the MDE. Specific contaminants for the Baltimore Inner Harbor include PCBs, polycyclic aromatic hydrocarbons (PAHs), chlordane, mercury and nickel; Chlordane and PCB contamination were found in sediment of Baltimore Harbor (MDE, 2012).

Sediment analyses were conducted in 2006 and 2007 by the Federal Energy Regulatory Commission (FERC) for the construction and operation of a liquefied natural gas (LNG) import terminal and natural gas pipeline facilities. Sediment test results were compared to the Threshold Effects Levels (TELs)[1] and the Probable Effects Levels (PELs)[2] as provided by the EPA Marine Sediment Guidelines. Results found PAHs exceeded the PELs at multiple surface locations. The locations with the most elevated concentrations of PAHs were close to shore along the finger docks of the historic shipbuilding docks. The concentrations of metals generally decreased with depth, with fewer exceedances of the PELs in the intermediate and deep samples. All metals exceeded PEL at the shallow depth and most exceeded at the intermediate depth interval. Only arsenic and mercury exceeded sediment criteria at depth (FERC, 2008).

Hampton Roads, VA, Alternative

Water Quality

Hampton Roads, Virginia is located in southeastern Virginia and has a combination of rural, residential, commercial and industrial activities. Hampton Roads is bounded by the James River to the west and south and the Chesapeake Bay to the east. These waterways are commonly used for recreational boating and fishing and commercial fishing activities.

The James River basin is 410 miles long and drains approximately 10,300 square miles of land throughout Virginia before emptying into the Chesapeake Bay, near tidally influenced, brackish waters.

Water quality impairments have been detected throughout the Chesapeake Bay and its tributaries. James River is designated as a Class II water body and has been placed on the Section 303(d) list of impaired water bodies. Water quality designation is EPA Category 5 (waters are impaired or threatened and a TMDL is needed). All segments of the James River failed to meet chlorophyll-a criteria due to the presence of algal blooms. All segments of the James River, except for the lower tidal fresh zone, attained the assessed dissolved oxygen criteria. Benthic communities are impaired due to inadequate conditions for growth of submerged aquatic vegetation.

The prevalent forms of pollution affecting the James River are sediment, nitrogen and phosphorus. High levels of nitrogen, phosphorus and sediment enter the water from a variety of

[1] TEL represents the concentration below which adverse effects are expected to occur only rarely.
[2] PEL is the level above which adverse effects are frequently expected.

sources, including agricultural operations, urban and suburban runoff, wastewater facilities, onsite septic systems, air pollution, and other sources. In December 2010, the EPA established the Chesapeake Bay TMDL, which includes limits on nitrogen, phosphorus and sediment. The James River is the only river in the Chesapeake Bay watershed with a numeric TMDL standard for chlorophyll-a. As a result, in addition to nutrient and sediment reductions necessary to help achieve dissolved oxygen standards in the mainstream of the bay, EPA has called for additional reductions to meet the James River specific chlorophyll-a standard.

Sediment Quality

Sediment pollution continues to have widespread impacts throughout the James River system. These impacts include silting in critical stream and river habitat, as well as clouding the water and blocking sunlight from underwater grasses. The James River is susceptible to high pollution levels during years with heavy rainfall.

Areas of the lower James River (e.g. Willoughby Bay, Newport News) have been observed to contain toxic sediments. Further up the James River, extensive contaminant data are lacking, but the river has health advisories due to historical Kepone contamination. The Virginia Department of Environmental Quality (DEQ) and the Virginia Department of Health (VDH) regulate Kepone in the James River because it settles in the soils in the bed of the rivers and creeks and is an issue when dredging channels in contaminated areas. Additionally, VDH has issued fish consumption advisories for the James River, due to potentially harmful levels of PCBs in the fish.

Philadelphia, PA, Alternative

Port areas in Philadelphia, Pennsylvania lie between two rivers, the Schuylkill River and the Delaware River. The Schuylkill River watershed encompasses 2,000 square miles in southeastern Pennsylvania and is Delaware River's largest tributary. The Delaware River watershed encompasses about 13,500 square miles in four states: New York, New Jersey, Pennsylvania, and Delaware. Surface water runoff drains into the Schuylkill River near its confluence with the Delaware River as well as directly into the Delaware River. The rivers generally flow south from the Philadelphia area and empty into the Delaware Estuary, which connects to the Atlantic Ocean.

The shorelines of both the Schuylkill and Delaware rivers are heavily developed with residential, commercial, and manufacturing land uses. Both the Schuylkill and Delaware rivers are used for municipal and industrial water supplies and as discharge points for treated wastewater. The intensity of shoreline development and water use has degraded the water quality of these rivers in the greater Philadelphia area.

The presence of PCBs are of particular concern in the Delaware River due to high PCB concentrations found in fish tissue. The segment of the Delaware River between the head of Delaware Bay (River Mile 48.2) and Trenton, New Jersey (River Mile 133.4) has been found to be impaired. In 2003, a PCB TMDL of 44.8 picograms per liter was developed for the portion of the Delaware River adjacent to Philadelphia ports. This is the only TMDL developed for the Delaware River in Pennsylvania.

Sediment Quality

Given the heavy industrial history of the project areas and the known contamination of Delaware River sediments, sediment quality is anticipated to be poor. Studies were conducted on the Delaware River in 1995 and 1997 as part of a proposed channel deepening project. Area sediments are predominantly silty clay and silty sand. Bulk sediment analyses found no frequent

occurrences or high concentrations of pesticides, PCBs or volatile and semi-volatile organics. Sediment organic contaminants including polynuclear aromatic hydrocarbons (PAHs) and phthalates (di-n-butyl phthalate) were detected at several locations. Most sample concentrations, however, were well within the acceptable range of guidelines used by the New Jersey Department of Environmental Protection and the Delaware Department of Natural Resources and Environmental Control.

Facilities in the greater Philadelphia area have been in operation for over sixty years, thus sediment quality beneath and surrounding the vessel is likely to be degraded. The U.S. Army Corps of Engineers (USACE) conducted a sediment and water quality study in 2009 for the area. Analysis found bulk sediment concentrations exceeded consensus-based sediment threshold effect concentrations (i.e. concentrations above which harmful effects on aquatic life are likely to be observed; MacDonald et al., 2000). Sediment concentrations of concern include PCBs, DDT, DDE, endrin, and mercury. Additionally, dissolved elutriate PCB concentrations were found to exceed the Delaware River Basin Commission's chronic water quality criterion for the protection of aquatic life and the commission's criterion for human health and fish ingestion. Despite the occurrence of concerned chemicals, none of the parameters exceeded the Pennsylvania Department of Environmental Protection (PADEP) general permit for beneficial criteria value (USACE, 2009).

3.1.3 Environmental Consequences

Towing impacts apply to all alternatives. Potential impacts from any required towing operations include temporary bottom sediment disturbance and surface water turbidity through the generation of surface wakes and propeller wash. However, as the towing operations will be conducted in compliance with applicable wake and speed limits, the impact on sediment resuspension will be minimal. Towing can pose a risk to water quality if significant levels of contamination from exfoliating paint chips on vessel hulls are released into the environment. However, the NSS hull has been taken down to bare metal twice before painting and does not have lead paint; NSS was last drydocked in 2008 and is scheduled for the next one in 2019. There is potential risk for oil spill due to collision, grounding, or tank or hull rupture or leakage. However, such events are rare. Additionally, the vessel is subject to detailed inspections to ensure it is safe for towing. Towing procedures and safety measures would be implemented to minimize potential for collision or grounding of the vessel during transport. Additionally, the Proposed Action does not require dredging or in-water work.

Baltimore, MD, Alternative

The Proposed Action does not involve new construction off the vessel, only the removal, transportation and disposal of LLRW materials. NSS already has an NRC license to perform decommissioning activities and will obtain any required additional state and local permits for waste transportation and disposal. Compliance with regulations would avoid significant impacts on water and sediment quality.

This alternative may not require towing, so potential impacts are minimized. Due to the industrial nature of the site, no submerged vegetation or sensitive marine habitat exists in the project area. All activities would be conducted in compliance with applicable Federal and state environmental laws to avoid significant impacts on water and sediment quality. The Proposed Action should have no adverse impacts on water and sediment quality and would not combine with impacts from other past or future projects in such a manner that would create a cumulative impact.

Hampton Roads, VA, Alternative

The Hampton Roads, VA, Alternative requires removal of the vessel from Baltimore, MD through towing which include temporary bottom sediment disturbance and surface water turbidity. All activities would be conducted in compliance with applicable Federal and state environmental laws to avoid significant impacts on water and sediment quality. Other than towing, the Proposed Action should have no adverse impacts on water and sediment quality and no cumulative impacts.

Philadelphia, PA, Alternative

Similar to the Hampton Roads, VA, Alternative, the Philadelphia, PA, Alternative requires removal of the vessel from Baltimore, MD through towing. All activities would be conducted in compliance with applicable Federal and state environmental laws to avoid significant impacts on water and sediment quality. Except for temporary bottom sediment disturbance and surface water turbidity, the Proposed Action should have no adverse impacts on water and sediment quality and no cumulative impacts.

No-Action Alternative

Under the No-Action Alternative, NSS would not be decommissioned and would not be removed from Baltimore, MD. As a result, there would be no significant immediate water resources and quality impacts to Baltimore, MD as a result of this action.

3.2 Biological Resources

3.2.1 Regulatory Setting

The Federal Endangered Species Act (ESA) protects Federally-listed threatened and endangered (T&E) plant and animal species. Threatened and endangered species are defined as those plant and animal species in danger of extinction throughout all or a significant portion of its range, by the USFWS, NMFS, or appropriate state agency. The Marine Mammal Protection Act (MMPA) protects marine mammals from "take" (harm or harassment). The Federal laws and requirements protecting many bird species are the Migratory Bird Treaty Act (MBTA) and EO 13186 Responsibilities of Federal Agencies to Protect Migratory Birds. Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act, which prohibits the "take" of bald or golden eagles in the United States.

3.2.2 Affected Environment

Biological resources consist of native and nonnative plant and animal species and the habitats in which they occur. Biological resources can be grouped into two primary categories: terrestrial and marine resources. Since this project is almost entirely in water, the discussion will focus on marine resources as well as migratory birds.

Marine biological resources are transient resources that can range in and out of surrounding habitat area. As a result, this section not only includes species that are within the project action area but also ones that may be affected by the project. For example, a fish may be included if it lives downstream from the area, and birds include resident and migratory species.

Each location section is divided into subsections that address: 1) wetlands; 2) benthic communities; 3) fish and Essential Fish Habitat (EFH); and 4) protected species in the area.

Baltimore, MD, Alternative

Wetlands

Wetlands in the Chesapeake Bay are designated open water and tidal estuarine emergent wetlands. Very few natural wetlands exist along Baltimore Harbor's urban shorelines, but since 2010 there have been floating wetlands created and in use. There are no wetlands identified at the potential facilities for decommissioning in Baltimore.

Benthic Communities

Sampling conducted at the proposed site for FERC for the construction and operation of a liquefied natural gas (LNG) Environmental Impact Statement (EIS) indicated that the benthic community consisted of 13 species and was dominated by the polychaete *Nereis succinea* (47% of collected individuals) followed by the bivalve *Tellina agilis*, and the polychaete *Streblospio benedicti* (combined 15% of collected individuals). Other invertebrates, such as grass shrimp, would also be expected in such estuarine habitats.

According to surveys completed for, and studies referenced in, the LNG EIS from December 2008, there is no Submerged Aquatic Vegetation (SAV) in the project area. SAV refers to vascular, rooted, flowering plants that live and grow mostly underwater. There is no sensitive vegetation within this highly industrial area.

The Chesapeake Bay supports a major blue crab fishery. Low numbers of blue crabs were found in bottom trawls in the vicinity of the proposed LNG terminal. Due to the industrial nature of the facilities in Baltimore, MD, no blue crabs are expected in the decommissioning location.

Fish and Essential Fish Habitat

Baltimore, MD is a highly industrialized area with an estuarine water characterization supporting fish species that can tolerate a wide range of salinities. Water in this area is an impaired waterbody for aquatic life and wildlife use. However, the Chesapeake Bay Program is attempting to reduce nutrient and sediment loads in the bay.

The open waters of the Patapsco River provide a migratory corridor for anadromous and catadromous[3] fish that move between their respective spawning and nursery grounds in the main stem of the river and tributaries. These fish species include alewife, blueback herring, American shad, white perch, yellow perch, and American eel (NMFS, 2005). The American eel is the only true catadromous fish that may occur in the project area. Bluefish (*Pomatomus saltatrix*), and summer flounder, are the species for which EFH has been identified by NMFS in the vicinity. Bluefish are present in the project area only in low numbers and only during a few months of the year. Summer flounder occupy inshore shallow coastal and estuarine waters during spring and summer and migrate offshore in the fall. They are not likely to be in polluted areas or areas with inadequate circulation in Maryland coastal bays. Therefore, summer flounder do not generally occur in the project area during winter or spring and they may be present in the project area in low numbers during the late summer and early fall when they migrate offshore.

River herring, white perch, and yellow perch are not designated as EFH species but are important forage fish for managed game fish in the project area. River herring (also called alosine species) include American shad, hickory shad (*Alosa mediocris*), alewife (*Alosa pseudoharengus*), and blueback herring (*Alosa aestivalis*). The annual migration of river herring in the area occurs from late February through early June. During sampling for the LNG EIS in June and October

[3] Catadromous fish spawn in the ocean but complete most of its life cycle in fresh water.

2006, no suitable habitat was identified for the American shad and none were captured in trawls. White perch are ubiquitous in estuaries and freshwater ecosystems and were the most abundant fish found in the area.

Protected Species

The state government entity responsible for protection of state listed species in the project area is the Maryland Department of Natural Resources (MDNR). Thirty species that are Federally listed as endangered or threatened are found in Maryland and nine potentially occur within the Project area. These include five mammals (North Atlantic right whale, humpback whale, fin whale, sperm whale, and sei whale), three reptiles (Kemp's ridley sea turtle, green sea turtle, leatherback sea turtle), and one fish species (shortnose sturgeon). See Table 3-1 in Appendix A. No critical habitat for Federally listed threatened and endangered species has been designated in the project area.

Peregrine falcons (designated by Maryland as a Species In Need of Conservation) nest high on towers and bridges and are not expected near the decommissioning location. The Chesapeake Bay watershed supports one of the highest concentrations of bald eagles in the continental U.S., with most found within one mile of the bay and its tidal tributaries. The bald eagle would occur over the waterway only as transient individuals during migration or moving within their range across Chesapeake Bay.

Waterbirds use the open water habitat adjacent to the facility. Seabirds and waterfowl within the Chesapeake Bay include gulls, terns, ducks such as scaup and scoters, double-crested cormorant, and brown pelican. A midwinter waterfowl survey is conducted annually by MDNR biologists during the month of January, when waterfowl are considered to be in their wintering areas and migration has ended. Species observed in this area include Canada goose; American black duck; mallard; gadwall; American wigeon; canvasback; redhead; bufflehead; hooded, common and red-breasted mergansers (MDNR, 2012). Most of the various bird species are well adapted to human activity and may be present in and around the project area during towing and mooring activities. However, the MDNR has established 0.25-mile radius protection zones around nesting sites for the colonial waterbird colonies on Sparrows Point and Fort Carroll Island. Since potential decommissioning locations are located farther than the protection zones, no effect on nesting sites is expected. The MDNR has similarly established restrictions as protection guidelines for nesting peregrine falcon on the Francis Scott Key Memorial Bridge. No effect on the nesting site is expected.

The NMFS reports that North Atlantic right whales, humpback whales and fin whales are rare visitors to the Chesapeake Bay and port, but the area outside of the Bay is a high use area for these species, especially during migration. Sperm and sei whales are found farther offshore than the other whales and their potential presence would be unlikely in the Bay. Though very unlikely, considering this alternative would potentially involve a very short distance tow and sperm or sei whales may be present within the towing path.

The Kemp's ridley and green sea turtles are known to be present in the Chesapeake Bay from April 1 to November 30, but mainly in the late spring, summer, and early autumn when water temperatures are relatively warm. Leatherback turtles are seasonally present in the Bay. Recent data from sightings and incidental captures in fishing gear indicate that Kemp's ridley are the sea turtle species most likely to be found in the waters of the bay, while leatherback and green sea turtles are relatively less common. In general, sea turtles are less common in the upper bay; however, data from the MDNR sea turtle tagging program and from the Sea Turtle Stranding

Salvage Network indicate that sea turtles have been found near the mouth of the Patapsco River. Typically sea turtles are unlikely to be present in the port.

A small and vulnerable population of shortnose sturgeon is known to be present in the Chesapeake Bay though no shortnose sturgeon were reported during June and October 2006 marine surveys in the Patapsco River (FERC, 2008).

Hampton Roads, VA, Alternative

Wetlands

Wetlands found within the Hampton Roads, VA area are predominately tidal wetlands that border the river along its lower reaches. They are a combination of estuarine and palustrine emergent wetlands. These sensitive ecosystems vary in plant communities, salinity, and tidal influence, depending on their distance from both the Chesapeake Bay and the James River shoreline. Species richness is very low, with one to a few submerged vascular aquatics present. These consist primarily of beaked ditch-grass (*Ruppia maritima*), common eel-grass (*Zostera marina*), horned pondweed (*Zannichellia palustris*), and sago pondweed (*Potamogeton pectinatus*). Riverine marshes are strongly dominated by saltmarsh cordgrass (*Spartina alterniflora*), often in association with big cordgrass (*Spartina cynosuroides*) or saltmarsh bulrush (*Scirpus robustus*) (Fleming et al., 2010).

Benthic Communities

The major natural environmental factor influencing faunal distribution in estuaries is salinity. The region has the oligohaline (0.5 to 5.0 parts per thousand (ppt)) salinity zone and the mesohaline (5.0 to 18.0 ppt) zone up the James River; and the polyhaline (18.0 to 30.0 ppt) zone near the Hampton Roads region (Diaz, 1989).

Dominant species in the oligohaline zone are likely to include the bivalve *Rangia cuneata*, the polychaete *Scolecolepides viridis*, and amphipods in the genus Gammarus. The common rangia (*R. cuneata*) is a common estuarine clam (Diaz, 1989). Salt-tolerant freshwater species such as the Asiatic clam (*Corbicula fluminea*), tubificid oligochaetes of the genus *Limnodrilus*, and the chironomid insect larvae *Coelotanypus* and Cryptochironomus became dominant at the upper end of the oligohaline zone and into the tidal freshwaters (Diaz, 1989). Dominant species in the mesohaline zone included the amphipods *Leptocheirus plumulosus* and *Corophium lacustre*, the oligochaete *Tubificoides heterochaetus*, the bivalve *Brachidontes recurvus*, and the polychaetes *Paraprionospio pinnata* and *Heteromastus filiformis* (Diaz, 1989).

NOAA's Estuarine Living Marine Resources (ELMR) program determined the invertebrates Daggerblade grass shrimp (*Palaemonetes pugio*) and Blue crab (*Callinectes sapidus*) were both highly abundant throughout the oligohaline and mesohaline zones of the estuary. Daggerblade grass shrimp use the estuary during all life stages, while blue crabs move offshore to brood eggs and release larvae (Stone et al., 1994). American oyster (*Crassostrea virginica*) and northern quahog (*Mercenaria mercenaria*) are abundant during all life stages, but are not typically numerical dominants in the estuary. Blue mussel (*Mytilus edulis*) and sevenspine bay shrimp (*Crangon septemspinosa*) are considered common, and softshell clam (*Mya arenaria*) and brown shrimp (*Penaeus aztecus*) are found in the estuary but considered rare (Stone et al., 1994).

Salt-tolerant SAV such as widgeon grass (*Ruppia maritima*) is likely to be found in Hampton Roads. Wild celery, hydrilla, redhead grass, sago pondweed, and Eurasian watermilfoil, also thrive in low salinity and are found in the middle and upper reaches of the estuary (VIMS, 2011).

The prevalence and health of SAV is largely dependent on salinity and water quality; thus the improving quality in the region has increased the abundance of SAV.

Several invasive invertebrates have been reported from Chesapeake Bay including the zebra mussel (*Dreissena polymorpha*), the Asiatic clam (*Corbicula fluminea*), and the Japanese shore crab (*Hemigrapsus sanguineus*) (Moser, 2002). The zebra mussel has been found within a limited range in the upper reaches of Chesapeake Bay (ELI, 2007). The Asiatic clam has already become established throughout the Bay, and is a community dominant in the oligohaline zone of the James River estuary (Moser, 2002; Diaz, 1989).

Fish and Essential Fish Habitat

Due to salinity levels, fewer species of fish are likely to occur near Hampton Roads than in other reaches of the estuary. Atlantic menhaden (*Brevoortia tyrannus*), bay anchovy (*Anchoa mitchilli*), killifishes (*Fundulus* species), silversides (*Menidia* species), and hogchoker (*Trinectes maculatus*) were all identified as numerical dominants in the estuary. White perch (*Morone Americana*), bluefish (*Pomatomus saltatrix*), spot (*Leiostomus xanthurus*), Atlantic croaker (*Micropogonias undulatus*), and gobies (*Gobiosoma* species) are not typically identified as numerical dominants, but are all considered abundant in the James River Estuary (Stone et al., 1994). Common species that are frequently encountered but not in high numbers include common cownose ray (*Rhinoptera bonasus*), American eel (*Anguilla rostrata*), blueback herring (*Alosa aestivalis*), alewife (*Alosa pseudoharengus*), American shad (*Alosa sapidissima*), channel catfish (*Ictalurus punctatus*), oyster toadfish (*Opsanus tau*), northern pipefish (*Syngnathus fuscus*), striped bass (*Morone saxatillis*), black sea bass (*Centropristis striata*), yellow perch (*Perca flavescens*), pinfish (*Lagodon rhomboides*), spotted seatrout (*Cynoscion nebulosus*), weakfish (*Cynoscion regalis*), black drum (*Pogonias cromis*), red drum (*Sciaenops ocellatus*), tautog (*Tautoga onitis*), butterfish (*Peprilus triacanthus*), and summer flounder (*Paralichthys dentatus*). Other ecologically or economically important fish that are occasionally found in the James River Estuary, but are considered rare include Atlantic stingray (*Dasyatis sabina*), Atlantic sturgeon (*Acipenser oxyrhynchus*), Atlantic herring (*Clupea harengus*), red hake (*Urophycis chuss*), northern searobin (*Prionotus carolinus*), scup (*Stenotomus chrysops*), northern kingfish (*Menticirrhus saxatilis*), mullets (*Mugil* species), Atlantic mackerel (*Scomber scombrus*), windowpane flounder, and winter flounder (*Pleuronectes americanus*) (Stone et al., 1994).

The Mid-Atlantic Fishery Management Council (MAFMC) is one of eight regional fishery management councils and is responsible for the creation of Fishery Management Plans in Federal waters off New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, and North Carolina. The MAFMC has designated the waters surrounding these eastern coastal states as EFH for 13 species; nine of these species, including bluefish, windowpane flounder, black sea bass, butterfish, summer flounder, red drum, king mackerel, Spanish mackerel (*Scomberomorus maculatus)*, and cobia, are EFH-designated for the James River Estuary. Habitat Areas of Particular Concern (HAPC) for sandbar shark have been designated in the project area.

Threatened and Endangered Species

According to the USFWS, there are 54 animal and 15 plants that are listed as Federal T&E species in Virginia. No Federally listed species occur in Newport News (City) County, Suffolk, Isle of Wight, or Hampton Counties, but four listed animal species occur in the waters of Virginia Beach County (USFWS, 2013); all four are sea turtles. See Table 3-2 in Appendix A. No critical habitat for Federally listed T&E species has been designated in the project area.

Kemp's ridley, leatherback, and green sea turtles are known to be present in Chesapeake Bay seasonally. Data from sightings and incidental captures in fishing gear indicate that Kemp's ridley is the sea turtle species most likely to be found in the waters of the bay, while leatherback and green sea turtles are relatively less common. When not migrating, green turtles prefer sea grass flats which occur in shallow areas of the Chesapeake Bay in late summer and early fall. Hawksbills generally like the habitat of coral reefs. Only two hawksbill strandings have been reported in Virginia; both of these are considered "strays" from the tropical waters they normally inhabit (VIMS, 2013). Typically sea turtles do not enter riverine environments.

Although bald eagles are no longer listed as a threatened or endangered species, they are still protected under the Protection of Bald & Golden Eagle Act. Bald eagles range from Alaska to the northern border of Mexico, and from the Pacific to the Atlantic coast, and can be found in all the lower 48 states. In the Chesapeake Bay area, breeding activity begins in November and can last through mid-July (VADGIF, 2011). Nests are generally built in one of the largest live trees available with accessible limbs capable of supporting the nest. Bald eagles in the Great Lakes region and adjacent areas in Canada migrate eastward to winter along the Atlantic Coast from Maine and New Brunswick to Chesapeake Bay. Because of its rich food resources, Chesapeake Bay also is host to a large influx of summer migrants from Florida and other Gulf Coast states from May to September.

Osprey (*Pandion haliaetus*), a protected migratory bird, undergoes conservation and management from the authorities of the VA Department of Game and Inland Fisheries and the USFWS. There is a guideline for Removal or Relocation of Osprey Nests in Virginia that follows USFWS regulations.

Philadelphia, PA, Alternative

Wetlands

Both the Delaware and Schuylkill Rivers, and their undeveloped shorelines are designated tidal riverine systems by the National Wetlands Inventory. Tidal riverine systems have water that is usually flowing, the gradient is low and water velocity fluctuates under tidal influence, the streambed is mainly mud with occasional patches of sand, and fauna include species that thrive in still water and true planktonic organisms.

Benthic Communities

The EPA performed a Mid-Atlantic Integrated Assessment (MAIA) of benthic conditions in the Delaware River estuary to track the condition of benthic communities. According to the results of the MAIA, the benthic conditions in the project area were classified as "severely impacted."

The Delaware Estuary is characterized by an historical lack of SAV, predominantly due to naturally-occurring low water clarity. It is also one of the most nutrient enriched estuaries in the world, although harmful phytoplankton blooms are held in check by other factors, including low water clarity (EPA, 2006). Species that occur in the area would include freshwater mussel species, crabs, and snail species. These species would not be fit for consumption because of the water quality of the Delaware River. Only blue crab (*Callinectes sapidus*) is known to be harvested by individuals.

The Delaware and Schuylkill Rivers are an important migratory flyway for numerous bird species. As a result, avian species diversity would be greatest during the spring and fall months. Bird species utilizing the area as habitat would generally be limited to those species that are tolerant of human activities; these species include sparrow species, dove species, European

starlings as well as corvid species (crows and jays) and gulls. However, since many sites in the vicinity are currently abandoned, less tolerant species could be found in these areas.

Aquatic birds found in the vicinity that forage primarily on benthic organisms include the bufflehead (*Bucephala albeola*); while fish eating aquatic birds found in the vicinity include the hooded merganser (*Mergus merganser*) and cormorants (*Phalacrocorax auritus*). These species are fall and spring migrants and over wintering birds within the area. Diving ducks, including the ruddy duck (*Oxyura jamaicensis*), canvasback (*Aythya valisineria*), and lesser scup (*A. affinis*), are also present in the vicinity and feed on aquatic invertebrates (SAIC, 2004).

Fish and Essential Fish Habitat

The project area is not classified as EFH by NMFS. Habitat value for the fish species in the project area is considered to be minimal. Eight species of anadromous fish use the Delaware River as a migratory corridor. Within the vicinity of the project area, recreational fishing is limited by pollution and marine traffic. Except for small harvests of American shad (*Alosa sapidisima*), and blueback herring (*Alosa aestivalis*), minimal fishing occurs. Most commercial fishing occurs where the Delaware River meets the Delaware Bay.

According to the Pennsylvania Fish and Boat Commission, the shortnose and Atlantic sturgeon (*Acipenser brevirostrum, Acipenser oxyrhynchus*), the eastern mudminnow (*Umbra pygmaea)* and the threespine stickleback (*Gasterosteus aculeatus)* have been recorded in the Philadelphia area. The eastern mudminnow is a candidate for protective status within the state while the remaining species are currently considered threatened or endangered within the state. The mudminnow and the stickleback are unlikely to occur within the project area due to a lack of suitable habitat. The shortnose sturgeon is also a Federal endangered species and discussed below.

Protected Species

According to the USFWS; seventeen Federal T&E species occur in Pennsylvania and the shortnose sturgeon (*Acipenser brevirostrum*) is the only one found in the vicinity of the project area. Table 3-3 in Appendix A lists the T&E species in the project area. In recent years, the major area of occurrence of the shortnose sturgeon in the Delaware River has been above Philadelphia. Due to high salinity, occurrence of shortnose sturgeon are rare in this area.

Historically, NMFS and PADEP have limited in-water construction activities in the Delaware River to the eight and a half-month period from July 1 through March 14. Activities are prohibited between March 15 and June 30 to protect migrating Atlantic sturgeon and other fish species. Other species of fish, the eastern mudminnow and the threespine stickleback, inhabit wetlands and small streams and ditches and, therefore, are unlikely to occur in the project area.

The Bog turtle (*Glyptemys muhlenbergii*) is Pennsylvania's smallest native turtle and is known to inhabit wet meadows and bogs where soils are mucky and grasses dominate the wetlands. Bog turtles have been historically found in Philadelphia, but there are no known Bog turtles present in the area today. Due to the industrial nature and lack of wetlands within the project area, this species is unlikely to be present. No Federally protected amphibian or reptile species are known to occur in the potential project area.

The only Federal T&E bird species known to occur in the Philadelphia area is the Rufa Red Knot. Rufa Red Knots (*Calidris canutus rufa)*), a Pennsylvania threatened species, are migratory birds that are known to nest primarily in intertidal, marine habitats, especially near coastal inlets. No Federally protected bird species are expected in the project area.

The only state threatened or endangered bird species known to occur in the area is the Peregrine Falcon. Peregrine falcons (*Falco peregrinus*), a Pennsylvania endangered species, are known to nest on the Girard Point Bridge (I-95) right at the entrance to the Philadelphia Naval Business Center from the Schuylkill River. Peregrine falcons have been federally delisted but are still covered under the MBTA.

Incidental occurrences of Federal threatened and endangered species have been noted in this area. Such instances are considered rare and are not expected to occur during the Proposed Action.

Additionally, there may be protected whales and turtles where Delaware Bay meets the Atlantic Ocean. They are oceanic and potential summer visitors to Delaware coastal waters and not expected to be in the Project Area along the Delaware River and Delaware Bay portion of the tow route.

3.2.3 Environmental Consequences

The potential impacts may vary according to the location of the activity, time of year when the activity occurs, and the location of each species during their respective life cycle.

For all alternatives, tug and tow will transit at speeds of 10 knots or less in accordance with the Whale Ship Reduction Rule (50 C.F.R. 224.105, December 9, 2008) for protection of right whales in seasonal management areas. In addition, whenever marine mammals or sea turtles are sighted in an area, the tug's crew will increase vigilance and take prudent actions to avoid collisions or activities that might result in close interaction of the ship and the animals. Actions may include changing speed and/or direction as dictated by environmental and other conditions (e.g., safety, weather). Towing the vessel may affect, but is not likely to adversely affect, T&E species and designated critical habitat will not be adversely affected or modified by the alternatives discussed below. For any alternative, the Proposed Action would not combine with impacts from other past or future projects in such a manner that would create a cumulative impact.

Baltimore, MD, Alternative

Wetlands
There would be no significant impacts to wetlands from decommissioning the vessel's nuclear power plant in Baltimore, MD.

Benthic Communities
If towing is required, potential direct, adverse impacts to benthic communities may result from effects of propeller wash, although towing in deep water will reduce the potential for impacts. Turbidity and siltation associated with propeller wash would be local and transient. As discussed in the water quality section, contaminants could be released during ship transport (from accidental spills or ship collision). However, following approved procedures and permits would reduce potential impacts to temporary and minor. The larger, more mobile benthic megainvertebrates, such as shrimp species, would be able to flee the area during towing and, therefore, would not be affected. Considering the industrial nature of the location, the potential impact on benthic communities is considered minor.

No changes to the overall operations at this location are expected due to the decommissioning of this vessel's nuclear power plant. Additionally, the abundance and distribution of benthos are influenced by heavy ship traffic, industrial activities, and dredging which result in the relatively

low occurrence of benthos in the area surrounding the facility. Thus, any impacts to local benthic communities would be comparable to those occurring routinely in this industrial location. Overall, impacts to the benthos from contaminant exposure, physical disturbance, or suspended sediments resulting from decommissioning at the Baltimore, MD facility are not expected to be significant.

There are no known stands of SAV within the project area; therefore, SAV would not be affected. Blue crabs are not expected in the area, and would not be impacted. There are limited species in the project area that can tolerate the poor environmental conditions. Overall, impacts to the benthos from contaminant exposure, physical disturbance, or suspended sediments resulting from decommissioning in Baltimore, MD are not expected to be significant.

Fish and Essential Fish Habitat

Potential impacts to fish resources from decommissioning activities would be similar to those described above for benthic communities; contaminant exposures and re-suspended sediments are potential impacts to fish as well. Minimal to no impact is anticipated for mobile fish species that can readily avoid the temporary disturbance and potentially increased turbidity in the water column that may occur because of towing activities. Overall, impacts to fish resources from contaminant exposure, physical disturbance, or suspended sediments resulting from decommissioning are neither likely nor expected to be significant.

Potential impacts to EFH would be as described above for fish resources and benthic communities. The EFH-designated species are present in the project area only in low numbers. Impacts to fish resources from contaminant exposure, physical disturbance, or suspended sediments resulting from decommissioning at the Baltimore, MD facility are neither likely nor expected to be significant. There would be no effect on EFH.

Protected Species

Impacts to whales and turtles are most often caused by vessel strike. This potential impact would be minimized by the low speed of the tugs (four to six knots) along the channel and at the pier. The NMFS' "Vessel Strike Avoidance Measures and Reporting for Mariners" document would be followed to reduce the potential of vessel strikes to marine species. There would be no reasonably foreseeable takes of marine mammals; the towing action may affect but is not likely to adversely affect threatened and endangered species.

Impacts on sea turtles which may be found in the area are likely to be minimal due to the permits and regulations in place to guard against the discharge of contaminants into the aquatic environment. Any contaminants that may enter the water would likely be at low concentrations and the probability that they would be ingested by sea turtles, or their prey species, is almost non-existent. Thus, there would be no effect on protected sea turtles from decommissioning activities.

There is a very low probability that the bald eagle (delisted but still protected under the Migratory Treaty Act and the Bald and Golden Eagle Protection Act) and peregrine falcon could be harmed by ingestion through fish or chemical contaminants released during decommissioning activities. There would be no reasonably foreseeable takes of migratory birds, including bald eagles, and no effect on the peregrine falcon.

Considering compliance with all Federal and state regulations, guidelines, and agreements, the decommissioning activities at a Baltimore, MD facility are not expected to have significant impacts on biological resources.

Hampton Roads, VA, Alternative

Wetlands

Although the hazardous materials involved in ship decommissioning can pose serious threats to aquatic environments and wetlands, Federal and state regulations would substantially reduce the risk of contamination to nearby wetlands. Permits would impose regulations that limit the migration of any potentially hazardous materials into aquatic habitats that would need to travel some distance to reach any wetlands. Thus, there would be no significant impacts to wetlands from decommissioning the vessel's nuclear power plant in Hampton Roads, VA.

Benthic Communities

The impacts associated with benthic communities described above for the Baltimore, MD Alternative would also apply to this alternative. Overall, impacts to the benthos from contaminant exposure, physical disturbance, or suspended sediments resulting from decommissioning at a Hampton Roads location are not expected to be significant.

Fish and Essential Fish Habitat

The impacts associated with fish and EFH described above for the Baltimore, MD Alternative would apply to this alternative. Overall, impacts to fish resources are neither likely nor expected to be significant. There would be no effect on EFH.

Protected Species

The impacts associated with protected species described above for Baltimore, MD Alternative would also apply to this alternative. There would be no effect on protected sea turtles from decommissioning activities. There would be no reasonably foreseeable takes of marine mammals; the towing action may affect but is not likely to adversely affect threatened and endangered species. There would be no reasonably foreseeable takes of migratory birds including bald eagles.

Considering compliance with all Federal and state regulations, guidelines, and agreements, the short distance of towing in near-shore waters (no open ocean) to Hampton Roads, VA, and the subsequent decommissioning activities are not expected to have significant impacts on biological resources.

Philadelphia, PA, Alternative

Wetlands

This is a highly industrialized area and there would be no significant impacts to wetlands from decommissioning the vessel's nuclear power plant in Philadelphia, PA.

Benthic communities

Due to poor sediment and water quality, benthic habitat within the project area has very low biodiversity, and is limited to organisms that are tolerant of poor environmental conditions. There are no known stands of SAV within the project area that could be affected by the decommissioning. There are limited species in the area that can tolerate the poor conditions. The impacts associated with benthic communities described above for the Baltimore, MD Alternative would also apply to this alternative. Overall, impacts to the benthos are not expected to be significant.

Fish and Essential Fish Habitat
The impacts associated with fish described above for the Hampton Roads, VA, Alternative would also apply to this alternative. Overall, impacts to fish resources are neither likely nor expected to be significant. There is no EFH.

Protected Species
Given the industrial nature and the poor sediment and water quality that characterize this location, these species are unlikely to occur. The implementation of seasonal in-water activity windows would minimize impacts to these species. The impacts associated with protected species described above for Baltimore, MD Alternative would also apply to this alternative. There would be no effect on protected sea turtles from decommissioning activities. There would be no reasonably foreseeable takes of marine mammals; the towing action may affect but is not likely to adversely affect threatened and endangered species. There would be no reasonably foreseeable takes of migratory birds including bald eagles.

Considering compliance with all Federal and state regulations, guidelines, and agreements, the short distance of towing in near-shore waters to Philadelphia, PA, and the subsequent decommissioning activities are not expected to have significant impacts on biological resources.

No-Action Alternative

Under the No-Action Alternative, NSS would remain in Baltimore, MD and its nuclear power plant would not be decommissioned. The vessel would continue to age and MARAD would continue to implement preventative maintenance actions including periodic dry-dockings to avoid/minimize deterioration. However, over time there will be an increased cost to maintain the vessel and reduce environmental impact.

3.3 Air Quality

3.3.1 Regulatory Setting

Air quality in a given location is defined by pollutant concentrations in the atmosphere and is generally expressed in units of parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$). One aspect of significance is the concentration of a pollutant in comparison with the national and/or state ambient air quality standard. These standards represent the maximum allowable atmospheric concentrations that may occur and still protect public health and welfare with a reasonable margin of safety. The national standards, established by the U.S. EPA, are termed the National Ambient Air Quality Standards (NAAQS). The NAAQS represent maximum acceptable concentrations that generally may not be exceeded more than once per year, except the annual standards, which may never be exceeded. The six criteria pollutants are ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter (PM), sulfur dioxide (SO_2), and lead (Pb).

The EPA designates all areas in the country as nonattainment, attainment, maintenance, or unclassifiable with respect to the NAAQS for each criteria pollutant:

- Areas that violate ambient air quality standards are designated as nonattainment areas;
- Areas that comply with Federal air quality standards are designated as attainment areas;
- Areas that have improved air quality from nonattainment to attainment and have an EPA approved plan are designated as maintenance areas;
- Areas that lack monitoring data to demonstrate attainment or nonattainment status are designated as unclassified and are considered to be in attainment for regulatory purposes.

Varying levels of nonattainment have been established for ozone, CO, and PM to indicate the severity of the air quality problem (i.e., the classifications runs from marginal to extreme for ozone; moderate to serious for CO).

The CAA requires each state to develop, adopt and implement a State Implementation Plan (SIP) to achieve, maintain, and enforce Federal air quality standards throughout the state. SIPs are developed on a pollutant-by-pollutant basis whenever one or more air quality standards are being violated (nonattainment). Under the EPA's General Conformity Rule (40 C.F.R. § 93), Federal agencies must determine whether the action either is exempt from a Conformity Determination or conforms to the applicable SIP. Actions are exempt when the total of all reasonable foreseeable direct and indirect emissions would be: 1) less than the *de minimis* emission threshold, and 2) less than ten percent of the area's annual emission budget. If these conditions are met, the requirement for a Conformity Determination is not applicable. In addition, the Conformity Determination Rule contains a number of specific Federal activities that are exempted from Conformity Determination because they will either result in no or *de minimis* increases in emissions (40 C.F.R. § 93(c)(2)).

3.3.2 Affected Environment

The air pollutants that are considered in this analysis include volatile organic compound (VOCs) and nitrogen oxides (NOx), which are precursors to ozone formation, as well as particulate matter less than 2.5 microns in diameter ($PM_{2.5}$). The following section summarizes the attainment status and local air quality for each alternative.

Current stationary air emission industrial sources in the vicinity of the project areas consist of boilers, above-ground and underground storage tanks, emergency generators, paint spray booths, industrial furnaces, solvent cleaners, abrasive blast stations, plating operations, and fuel dispensing systems. Mobile emission sources include motor vehicles, trains and vessels.

Baltimore, MD, Alternative

Baltimore, MD is located within the Metropolitan Baltimore Intrastate Air Quality Control Region (AQCR) 115. With respect to the 2008 8-hour ozone standard, AQCR 115 is classified as moderate non-attainment. For $PM_{2.5}$, AQCR 115 is classified as maintenance.

Maryland is considered part of the Ozone Transport Region (OTR). The OTR encompasses eleven northeast states and the District of Columbia, all of which have at least some areas not meeting the NAAQS for ozone. Because ozone attainment is a region-wide problem involving interstate transport of ozone precursors, projects located in all areas within the OTR must meet more stringent non-attainment new source review requirements. The applicable emissions thresholds triggering major new source review in AQCR 115 are 50 tons per year for either VOCs or NO_x.

The Baltimore Nonattainment Area 8-Hour Ozone SIP was submitted to the EPA in December 2012. If power generators are used, permits are not required before installing or modifying emergency generators powered by engines with less than 500 brake horsepower (COMAR 26.11.02.10). The Cross State Air Pollution Rule would require NO_X reduction during the Ozone Season for any affected sources, such as boilers and generators.

Hampton Roads, VA, Alternative

Hampton Roads, VA is part of the Hampton Roads Intrastate AQCR 223. Current regional air quality is in attainment and no formal conformity review is required. If power generators are

used, air permitting under Virginia's section 9 VAC 5 Chapter 80 could be required. The Cross State Air Pollution Rule would require NO_X reduction during the Ozone Season for any affected sources, such as boilers and generators.

Philadelphia, PA, Alternative

Philadelphia is located within the Philadelphia-Wilmington AQCR 45. Pennsylvania has adopted all of the NAAQS standards as well as several standards of its own including beryllium, fluorides, and hydrogen sulfide. State standards, established by the PADEP, are termed the Pennsylvania Ambient Air Quality Standards.

The project area is classified as marginal nonattainment for the 2008 8-hour ozone standard, attainment for $PM_{2.5}$ standard. In addition, the Commonwealth of Pennsylvania is included in the OTR. If power generators are used, air permitting would not be required under Regulation: 25 Pa Code 127.14(a)(8). The Cross State Air Pollution Rule would require NO_X reduction during the Ozone Season for any affected sources, such as boilers and generators.

Pennsylvania has an EPA approved SIP that is comprised of state air pollution control regulations as well as plans detailing methods to be used to achieve or maintain compliance with the NAAQS.

3.3.3 Environmental Consequences

Estimated emissions from a proposed Federal action are typically compared with the relevant national and state standards to assess the potential for increases in pollutant concentrations. Impacts would occur if the action alternatives directly or indirectly produce emissions that would be the primary cause of, or would significantly contribute to, a violation of state or Federal ambient air quality standards. Emission thresholds associated with CAA conformity requirements are another means of assessing the significance of air quality impacts. A formal Conformity Determination is required for Federal actions occurring in nonattainment or maintenance areas when the total direct and indirect stationary and mobile source emissions of nonattainment pollutants or their precursors exceed thresholds or de minimis values (Table 3-7 in Appendix A). Because two of the Proposed Action locations are in regions of moderate or marginal nonattainment or maintenance, a Record of Non-Applicability (RONA) has been prepared and is included as Appendix C of this EA.

The Proposed Action would not combine with impacts from other past or future projects in such a manner that would create a cumulative impact.

Baltimore, MD, Alternative

The Proposed Action would not result in significant impact to air quality as the action requires no construction and no dredging. The Baltimore, MD Alternative may not require towing of the vessel. However, any required towing operation would result in a minimal and temporary increase of marine vessel emissions. The potential towing of the ship qualifies as a "routine movement" by the EPA and is exempt from the requirements of the Conformity Determination Rule; according to 40 C.F.R. § 93.153(c), the towing qualifies as an action which would result in no emissions increase or an increase in emission that is clearly *de minimis*:

"(viii) Routine Movement of mobile assets, such as ships and aircraft, in homeport assignments and stations (when no new support facilities or personnel are required) to perform as operational groups and/or for repair or overhaul."

Ship decommissioning activities could generate air pollutants that are regulated by the CAA. If a facility emits regulated amounts of air pollutants, it must obtain the appropriate operating permit and comply with all emissions requirements set forth in that permit.

Fugitive dust may be generated from tailpipe emissions caused by equipment and vehicles, but appropriate fugitive dust control measures would be taken. No open burning of ship materials would occur at the project area. Exhaust emissions from the transport of workers and machinery to/from the site and from decommissioning equipment would be considered *de minimis*.

OSHA has established exposure limits for various air contaminants that are considered toxic. Compliance with OSHA requirements will minimize any impacts on worker safety.

No significant impacts to air quality can be attributed to handling, loading, and transportation of hazardous and radioactive materials (see the STS-005-001 Radiation Protection Plan and waste management Section 3.4). Waste management activities would have no impact on non-radiological ambient air quality and would not be expected to cause either radiological or non-radiological air quality impacts to exceed state or Federal standards, or to significantly affect air quality in any other respect at Baltimore, MD. Details of the air quality impacts are provided in the GEIS on the decommissioning of nuclear facilities.

The decommissioning of NSS does not require construction or dredging activities, thus related air emissions would be minimal. Moreover, emission of fuel/petroleum/combustible gases from ship decommissioning activities would be compliant with all Federal and state permit requirements. The decommissioning of NSS would not represent a new or significantly different line of work for the shipyard, with different effects on the environment, but rather a continuation of a long term, ongoing program, with minimal surrounding effect. Relevant air emissions would be localized and of short duration. Therefore, implementation of the Baltimore, MD, Alternative would not have a significant impact on air quality.

Hampton Roads, VA, Alternative

The environmental air impacts of decommissioning at this location are comparable to those described in Baltimore, MD and are not repeated here.

The Proposed Action would not result in significant impact to air quality as the action requires no construction and no dredging. Decommissioning activities are not expected to change the designation of the area with respect to NAAQS. Additionally, project activities that comply with applicable rules and regulations would not significantly affect air quality.

Philadelphia, PA, Alternative

Similar to Baltimore, MD and Hampton Roads, VA, the Proposed Action would not result in significant impact to air quality as the action requires no construction and no dredging. In general, decommissioning activities could result in temporary minor, localized impacts to air quality, but are not expected to change the designation of the area with respect to NAAQS.

No-Action Alternative

The No-Action Alternative would leave NSS at the Baltimore, MD facility. Under the No-Action Alternative, the vessel would continue to be maintained in a protective storage condition (SAFSTOR). Therefore, no significant impacts to air quality would occur.

3.4 Waste Management

3.4.1 Regulatory Setting

Federal laws and requirements relating to waste management include: Resource Conservation and Recovery Act (RCRA) of 1976 (PL 94-5800), as amended by PL 100-582; USEPA, Subchapter I-Solid Wastes (40 C.F.R. § 240-280); Toxic Substances Control Act (PL 94-496); USEPA, Subchapter R-Toxic Substances Control Act (40 C.F.R. § 702-799); and Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition (EO 13101). The proposed decommissioning would be completed in compliance with 10 C.F.R. Part 20.1402, "Radiological Criteria for Unrestricted Use." Hazardous Wastes are regulated under 42 USC 6901 (RCRA), and the DOT Hazardous Materials Program Procedures, 49 C.F.R. Part 107.

The License and Technical Specifications include additional waste management requirements. These are implemented through Savannah Technical Staff (STS) procedures that cover waste management and will be applied during DECON-LT: STS 005-010 Free Release of Materials; STS-005-013 Radioactive Material Shipping and Handling; STS-005-020 Offsite Dose Calculation Manual; STS-005-022 Radioactive Waste Process Control Program; STS-005-023 Low Level Radioactive Waste Management Plan; and STS-005-024 Mixed Waste Management Plan. All of these procedures are daughters to the STS-005-001 Radiation Protection Plan in their Health Physics Manual. STS-005-020 Offsite Dose Calculation Manual; STS-005-022 Radioactive Waste Process Control Program are required by the License Technical Specifications. Any changes to these procedures are required by the Technical Specification to be reported to the NRC annually.

The NRC GEIS (NUREG 1496) analyzed waste management and determined there would be no significant impacts from decommissioning activities.

3.4.2 Affected Environment

The main hazardous material of concern is the generation of LLRW present on NSS. LLRW will be classified and compliant based on a selected disposal facility's acceptance criteria and any applicable Federal and state regulatory requirements. Radioactive wastes that are sent to a commercial radioactive waste disposal facility (all but the DOE location) regulated by an agreement state or Federal government will be classified as required in 10 C.F.R. Part 61.55, Waste Classification, into the following four categories:

> Class A- Low levels of radiation and heat; no shielding required to protect workers or Public; rule of thumb states that it should decay to acceptable levels within 100 years.
>
> Class B- Has higher concentrations of radioactivity than Class A and requires greater isolation and packaging (and shielding for operations) than Class A waste.
>
> Class C- Requires isolation from the biosphere for 500 years; must be buried at least 5m below the surface and must have an engineered barrier (container and grouting).
>
> Greater Than Class C- This LLRW does not qualify for near-surface burial; includes commercial transuranic alpha emitting wastes that have half-lives greater than 5 years and activity concentration greater than 100 nCi/g.

The NSS nuclear power plant was contracted by the former Atomic Energy Commission (AEC) as part of the original MARAD-AEC joint project to construct and operate NSS. Consequently, it is reasonable to predict that the DOE will find that there is a nexus, and that NSS waste may be

eligible for disposal at a federal facility (WCS FWF). Radioactive waste being sent to a DOE facility is not broken into the waste categories as described above. The DOE manages waste consistent with DOE Order 435.1. LLRW is acceptable at DOE sites provided they have a "clear and unambiguous nexus" to a DOE-funded project, DOE-performed operation, DOE-owned material/waste, or project whose waste disposition is directed by statute. The FWF at WCS is currently operated under a State of Texas License and follows the classifications similar to those identified in 10 CFR 61.55.

Specifically, the following disposal sites will be evaluated based on availability, waste type eligibility, acceptance conditions and criteria, location with respect to decommissioning location, and costs of disposal:

- FWF at WCS, LLC (Andrews, Texas)
- CWF at WCS, LLC (Andrews, Texas)
- Energy*Solutions*, Inc. (Clive, Utah)

A key consideration in the selection of the disposal site(s) is where the decommissioning of NSS will take place and the associated costs for transportation and disposal fees for each option. Because of compact agreements, only waste generated in certain states may be eligible for disposal at a specific disposal site. Each site selected has its own Waste Acceptance Criteria (WAC) that the decommissioning contractor will comply with and use to ensure proper certification for each waste shipment.

LLRW or hazardous waste (e.g., RCRA) will be properly packaged, removed and transported to the final disposal location. Additional details regarding how waste will be removed from NSS segregated and packaged according to waste type, and shipped to a licensed disposal site will be contained in the STS Procedures and the PSDAR.

The Energy*Solutions* facility in Clive, Utah holds a State of Utah Radioactive Material License UT 2300249. Waste Control Specialists in Texas holds a LLRW Disposal License R04100 and a By-Product Material Disposal Facility License R05807. Waste Control Specialists operates a Compact Waste Facility as well as a Federal Waste Facility for the DOE.

In addition, other possible hazardous materials that may be removed include PCBs (mainly in electrical cables, gaskets, grout/caulking, and other electrical components), ACM (insulation materials and joiner work), LBP, mercury in electrical switches and other components, fuels, oils, lubricants, and some ozone depleting substances in refrigerants. The removal of hazardous materials from NSS is required to be in accordance with Federal, state, and local regulations. The majority of materials would be recycled for beneficial reuse to the maximum extent practicable to reduce the use of local landfills or other disposal sites.

Baltimore, MD, Alternative

This industrial location routinely works on vessels with various types of waste. The decommissioning requires that MARAD has all required permits and licenses to operate, adheres to safety procedures and waste management requirements, and follows all required regulations.

The EPA CERCLIS database contains information on hazardous waste sites, potentially hazardous waste sites, and remedial activities across the nation, including sites proposed for the National Priorities List (NPL) or actually listed on the NPL (i.e. Superfund sites). The database currently lists 29 CERCLIS sites in Baltimore County, with 18 listed in the City of Baltimore, of which all but three are not NPL sites; those three are Colgate Pay Dump (part of an NPL site),

Picorp – Operable Unit (part of NPL site) and RM Winstead Co (part of NPL site). No RCRA facilities are anticipated to be impacted by this project.

In addition to the Federal waste management regulations listed in Section 3.4.1, some of the applicable state laws and regulations that should be followed are: Code of Maryland Regulations (COMAR) 26.15 *et. Seq.*, Disposal of Controlled Hazardous Substances — Radioactive Hazardous Substances; COMAR 26.16 *et. Seq.*, Lead; COMAR 26.02 *et. Seq.*, Occupational, Industrial, and Residential Hazards; COMAR 26.04 *et. Seq.*, Regulation of Water Supply, Sewage Disposal, and Solid Waste; COMAR 26.10 *et. Seq.*, Oil Pollution and Tank Management; COMAR 26.13 *et. Seq.*, Disposal of Controlled Hazardous Substances; and COMAR 26.14 *et. Seq.*, Hazardous Substance Response Plan.

Hampton Roads, VA Alternative

This industrial location routinely works on vessels with various types of waste similar to the Baltimore, MD location discussed above.

Local areas listed in the CERCLIS database include Fort Eustis, which is an NPL site; Patrick Henry Airport in Newport News City; and Goodwin Junkyard in Isle of Wight County. Neither Patrick Henry Airport nor Goodwin Junkyard is an NPL site. Numerous sites are listed in the RCRA online database that generate, store, transport or dispose of hazardous wastes, including stores and various companies such as dry cleaning, sign manufacturing, natural gas distribution, as well as ship facilities in Newport News. None of these sites are anticipated to be impacted during this project.

Wastes that are generated during decommissioning must be characterized, tested (as necessary) and disposed of in accordance with applicable Federal, state, and local laws and regulations. While it is not anticipated that any impacts to soil will occur as a result of the Proposed Action, any soil that is suspected of contamination must be managed in the same manner described for wastes above. In addition to the Federal waste management regulations listed in Section 3.4.1, some of the applicable state laws and regulations that should be followed are: Virginia Waste Management Act, Code of Virginia Section 10.1-1400 *et seq.*; Virginia Hazardous Waste Management Regulations (VHWMR) (9VAC 20-60); Virginia Solid Waste Management Regulations (VSWMR) (9VAC 20-81); Virginia Regulations for the Transportation of Hazardous Materials (9VAC 20-110).

Philadelphia, PA, Alternative

This industrial location routinely works on vessels with various types of waste similar to the Baltimore, MD location discussed above. The EPA CERCLIS database lists 49 CERCLIS sites in Philadelphia County, of which all but one are not NPL sites; the one is Franklin Smelting (part of NPL site). The RCRA database lists numerous facilities that generate, store, transport or dispose of hazardous wastes in Philadelphia. None of these sites are anticipated to be impacted by this project.

In addition to the Federal waste management regulations listed in Section 3.4.1, Pennsylvania has well developed environmental regulations that governs waste management activities within the state, administered by the Department of Environmental Protection (DEP). In addition to the Federal waste management regulations applicable state laws and regulations that include: Solid and Municipal Waste Management (Article VIII. 25 PA Code, Chapters 271- 285)), Recycling and Residuals Management (Article IX. 25 PA Code, Chapters 286-299)), and Hazardous Waste Management and Transportation (Article VII. 25 PA Code, Chapters 260-270).

3.4.3 Environmental Consequences

The STS procedures discussed in Section 3.4.1, together with the NRC license Technical Specifications governing radiological releases provide the controls necessary to prevent the spread of contamination, and therefore no significant release of airborne or liquid contamination is anticipated during decommissioning activities. The decommissioning requires environmental monitoring to ensure controls are adequate to protect human health and the environment. Waste material generated during decontamination activities would be managed to minimize disposal volumes and take advantage of opportunities to segregate wastes/debris for any non-contaminated disposal or recycling. Worker radiation exposures would be limited in accordance with 29 CFR 1915 and 1917, as well as the STS Procedures discussed in Section 3.4.1. Characterization of waste for radiological and non-radiological hazardous constituents will assure waste is acceptable for off-site disposal. All wastes generated would be disposed of according to Federal regulations at one of the approved regulated/permitted facilities discussed previously in Section 3.4.2.

In considering the Proposed Action Alternatives, the effects at the facilities would be the same regardless of which alternative is chosen. The Proposed Action would not combine with impacts from other past or future projects in such a manner that would create a cumulative impact.

Baltimore, MD, Alternative

Considering compliance with all Federal and state regulations, guidelines, and agreements, the decommissioning activities are not expected to have significant impacts due to waste management.

Hampton Roads, VA, Alternative

Considering compliance with all Federal and state regulations, guidelines, and agreements, the towing of the vessel to the Hampton Roads, VA decommissioning facility, and the subsequent decommissioning activities are not expected to have significant impacts due to waste management.

Philadelphia, PA, Alternative

Considering compliance with all Federal and state regulations, guidelines, and agreements, the towing of the vessel to the Philadelphia, PA decommissioning facility, and the subsequent decommissioning activities are not expected to have significant impacts due to waste management.

No-Action Alternative

Under the No-Action Alternative, NSS's nuclear power plant would not be decommisioned and there would be no significant impacts as a result of this action.

3.5 Health and Safety

3.5.1 Regulatory Setting

Federal regulations for protecting health and safety include OSHA (29 C.F.R.), and 10 C.F.R. 20, "Standards for Protection Against Radiation," The proposed decommissioning would be completed in compliance with 10 C.F.R. Part 20.1402, "Radiological Criteria for Unrestricted Use," as implemented in STS procedures. Additionally, STS safety and health programs adhere to OSHA regulations, and will be implemented during decommissioning activities.

3.5.2 Affected Environment

MARAD is responsible for ensuring that NSS remains in compliance with the NRC license that incorporates by reference NRC regulations to ensure adequate protection for worker and public health and safety and protection of the environment. For individual ports, the US Coast Guard and the Port Authority, or similar office, usually maintain health and safety plans as well as emergency response plans for the port area. They are often responsible for inspecting commercial vessels for compliance with Federal laws and regulations, responding to oil spills and hazardous material releases into the marine environment, enforcing safety and security zones, investigating marine casualties such as collisions, groundings, and fires, issuing licenses and Mariner's documents to merchant seamen, and monitoring the transfer of bulk liquid products at marine facilities. Vessel movements in port areas, such as vessels under tow or under control of the Port Pilots must comply with these regulations. MARAD is responsible for ensuring that the towing of NSS is in compliance with all US Coast Guard and Port Authority requirements.

The Proposed Action involves only the removal, transportation and disposal of regulated materials. Transportation corridors are disturbed areas, no construction is planned, and transportation will be conducted in accordance with regulations such as NRC, DOT, and applicable state requirements; minimal impacts to health and safety via transportation are anticipated. Waste disposal locations are regulated and licensed to ensure no impacts to health and safety.

Each of the alternatives has similar affected environments with regards to health and safety. All of the locations considered are governed by the same Federal and very similar state regulations to ensure minimal to no impacts to health and safety.

3.5.3 Environmental Consequences

The decommissioning also requires environmental monitoring to ensure controls are adequate to protect human health and the environment. The NRC license Technical Specifications require radiological release and control programs including: a) a Process Control Program; b) an Offsite Dose Calculation Manual; c) a Radiological Effluent Control Program (gaseous and liquid); and d) a Radiological Environmental Monitoring Program. These license programs are embedded within the STS procedures described in Section 3.4.1, and will be implemented during decommissioning. No significant release of airborne or liquid contamination is anticipated during decommissioning activities. Waste material would be managed to minimize disposal volumes and to maintain proper containment of hazardous materials. Worker radiation exposures would be limited in accordance with 10 C.F.R. Part 20. Additionally, actions would comply with a site-specific Radiation Protection Program in order to minimize all radiation exposures to both workers and the public.

The decommissioning work would be completed by trained workers who will ensure that all waste is contained to prevent release to the off-site environment. According to NRC, the exposure to occupational workers for this kind of activity is considered minor (NRC 1988). Public exposure to radiation would be significantly less than that of workers and meet requirements identified in the decommissioning permit. The radiation dose to the public from the transportation of radioactive wastes is estimated to be minor, if at all, and considerably below the average background levels of radiation; thus impacts are expected to be negligible.

Inhalation is considered the dominant exposure pathway for public radiation exposure from naturally occurring radioactive materials. According to NRC's GEIS on decommissioning, the inhalation radiation dose to the public from airborne radionuclide releases during decommissioning of nuclear facilities in general is estimated to be negligible (NRC 1988). These minor adverse exposures to the public would be offset by the beneficial impacts of permanently removing the waste from the vessel and properly disposing of it and other waste materials.

The NRC GEIS has analyzed decommissioning activities and determined that there would not be significant impacts to health and safety. In considering the proposed alternative locations, the effects would be the same regardless of which alternative is chosen; though varying populations may be exposed.

Considering compliance with all Federal and state regulations, guidelines, and agreements, the removal of the vessel from Baltimore, MD, towing to facilities, and the decommissioning activities are not expected to have significant impacts on health and safety. The Proposed Action would not combine with impacts from other past or future projects in such a manner that would create a cumulative impact.

No-Action Alternative

Under the No-Action Alternative, NSS would not be decommissioned. MARAD would continue to monitor and maintain the vessel. NSS would continue to age, posing an increasing threat to the environment over the long-term. The increased threat will likely increase costs for MARAD to ensure protection of human health and the environment.

4. CUMULATIVE IMPACTS

Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 C.F.R. § 1508.7). To be considered cumulative impacts, the effects must meet the following criteria: the effects would occur in a common locale or region; the effects would not be localized (i.e., they would contribute to effects of other actions); the effects would impact a particular resource in a similar manner; and the effects would be long term (short-term impacts are temporary and would not typically contribute to significant cumulative impacts).

Federal regulations implementing NEPA (42 U.S.C. 4321 et seq.), DOT Order 5610.1C and Maritime Administrative Order MAO 600-1, require that the cumulative impacts of a Proposed Action be assessed. The CEQ regulations implementing the procedural provisions of the NEPA define cumulative impacts as: "The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." (40 C.F.R. § 1508.7)

To analyze cumulative impacts, a cumulative impacts region must be identified for which the Proposed Action and other past, proposed, and reasonably foreseeable actions would be cumulatively recorded or experienced. Consequently, the area of potential effects where cumulative impacts may occur consists of three locations that include Baltimore, MD, as well as the two additional potential decommissioning locations. Therefore, this analysis considers impacts arising from the Proposed Action combined with the impacts of other known past, present, and reasonably foreseeable future actions within the regions described below.

4.1 Baltimore, MD

There have been dozens of vessels, including Navy, MARAD and commercial vessels, dismantled to certain degrees in Baltimore, MD, at facilities that were capable of dismantling multiple vessels at a time. Tradepoint Atlantic, which was Sparrows Point Terminal until 2016 and was a former steel mill, is a 3,250-acre multimodal industrial site and current EPA remediation site that plans to deepen their berths and channel 10 to 15 feet. Port Covington, a mostly industrial 235-acre area in South Baltimore with three miles of waterfront, is currently one of the largest urban redevelopment projects in America. These projects would potentially have a more significant impact on the project area than the DECON-LT. The Proposed Action and reasonably foreseeable projects would not likely be occurring at the same time in the same area. Therefore, their cumulative effect would not be significant.

4.2 Hampton Roads, VA

Hampton Roads, VA facilities routinely conduct ship construction, repairs and upgrades, as well as scheduled and emergent maintenance work. New nuclear-powered aircraft carriers are currently under construction. There have been numerous government and commercial vessels constructed and deactivated in this location. USACE recently approved the *Wider, Deeper, Safer* project to dredge and deepen the channels to 55 feet and widen them for two-way traffic of ultra-large container vessels; the project is expected to complete in 2024. These ongoing activities and projects would potentially have a more significant impact on the project area than the DECON-LT. The Proposed Action and reasonably foreseeable projects would not likely be occurring at the same time in the same area. Therefore, their cumulative effect would not be significant.

4.3 Philadelphia, PA

The Port of Philadelphia is currently deepening the Delaware River channel from 40 feet to 45 feet mean low water and is expected to be completed at the end of 2018; the Port is also obtaining five super post-Panamax cranes, of which two have already arrived, as part of the Port Development Plan. This project and the resulting increase in marine traffic would potentially have a more significant impact on the project area than the DECON-LT. The Proposed Action and reasonably foreseeable projects would not likely be occurring at the same time in the same area. Therefore, their cumulative effect would not be significant.

4.4 Environmental Analysis

The Proposed Action generally would have a lesser impact to the project area than existing or completed nearby construction and dismantling projects. Other projects in the same locations are generally larger in scope than the Proposed Action, and have their own environmental analysis. Past and ongoing dredging projects would not to have a significant effect on the environment, individually or cumulatively. Below, cumulative impacts are discussed within each impact area. Due to the fact that the NSS would be towed and its nuclear power plant decommissioned at a commercial facility with no construction required and the vessel access would be controlled and limited, the project would have no impact on land use, geology, soils and seismicity, socioeconomics and environmental justice, transportation, noise, utilities, aesthetics and visual resources. Therefore, it would have no cumulative impacts on these resources when considered with other projects.

4.4.1 Water Resources

The Proposed Action would cause temporary impacts to water quality as a result of increased turbidity from towing. However, when considered with dredging projects and other in-water work, the Proposed Action would not significantly impact sediment or water quality. Towing procedures would be implemented to avoid sediment disturbance. Therefore, the Proposed Action would not have a cumulative impact when considered with these projects.

Other projects in the region could produce minor discharges that would flow into surface drainages and eventually to the marine environment. However, these projects would also be required to comply with applicable Federal, state, and local regulations, as well as general and construction stormwater permits. These mandated requirements would reduce potential impacts on water quality to less than significant levels. Therefore, the cumulative impact on water resources would reflect several actions with individual effects that are not significant. The Proposed Action and reasonably foreseeable projects would not likely be occurring at the same time, in the same area. Therefore, the Proposed Action would not have any cumulative impact when considered with these projects.

4.4.2 Biological Resources

The Proposed Action would not significantly affect marine biological resources. Due to the limited scope and local area of the impacts associated with the other identified projects there would be no significant cumulative impacts on biological resources. The Proposed Action and other projects would have the potential to temporarily affect marine species and their habitat, including sea turtles and marine mammals, but there would be no significant impact on these species because they are highly mobile and able to avoid the disturbance area. Moreover, these projects would not likely be occurring at the same time in the same area. No in-water work is

planned in the project area. No cumulative effects due to towing are anticipated. No cumulative impacts to biological resources are anticipated.

4.4.3 Air Quality

Impacts resulting from project emission sources, in combination with impacts from any past and reasonably foreseeable future projects, would not have any cumulative impacts. Temporary and minimum impact to air quality would occur during decommissioning activities. However, the Proposed Action and reasonably foreseeable projects would not likely be occurring at the same time in the same area, so potential impacts would be moderated over time and space. Additionally, ambient air quality is expected to return to the original condition upon the completion of each project. As a result, the Proposed Action would not have cumulative impacts to air quality when considered with other activities in the project area.

4.4.4 Waste Management

Other projects, specifically shipyard dismantling actions, could produce hazardous waste. However, these projects would also be required to comply with applicable Federal, state, and local regulations. Additionally, the decommissioning permit will identify limits for release of materials and radioactive waste disposal sites are subject to strict siting, maintenance, and monitoring criteria. These mandated requirements would reduce potential impacts to less than significant levels. Therefore, the cumulative impact would reflect several actions with individual effects that are not significant. As a result, the Proposed Action would not have any cumulative impact when considered with these projects.

4.4.5 Health and Safety

Other projects in the region have the potential to produce minor impacts to health and safety. However, these projects would also be required to comply with applicable Federal, state, and local regulations. These mandated requirements would reduce potential impacts on health and safety to less than significant levels. Therefore, the cumulative impact would reflect several actions with individual effects that are not significant. As a result, the Proposed Action would not have any cumulative impact when considered with these projects.

5. OTHER CONSIDERATIONS REQUIRED BY NEPA

5.1 Possible Conflicts between the Proposed Action and the Objectives of Federal, State, Regional, and Local Land Use Plans, Policies, and Controls

Implementation of the Proposed Action would comply with existing Federal, state, regional, and local regulation, policies and programs. The Federal acts, EOs, policies, and plans that apply include the following: NEPA; CAA and Federal General Conformity Rule; CWA; CZMA; ESA; MBTA and EO 13186; MMPA; NHPA; and EO 12372, Coordination with state and regional agencies. Applicable state, local, and regional plans, policies, and controls include: state Coastal Zone Management Programs; state ESAs; and the relevant AQCR rules and regulations.

5.2 Federal Acts, Executive Orders, Policies, and Plans

National Environmental Policy Act

This EA has been prepared in accordance with the NEPA of 1969, 42 U.S.C. §§ 4321-4370d, as implemented by the CEQ regulations, 40 C.F.R. §§1500-1508, DOT Order 5610.1C and Maritime Administrative Order MAO 600-1. EO 11991 of 24 May 1977 directed the CEQ to issue regulations for procedural provisions of the NEPA; these are binding for all federal agencies.

The NEPA, and the implementing regulations promulgated by the CEQ, require that environmental information is made available to decision makers and citizens before making decisions and taking major Federal actions, and that the NEPA process should identify and assess reasonable alternatives to Proposed Actions to avoid or minimize adverse environmental effects.

Clean Water Act

The Federal CWA was enacted as an amendment to the Federal Water Pollution Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the U.S. The CWA includes programs addressing both point source and nonpoint source pollution, and empowers the states to set state-specific water quality standards and to issue permits containing effluent limitations for point source discharges. Maryland, Virginia, and Pennsylvania are the delegated permit authorities in the project area. The states administer point source discharges of pollutants through an EPA-approved Program. Indirect industrial discharges of effluent to publicly owned treatment works are subject to pretreatment standards promulgated by the EPA and the state.

Clean Air Act and General Conformity Rule

The CAA of 1955 and subsequent amendments specify regulations for control of the nation's air quality. Federal and state ambient air standards (NAAQS) have been established for each criteria pollutant: SO_2, CO, PM_{10} and $PM_{2.5}$, NO_2, lead, and O_3. National emissions standards were set for individual sources of hazardous air pollutants as well as regulation of mobile sources of air emissions and a permit program for stationary sources. The results of the air quality analysis determined that the emissions associated with the Proposed Action would not contribute to an exceedance of an ambient air quality standard.

Achieving CAA standards is the responsibility of the states. Each state must develop SIPs that outline to the EPA how it will achieve and maintain the standards. SIPs implement CAA programs such as the Title V operating permit, new source performance standards (NSPS), new source review, and national emission standards for hazardous air pollutants (NESHAPs) at the

state and local level. States may require pollution control and prevention standards that are more stringent than those mandated by the EPA, but may not allow measures that are less stringent. Federal agencies must comply with the requirements of Federal, state, interstate, and local air pollution regulations.

The CAA requires Federal actions to conform to the goals of the applicable SIP before proceeding with the action. MARAD has determined that this Proposed Action would conform to the SIPs. A RONA is included as Appendix C of this EA.

Coastal Zone Management Act

The CZMA of 1972 requires that Federal actions that affect any land or water use or natural resource of the coastal zone must be consistent to the maximum extent practicable with the state program. State CZMA programs include point and non-point source pollution control, flood control, sediment control, grading control, and stormwater runoff control. Maryland, Virginia, and Pennsylvania have prepared Federally-approved CMPs, which are known as the Virginia Coastal Zone Management Program, Maryland Chesapeake and Coastal Program, and Pennsylvania Coastal Resources management Program respectively. Pursuant to Section 307(c) of the CZMA, the decommissioning of NSS's nuclear power plant would not affect the coastal zone. MARAD has determined that the Proposed Action would be consistent to the maximum extent practicable with the enforceable policies of the three state programs and permits and practices already established.

Endangered Species Act

The ESA of 1973 and subsequent amendments provide for the protection of threatened and endangered species of fish, wildlife, and plants and their habitats. The act requires Federal agencies to ensure that no agency action is likely to jeopardize the continued existence of endangered or threatened species. The ESA prohibits Federal agencies from taking any action that would adversely affect any endangered or threatened species, or critical habitat. The ESA prohibits all persons subject to U.S. jurisdiction, including Federal agencies, from "taking" endangered species. The taking prohibition includes any harm or harassment, and applies within the U.S. and on the high seas. MARAD has concluded that the Proposed Action may affect but is not likely to adversely affect sea turtles and would have no effect on other threatened or endangered species.

Migratory Bird Treaty Act

Marine birds are protected under the MBTA and Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, which direct Federal agencies to avoid or minimize adverse effects on migratory birds, to protect their habitats, and to consider effects on migratory birds in NEPA documents. MARAD has determined that the Proposed Action would have no reasonably foreseeable takes and would have no effect on migratory birds.

Marine Mammal Protection Act

The 1972 MMPA established a Federal responsibility to conserve marine mammals with management vested in the Department of the Interior for sea otter, walrus, polar bear, dugong, and manatee. The Department of Commerce is responsible for cetaceans and pinnipeds, other than the walrus. With certain specified exceptions, the Act establishes a moratorium on the taking and importation of marine mammals as well as products taken from them, and establishes procedures for waiving the moratorium and transferring management responsibility to the states. The law authorized the establishment of a Marine Mammal Commission with specific advisory

and research duties. The analysis provided in this EA concludes the Proposed Action would have no reasonably foreseeable takes of marine mammals (i.e., cause harm or harassment of any marine mammals) and may affect but is not likely to adversely affect marine mammals. The Proposed Action would comply with the MMPA.

National Historic Preservation Act

The NHPA was passed in 1966 to provide for the protection, enhancement, and preservation of those properties that possess significant architectural, archaeological, historical, or cultural characteristics. 36 C.F.R. Part 800 further defined the obligations of Federal agencies concerning this act.

Section 106 of the NHPA requires Federal agencies to take into account the effects of their undertakings on historic properties qualifying for inclusion in or eligible for listing in the NRHP and afford the Council a reasonable opportunity to comment on such undertakings. An undertaking is defined as a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license, or approval. The governor of each state or territory appoints a SHPO who is responsible for administering cultural resources programs within a given jurisdiction, and MARAD initiates consultation procedures with the respective SHPO in accordance with the NHPA.

The NSS was designated a NHL in 1991. Section 110 of the NHPA requires that Federal owners of NHLs must, to the maximum extent possible, undertake such planning and actions as are necessary to minimize harm to the landmark. MARAD has consistently applied the minimize harm standard to all of its (vessel) decommissioning planning efforts. The Proposed Action would not adversely affect any cultural resources besides the vessel itself.

Executive Order 12372

EO 12372, Intergovernmental Review of Federal Programs, was issued in 1982 in order to foster an intergovernmental partnership and a strengthened federalism by relying on state and local processes for the state and local government coordination and review of proposed Federal financial assistance and direct Federal development.

MARAD pursues close and harmonious planning relations with local and regional agencies and planning commissions of adjacent cities, counties, and states for cooperation and resolution of mutual land use and environment related problems. In preparing this EA, relevant data from state, regional, and local agencies were reviewed in order to determine regional and local conditions associated with the Proposed Action. With respect to the Proposed Action, no mutual land use or environmental issues require resolution.

5.3 State, Local, and Regional Plans, Policies, and Controls

State Coastal Zone Management Program

MARAD has determined that there is no effect on the coastal zone. The project is consistent with the Maryland and other state CMPs.

State Endangered Species Acts

Although state ESAs do not apply to Federal actions, some state-listed species are addressed in this document. MARAD has concluded that there would be no effect from the Proposed Action on species covered under the state ESAs.

Air Quality Management District Rules and Regulations

The Proposed Action air emissions would comply with all applicable AQCR rules and regulations.

5.4 Energy Requirements and Conservation Potential of Alternatives Including the Proposed Action and All Mitigation Measures Being Considered

The Proposed Action would not result in any additional energy requirements above the current routine operations of the industrial facilities. Therefore, no mitigation and/or monitoring measures will be implemented.

5.5 Irreversible or Irretrievable Commitment of Natural or Depletable Resources

The NEPA requires an analysis of significant, irreversible effects resulting from implementation of a Proposed Action. Resources that are irreversibly or irretrievably committed to a project are those that are typically used on a long-term or permanent basis; however, those used on a short-term basis that cannot be recovered (e.g., non-renewable resources such as metal, wood, fuel, paper, and other natural or cultural resources) are also irretrievable. Human labor is also considered an irretrievable resource. All such resources are irretrievable in that they are used for one project and thus become unavailable for other purposes. An impact that falls under the category of the irreversible or irretrievable commitment of resources is the destruction of natural resources that could limit the range of potential uses of that resource.

Implementation of the Proposed Action would result in an irreversible commitment of fuel for decommissioning, human labor, and other resources. These commitments of resources are neither unusual nor unexpected, given the nature of the action.

The Proposed Action would not result in the destruction of environmental resources such that the range of potential uses of the environment would be limited, nor affect the biodiversity of the region.

5.6 Relationship between Local Short-Term Use of the Human Environment and Maintenance and Enhancement of Long-Term Natural Resource Productivity

The NEPA requires consideration of the relationship between short-term use of the environment and the impacts that such use could have on the maintenance and enhancement of long-term productivity of the affected environment. Impacts that narrow the range of beneficial uses of the environment are of particular concern. Such impacts include the possibility that choosing one option could reduce future flexibility to pursue other options, or that choosing a certain use could eliminate the possibility of other uses at the site.

Implementation of the Proposed Action would not result in any such environmental impacts because it would not pose long-term risks to health, safety, or the general welfare of the communities surrounding the project area that would significantly narrow the range of future beneficial uses. In addition, biological productivity would not be affected as implementation of the Proposed Action would not result in cumulative impacts to any biological resources.

5.7 Means to Mitigate and/or Monitor Adverse Environmental Impacts

The Proposed Action would result in only one potentially significant environmental impact: the decommissioning of the vessel's nuclear power plant. Therefore, the only mitigation and/or monitoring measures that will be implemented are those that will be stipulated in the

Programmatic Agreement between MARAD, the NRC, the National Park Service, the Advisory Council on Historic Preservation, and the Maryland Historical Trust, which serves as the SHPO.

5.8 Any Probable Adverse Environmental Effects that cannot be Avoided and are not Amenable to Mitigation

This EA has determined that the Proposed Action would not result in any significant immitigable impacts; therefore, there are no probable adverse environmental effects that cannot be avoided or are not amenable to mitigation.

6. CONCLUSION

Overall, no significant environmental impacts are expected to occur as a result of the Proposed Action. NSS is listed in the National Register of Historic Places. Through consultation with the NRC, the National Park Service, the Advisory Council on Historic Preservation, and the Maryland Historical Trust, which serves as the SHPO, a Programmatic Agreement will be implemented as mitigation efforts for DECON-LT. MARAD is in the process of finalizing the details of the PA, which will formally document the agreed upon mitigation measures required for Section 106 compliance.

The Proposed Action would comply with all Federal and state regulations, guidelines, and agreements. All Proposed Action Alternatives are environmentally equal. However, Baltimore, MD is the Preferred Alternative because the vessel is already there and may not need towing. There would be minor differences with respect to towing distances and waste transportation and disposals depending on the alternatives; however, none of the differences would produce significant impacts. Based on the findings from this EA, a FONSI shall be prepared.

APPENDICES

APPENDIX A
FIGURES AND TABLES

Figure 1.1 – NS SAVANNAH at Baltimore, MD

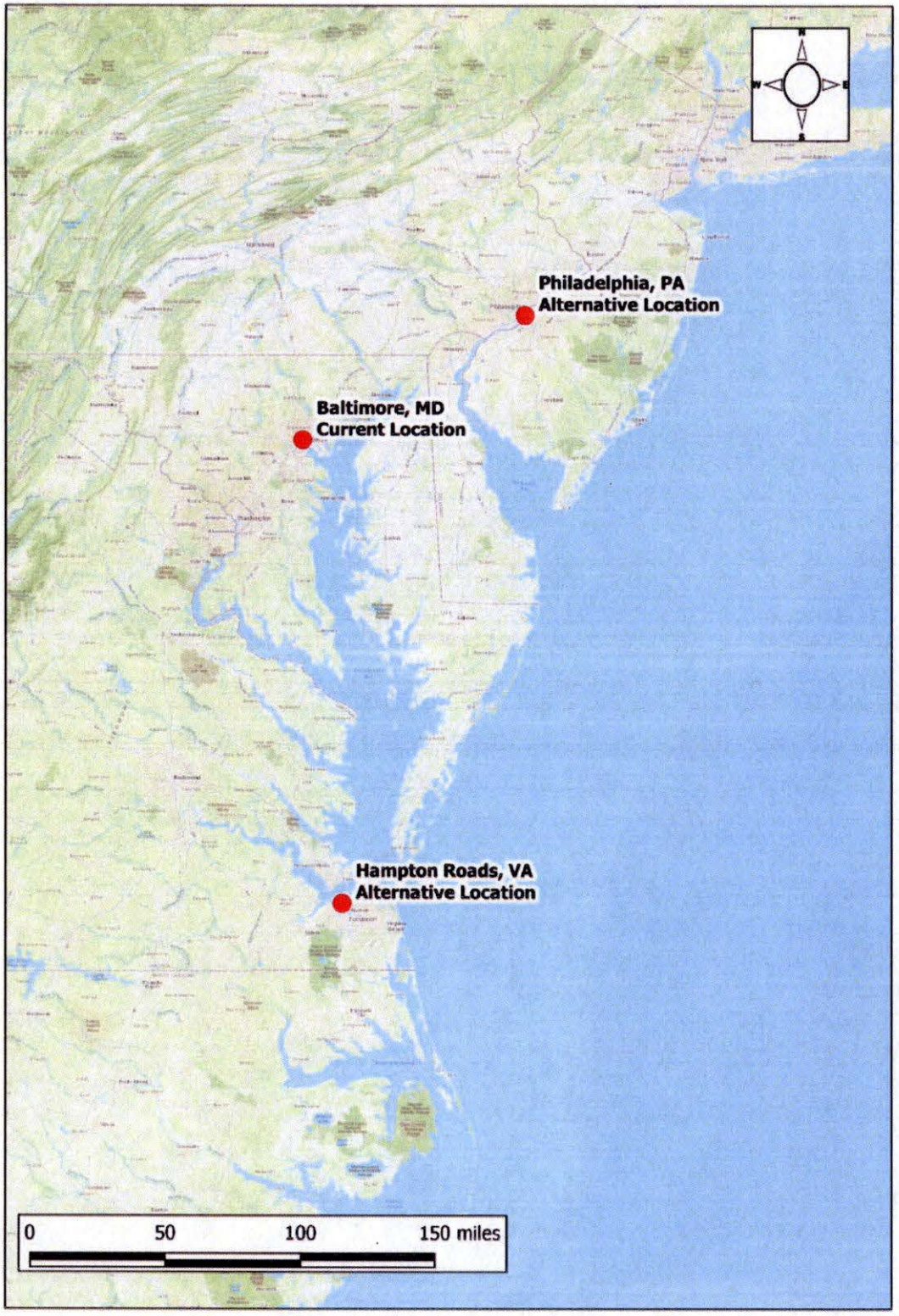


Figure 2.2 – Project Area Map with Alternatives

Table 2-1. Summary of Impacts

Resource Area	Baltimore, MD, Alternative	Hampton Roads, VA, Alternative	Philadelphia, PA, Alternative	No-Action Alternative
Cultural Resources	No adverse effects on other cultural resources.	No adverse effects on other cultural resources.	No adverse effects on other cultural resources.	No adverse effects
Water Resources	Minimal adverse impacts	Minimal adverse impacts	Minimal adverse impacts	No significant impacts
Biological Resources	• No reasonably foreseeable takes are expected for marine mammals. • No effect on Essential Fish Habitat.	• No reasonably foreseeable takes are expected for marine mammals. • No effect on Essential Fish Habitat.	• No reasonably foreseeable takes are expected for marine mammals. • No effect on Essential Fish Habitat.	No significant impacts
Air Quality	Insignificant temporary impacts	Insignificant temporary impacts	Insignificant temporary impacts	No impacts
Waste Management	No significant impacts	No significant impacts	No significant impacts	No impacts
Health and Safety	No significant impacts	No significant impacts	No significant impacts	No impacts

Table 3-1. Threatened and Endangered Species List for Baltimore, MD

Common Name	Scientific Name	Status	Listing
MAMMALS			
North Atlantic right whale	*Eubalaena glacialis*	E	Federal, Maryland
Humpback whale	*Megaptera novaeangliae*	E	Federal, Maryland
Fin whale	*Balaenoptera physalus*	E	Federal, Maryland
Sperm whale	*Physeter macrocephalus*	E	Federal*, Maryland
Sei whale	*Balaenoptera borealis*	E	Federal*, Maryland
REPTILES			
Kemp's ridley sea turtle	*Lepidochelys kempii*	E	Federal, Maryland
Green sea turtle	*Chelonia mydas*	T	Federal, Maryland
Leatherback sea turtle	*Dermochelys coricea*	E	Federal, Maryland
FISH			
Shortnose sturgeon	*Acipenser brevirostrum*	E	Federal, Maryland
BIRDS			
Peregrine falcon	*Falco peregrinus*	N	Maryland
Bald eagle	*Haliaeetus leucocephalus*	W	Maryland (for breeding species)

E = Endangered, T = Threatened, N = Species in need of conservation, W= Watch List

* Found in deep ocean water

Table 3-2. Threatened and Endangered Species List for Hampton Roads, VA

Common Name	Scientific Name	Status	Listing
REPTILES			
Hawksbill sea turtle	*Eretmochelys imbricata*	E	Federal, Virginia
Kemp's ridley sea turtle	*Lepidochelys kempii*	E	Federal, Virginia
Green sea turtle	*Chelonia mydas*	T	Federal, Virginia
Leatherback sea turtle	*Dermochelys coricea*	E	Federal, Virginia

E = Endangered, T = Threatened

Table 3-3. Threatened and Endangered Species List for Pennsylvania location

Common Name	Scientific Name	Status	Listing
FISH			
Shortnose sturgeon	*Acipenser brevirostrum*	E	Federal, Pennsylvania
Atlantic sturgeon	*Acipenser oxyrhynchus*	T	Proposed listed Federal, Pennsylvania
Eastern mudminnow	*Umbra pygmaea*	E	Pennsylvania
Threespine stickleback	*Gasterosteus aculeatus*	C	Pennsylvania
REPTILES			
Red-bellied turtle	*Pseudemys rubriventris*	T	Pennsylvania
AMPHIBIANS			
New Jersey chorus frog	*Pseudacris feriarum kalmi*	E	Pennsylvania
Coastal Plain leopard frog	*Rana utricularia*	E	Pennsylvania
BIRDS			
Peregrine falcon	*Falco peregrinus*	E	Pennsylvania

E = Endangered, T = Threatened, C = Candidate

Table 3-2. Biological Resource Impact Summary

Environmental Feature	Baltimore, MD, Alternative	Hampton Roads, VA Alternative	Philadelphia, PA Alternative
Wetlands	No impact	No impact	No impact
Benthic Communities	Temporary impacts	Temporary impacts	Temporary impacts
Fish and Essential Fish Habitat	Temporary impacts to unprotected fish; no effect on EFH	Temporary impacts to unprotected fish; no effect on EFH	Temporary impacts to unprotected fish; no effect on EFH
Protected Species	May affect but not likely to adversely affect and no reasonably foreseeable takes	May affect but not likely to adversely affect and no reasonably foreseeable takes	May affect but not likely to adversely affect and no reasonably foreseeable takes

Table 3-3. Applicable Criteria Pollutant *de minimis* Levels (Tons/Year) for Alternative Locations (40 C.F.R. § 93.153)

Location	VOC	NOx	PM2.5
Baltimore, MD	50	100	100
Hampton Roads, VA	--	--	--
Philadelphia, PA	50	100	100

APPENDIX B
REGULATORY COMMUNICATION

Stakeholders Sent Regulatory Notification Letters

Virginia:

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Citizens for Nuclear Technology Awareness is interested primarily in nuclear issues education.
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June 26, 2018

Russell Strickland
Emergency Response Director
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Attn: russell.strickland@maryland.gov

Dear Russell Strickland:

I am writing to you on behalf of the Maritime Administration (MARAD) who is preparing a Supplemental Environmental Assessment (EA) for a proposed project to fully decommission the Nuclear Ship SAVANNAH (NSS). This action will result in the termination of their nuclear license by the US Nuclear Regulatory Commission (NRC) under 10 CFR Part 50 as a power generation reactor.

MARAD owns and maintains the NSS, the world's first nuclear powered merchant ship. NSS was deactivated in 1970, defueled in 1971, and has been in a state of mothballed protective storage since 1976. All high level radioactive materials were removed, any areas of remaining radioactivity were sealed and contained and the vessel has since been in protective storage. MARAD prepared a Final Environmental Assessment and Finding of No Significant Impact (Report No. STS-106) (FEA/FONSI) in 2008 that discussed decommissioning options; however, full decommissioning was not completed, and the decision was made to keep NSS in protective storage while awaiting funding for full decommissioning. The vessel was moved to berthing in Baltimore where it remains. The project is being completed now because funded has been received.

The proposed action is to decommission NSS at an existing commercial industrial facility via NRC's DECON method. MARAD is responsible for towing the vessel, if necessary, to a suitable port location. DECON actions for all low-level radioactive waste (LLW) processing and packaging will be done aboard the vessel, then removed via crane. Waste will then be transported to a licensed nuclear (Class A) waste disposal location via secure methods and routes typically used to ship LLW. This proposed action is a continuation of the work discussed in the DECON portion of the 2008 FEA/FONSI.

Viable port cities to be analyzed in this Supplemental EA include Baltimore, MD; Hampton Roads, VA; Philadelphia, PA; Charleston, SC; and Jacksonville, FL at existing industrial facilities. It is important to note that the DECON actions are limited to within

the vessel, other than the transportation of packaged waste to disposal facilities; no actions will occur in the water. After all low-level waste is removed, the vessel will still float and final disposition of NSS can be determined in the future (options may include establishing a museum, reefing, and dismantling).

If the vessel is moved from its current location, marine species that may be encountered (and will be evaluated in this Supplemental EA) are West Indian Manatee, whales (North Atlantic right, humpback, fin, sperm, blue, and sei), reptiles (hawksbill sea turtle, Kemp's ridley sea turtle, green sea turtle, leatherback sea turtle, loggerhead), and also fish species (short nose and Atlantic Sturgeon).

Three of these port cities were analyzed in the 2008 NSS FEA/FONSI and the 2014 STURGIS FEA/FONSI and similar results are expected: although threatened and endangered species have been identified as having the potential to occur in the project area (which encompasses all potential locations and towing paths), they are not likely to be adversely affected by the proposed action.

The National Historic Preservation Act Section 106 consultation is ongoing and is being handled separately from, but coordinated with, this Supplemental EA.

The Supplemental EA will be prepared shortly and we will send a copy to your office when drafted. Please advise Ms. Jill Enright at jenright@dandp.com of any environmental concerns that you feel should be addressed. If you have any questions or concerns please address them to Ms. Kristine Gilson at Kristine.gilson@dot.gov.

Sincerely,
CGS-BMT JV

Jill Enright, P.E.
NEPA Coordinator

MARYLAND DEPARTMENT OF
PLANNING

Larry Hogan, Governor
Boyd Rutherford, Lt. Governor

Robert S. McCord, Secretary

June 28, 2018

Ms. Jill Enright, P.E.
NEPA Coordinator
CGS BMT Joint Venture, LLC
4401 Ford Avenue, Suite 1000
Alexandria, VA 22302

STATE CLEARINGHOUSE REVIEW PROCESS
State Application Identifier: MD20180627-0498
Project Description: Scoping for the Supplemental Environmental Assessment (EA): Full Decommissioning of the Nuclear Ship SAVANNAH (NSS), Baltimore, MD
Project Location: Baltimore City
Clearinghouse Contact: Myra Barnes

Dear Ms. Enright:

Thank you for submitting your project for intergovernmental review. Participation in the Maryland Intergovernmental Review and Coordination (MIRC) process helps ensure project consistency with plans, programs, and objectives of State agencies and local governments.

Notice of your application is being provided to State and local public officials through the ***Intergovernmental Monitor***, which is a database of projects received by the State Clearinghouse for Intergovernmental Assistance. This information may be viewed at http://apps.planning.maryland.gov/emircpublic/ . The project has been assigned a unique State Application Identifier that should be used on all documents and correspondence.

A "Project Status Form" has been enclosed and should be completed and returned after you receive notice that your project was approved or not approved.

All MIRC requirements have been met in accordance with Code of Maryland Regulations (COMAR 34.02.01.04-.06) and this concludes the review process for the above referenced project. If you need assistance or have questions, contact the State Clearinghouse staff noted above at 410-767-4490 or through e-mail at myra.barnes@maryland.gov. Thank you for your cooperation with the MIRC process.

Sincerely,

Myra A. Barnes

Myra Barnes, Lead Clearinghouse Coordinator

MB:MB
Enclosure(s)
cc: Kristine Gilson - DOT
18-0498_NM.NEW.docx

MARYLAND DEPARTMENT OF
PLANNING

Larry Hogan, Governor
Boyd Rutherford, Lt. Governor

Robert S. McCord, Secretary

PROJECT STATUS FORM

Please complete this form and return it to the State Clearinghouse upon receipt of notification that the project has been approved or not approved by the approving authority.

TO: **Maryland State Clearinghouse**
Maryland Department of Planning
301 West Preston Street
Room 1104
Baltimore, MD 21201-2305

DATE: _____
(Please fill in the date form completed)

FROM: _____
(Name of person completing this form.)

PHONE: ___ - ___ - _____
(Area Code & Phone number)

RE: **State Application Identifier:** **MD20180627-0498**
Project Description: Scoping for the Supplemental Environmental Assessment (EA): Full Decommissioning of the Nuclear Ship SAVANNAH (NSS), Baltimore, MD

PROJECT APPROVAL		
This project/plan was: ☐ **Approved**	☐ **Approved with Modification**	☐ **Disapproved**
Name of Approving Authority: _____		**Date Approved:** _____

FUNDING APPROVAL			
The funding (if applicable) has been approved for the period of: _____, 201___ **to** _____, 201___ **as follows:**			
Federal $: _____	**Local $:** _____	**State $:** _____	**Other $:** _____

OTHER
☐ **Further comment or explanation is attached**

Jill Enright

From: Myra Barnes -MDP- <myra.barnes@maryland.gov>
Sent: Thursday, June 28, 2018 1:03 PM
To: Jill Enright
Cc: Kristine.gilson@dot.gov
Subject: Scoping for the Supplemental Environmental Assessment (EA): Full Decommissioning of the Nuclear Ship SAVANNAH (NSS), Baltimore, MD (MD20180627-0498)
Attachments: 18-0498_Monitor.NEW.doc.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hello Ms. Enright,

Enclosed is the State Clearinghouse Review Process Acknowledgment letter, including an attachment for the Scoping for the Supplemental Environmental Assessment (EA): Full Decommissioning of the Nuclear Ship SAVANNAH (NSS), Baltimore, MD (MD20180627-0498). Thank you.

MARYLAND DEPARTMENT OF PLANNING
CHANGING Maryland for the Better

Myra A. Barnes

Lead Clearinghouse Coordinator

Maryland Department of Planning
(410) 767-4488
/ (877) 767-6272

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Intergovernmental Monitor
A Publication of Maryland Department of Planning's State Clearinghouse Division
Announcing Proposals Received for Intergovernmental Review

MARYLAND DEPARTMENT OF PLANNING

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AVAILABLE RECORDS SEARCH & VIEW SEARCH RESULTS VIEW SELECTED RECORD DETAIL

Print this detailed report.

ID NUMBER	**MD20180627-0498**
PROCESS INFORMATION	**Opened:** 6/28/2018 **Review Period:** 0 Days **Reviewer Comments Due:** 6/28/2018 **Closed:** 6/28/2018 **Processing Method:** Information Only **Clearinghouse Contact:** Myra Barnes
REVIEW CONSISTENCY DETERMINATION	**N/A. This was processed for information purposes only.**
COMMENTS REQUESTED FROM	**No agencies were formally requested to submit comments on this project.**
LOCATION	Baltimore City
DESCRIPTION	View Document(s) **Scoping for the Supplemental Environmental Assessment (EA): Full Decommissioning of the Nuclear Ship SAVANNAH (NSS), Baltimore, MD**
APPLICANT & CONTACT	**CGS BMT Joint Venture, LLC** **Jill Enright** **NEPA Coordinator** **4401 Ford Avenue, Suite 1000** **Alexandria VA 22302** **Phone: 703-920-7070** **E-mail: jenright@dandp.com**
CO-APPLICANT & CONTACT (if any provided)	**None or not entered/provided.**
CATEGORY CODE	**2A - DEIS/EER/FONSI/EIS/EA/NEPA DOCUMENTS (EXCEPT FOR CDBG & WATER & SEWER)**

Jill Enright

From: Jill Enright
Sent: Wednesday, June 27, 2018 9:51 AM
To: 'Eva Nair -MDE-'; Susan Frye
Subject: RE: EA Regulatory Notification Letter

The waste handling and processing will all occur within the ship. It will be packaged on the ship and then be moved to the pier straight to the transportation method (truck, rail, etc.) to be sent to the disposal facility.

Jill Enright, P.E.
Senior Program Engineer
BMT Designers & Planners Inc

Mob: +1 315 313 5768

From: Eva Nair -MDE- <eva.nair@maryland.gov>
Sent: Wednesday, June 27, 2018 9:09 AM
To: Susan Frye <SFrye@cgs.us.com>
Cc: Jill Enright <jenright@dandp.com>
Subject: Re: EA Regulatory Notification Letter

Good morning Susan,

Thank you for sending us the letter and keeping us informed. If the work will be conducted in Maryland, will the reactor vessel be packaged for shipment within the ship or will it have to be moved to the pier?

Thanks,

Eva

Eva S. Nair
Program Manager, Radiological Health Program
Maryland Department of the Environment
(410) 537-3179

On Tue, Jun 26, 2018 at 8:33 PM, Susan Frye <SFrye@cgs.us.com> wrote:

> Eva Nair
>
> I am writing to you on behalf of the Maritime Administration (MARAD) who is preparing a Supplemental Environmental Assessment (EA) for a proposed project to fully decommission the Nuclear Ship SAVANNAH (NSS). Please see attached letter.
>
> Thank you

Jill Enright

From: Trevor Clark <trevor_clark@fws.gov>
Sent: Wednesday, June 27, 2018 3:08 PM
To: SFrye@cgs.us.com
Cc: Jill Enright
Subject: Re: [EXTERNAL] EA Regulatory Notification Letter

Hi Susan,

Please go to the following website to determine if federally endangered and/or threatened species within the Maryland, Delaware and Washington D.C. region have the potential to be impacted by your proposed project:

<http://www.fws.gov/chesapeakebay/EndSppWeb/ProjectReview/Index.html>

Please contact me if you have any questions. Thanks

On Tue, Jun 26, 2018 at 8:39 PM Susan Frye <SFrye@cgs.us.com> wrote:

> Dear Trevor Clark,
>
> I am writing to you on behalf of the Maritime Administration (MARAD) who is preparing a Supplemental Environmental Assessment (EA) for a proposed project to fully decommission the Nuclear Ship SAVANNAH (NSS). Please see attached letter.
>
> Thank you

--
Trevor Clark
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Chesapeake Bay Ecological Services Field Office
Endangered and Threatened Species Branch
177 Admiral Cochrane Drive
Annapolis, Maryland 21401
Telephone: (410) 573-4527 Fax: (410) 269-0832
Email: trevor_clark@fws.gov

Jill Enright

From: barbara.gregory@dcr.virginia.gov on behalf of nhreview, rr <nhreview@dcr.virginia.gov>
Sent: Friday, July 6, 2018 8:51 AM
To: Jill Enright
Subject: Supplemental Environmental Assessment (EA) for Nuclear Ship SAVANNAH Decommissioning; Hampton Roads, Virginia

Ms. Enright,

A request for a review of the above mentioned project was forwarded to us by the Virginia Dept. of Environmental Quality. If you would like for us to provide comments on this project, a completed Information Services Order Form is required. You can complete the form on-line and it will automatically be sent to us after you hit the "submit" button at the bottom of the page. You will also receive a confirmation email. The form can be found at the following link:

http://www.dcr.virginia.gov/natural-heritage/nhserviceform/

Please feel free to contact me if you have any questions.

Thank you,

Barbara Gregory
Senior Project Review Assistant
DCR-Division of Natural Heritage
600 East Main Street, 24th Floor
Richmond, VA 23219
804-225-2821

Jill Enright

From: Susan Frye <SFrye@cgs.us.com>
Sent: Saturday, July 7, 2018 1:41 PM
To: Jill Enright
Cc: Kevin Howard
Subject: Fwd: EA Regulatory Notification Letter

FYI

-Susan Frye

Begin forwarded message:

From: <nhreview@dcr.virginia.gov>
Date: July 7, 2018 at 1:40:32 PM EDT
To: <Sfrye@cgs.us.com>
Subject: EA Regulatory Notification Letter
Reply-To: <nhreview@dcr.virginia.gov>

Thank you for submitting your request. Upon review of this project, DCR-Natural Heritage will provide comments via email within 30 calendar days. Project reference ID is **18070713403270**.

Application: http://www.dcr.virginia.gov/natural-heritage/nhserviceform/?id=2018-07-07-13-40-32-703377-oj3

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

June 27, 2018

Jill Enright
CGS-BMT JV, LLC
4401 Ford Avenue, Suite 1000
Alexandria, Virginia 22302
Via email: jenright@dandp.com

RE: Scoping Request - Supplemental Environmental Assessment (EA) for Nuclear Ship SAVANNAH Decommissioning; Hampton Roads, Virginia

Dear Ms. Enright:

This letter is in response to the scoping request for the above-referenced project.

As you may know, the Department of Environmental Quality, through its Office of Environmental Impact Review (DEQ-OEIR), is responsible for coordinating Virginia's review of federal environmental documents prepared pursuant to the National Environmental Policy Act (NEPA) and responding to appropriate federal officials on behalf of the Commonwealth. Similarly, DEQ-OEIR coordinates Virginia's review of federal consistency documents prepared pursuant to the Coastal Zone Management Act which applies to all federal activities which are reasonably likely to affect any land or water use or natural resources of Virginia's designated coastal resources management area must be consistent with the enforceable policies Virginia Coastal Zone Management (CZM) Program.

DOCUMENT SUBMISSIONS

In order to ensure an effective coordinated review of the NEPA document and federal consistency documentation, notification of the NEPA document and federal consistency documentation should be sent directly to OEIR. We request that you submit one electronic to eir@deq.virginia.gov (25 MB maximum) or make the documents available for download at a website, file transfer protocol (ftp) site or the VITA LFT file share system (Requires an "invitation" for access. An invitation request should be sent to eir@deq.virginia.gov.). We request that the review of these two documents be done concurrently, if possible.

The NEPA document and the federal consistency documentation (if applicable) should include U.S. Geological Survey topographic maps as part of their information. We strongly encourage you to issue shape files with the NEPA document. In addition, project details should be adequately described for the benefit of the reviewers.

ENVIRONMENTAL REVIEW UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT: PROJECT SCOPING AND AGENCY INVOLVEMENT

As you may know, NEPA (PL 91-190, 1969) and its implementing regulations (Title 40, *Code of Federal Regulations*, Parts 1500-1508) requires a draft and final Environmental Impact Statement (EIS) for federal activities or undertakings that are federally licensed or federally funded which will or may give rise to significant impacts upon the human environment. An EIS carries more stringent public participation requirements than an Environmental Assessment (EA) and provides more time and detail for comments and public decision-making. The possibility that an EIS may be required for the proposed project should not be overlooked in your planning for this project. Accordingly, we refer to "NEPA document" in the remainder of this letter.

While this Office does not participate in scoping efforts beyond the advice given herein, other agencies are free to provide scoping comments concerning the preparation of the NEPA document. Accordingly, we are providing notice of your scoping request to several state agencies and those localities and Planning District Commissions, including but not limited to:

Department of Environmental Quality:
- DEQ Regional Office*
- Air Division*
- Office of Wetlands and Stream Protection*
- Office of Local Government Programs*
- Division of Land Protection and Revitalization
- Office of Stormwater Management*

Department of Conservation and Recreation
Department of Health*
Department of Agriculture and Consumer Services
Department of Game and Inland Fisheries*
Virginia Marine Resources Commission*
Department of Historic Resources
Department of Mines, Minerals, and Energy
Department of Forestry
Department of Transportation

Note: The agencies noted with a star (*) administer one or more of the enforceable policies of the Virginia CZM Program.

FEDERAL CONSISTENCY UNDER THE COASTAL ZONE MANAGEMENT ACT

Pursuant to the federal Coastal Zone Management Act of 1972, as amended, and its implementing regulations in Title 15, *Code of Federal Regulations*, Part 930, federal activities, including permits, licenses, and federally funded projects, located in Virginia's Coastal Management Zone or those that can have reasonably foreseeable effects on Virginia's coastal uses or coastal resources must be conducted in a manner which is consistent, to the maximum extent practicable, with the Virginia CZM Program.

Additional information on the Virginia's review for federal consistency documents can be found online at
http://www.deq.virginia.gov/Programs/EnvironmentalImpactReview/FederalConsistencyReviews.aspx

DATA BASE ASSISTANCE

Below is a list of databases that may assist you in the preparation of a NEPA document:

- DEQ Online Database: Virginia Environmental Geographic Information Systems

  Information on Permitted Solid Waste Management Facilities, Impaired Waters, Petroleum Releases, Registered Petroleum Facilities, Permitted Discharge (Virginia Pollution Discharge Elimination System Permits) Facilities, Resource Conservation and Recovery Act (RCRA) Sites, Water Monitoring Stations, National Wetlands Inventory:
  - www.deq.virginia.gov/ConnectWithDEQ/VEGIS.aspx

- DEQ Virginia Coastal Geospatial and Educational Mapping System (GEMS)

  Virginia's coastal resource data and maps; coastal laws and policies; facts on coastal resource values; and direct links to collaborating agencies responsible for current data:
  - http://128.172.160.131/gems2/

- MARCO Mid-Atlantic Ocean Data Portal

  The Mid-Atlantic Ocean Data Portal is a publicly available online toolkit and resource center that consolidates available data and enables users to visualize and analyze ocean resources and human use information such as fishing grounds, recreational areas, shipping lanes, habitat areas, and energy sites, among others.

  http://portal.midatlanticocean.org/visualize/#x=-73.24&y=38.93&z=7&logo=true&controls=true&basemap=Ocean&tab=data&legends=false&layers=true

- DHR Data Sharing System.

  Survey records in the DHR inventory:

  - www.dhr.virginia.gov/archives/data_sharing_sys.htm

- DCR Natural Heritage Search

  Produces lists of resources that occur in specific counties, watersheds or physiographic regions:
  - www.dcr.virginia.gov/natural_heritage/dbsearchtool.shtml

- DGIF Fish and Wildlife Information Service

  Information about Virginia's Wildlife resources:
  - http://vafwis.org/fwis/

- Environmental Protection Agency (EPA) Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Database: Superfund Information Systems

Information on hazardous waste sites, potentially hazardous waste sites and remedial activities across the nation, including sites that are on the National Priorities List (NPL) or being considered for the NPL:

- www.epa.gov/superfund/sites/cursites/index.htm

- EPA RCRAInfo Search

  Information on hazardous waste facilities:
  - www.epa.gov/enviro/facts/rcrainfo/search.html

- EPA Envirofacts Database

  EPA Environmental Information, including EPA-Regulated Facilities and Toxics Release Inventory Reports:
  - www.epa.gov/enviro/index.html

- EPA NEPAssist Database

  Facilitates the environmental review process and project planning:
  http://nepaassisttool.epa.gov/nepaassist/entry.aspx

If you have questions about the environmental review process and/or the federal consistency review process, please feel free to contact me (telephone (804) 698-4204 or e-mail bettina.rayfield@deq.virginia.gov).

I hope this information is helpful to you.

Sincerely,

Bettina Rayfield, Program Manager
Environmental Impact Review and
Long-Range Priorities

Jill Enright

From: Warren, Arlene <arlene.warren@vdh.virginia.gov>
Sent: Wednesday, July 18, 2018 4:56 PM
To: Jill Enright; rr Environmental Impact Review
Subject: Re: NEW SCOPING REQUEST Nuclear Ship SAVANNAH Decommissioning

Project Name: NEW SCOPING REQUEST Nuclear Ship SAVANNAH Decommissioning
Project #: N/A
UPC #: N/A
Location: Hampton Roads, Virginia

VDH – Office of Drinking Water has reviewed the above project. Below are our comments as they relate to proximity to **public drinking water sources** (groundwater wells, springs and surface water intakes). Potential impacts to public water distribution systems or sanitary sewage collection systems **must be verified by the local utility.**

There are no public groundwater wells within a 1-mile radius of the project site.

There are no surface water intakes located within a 5-mile radius of the project site.

The project is not within the watershed of any public surface water intakes.

There are no apparent impacts to public drinking water sources due to this project.

- **Comments from VDH - Radiological Health, Mr. Steven Harrison, Director** were "The Virginia Department of Health's Office of Radiological Health (ORH) has reviewed the subject document regarding decommissioning of the Nuclear Ship Savannah. ORH has no scoping comments to offer regarding this Supplemental Environmental Assessment. Based on our review, it is our understanding that all decontamination activities will be conducted under the jurisdiction of the U.S. Nuclear Regulatory Commission (NRC). This is because the NRC has jurisdiction for all civilian nuclear power reactors, and the Nuclear Ship Savannah's reactor falls under that definition. The NRC informed us earlier today that they will share information with state agencies that have an interest in this project. They also plan to allow state agencies access, when appropriate, to observe decommissioning activities on board the vessel. It is important to note that contractors with a need to possess radioactive materials (e.g., contaminated equipment, parts, or other items) away from the vessel, in the event that need arises, will be required to obtain a Virginia Radioactive License from our Office."

The Virginia Department of Health – Office of Drinking Water appreciates the opportunity to provide comments. If you have any questions, please let me know.

Best Regards,

Arlene Fields Warren

GIS Program Support Technician

Office of Drinking Water

Virginia Department of Health

109 Governor Street

Richmond, VA 23219

(804) 864-7781

On Wed, Jun 27, 2018 at 2:55 PM, Fulcher, Valerie <valerie.fulcher@deq.virginia.gov> wrote:

Good afternoon—attached is a request for scoping comments on the following:

> **Supplemental Environmental Assessment (EA) for Nuclear Ship SAVANNAH Decommissioning; Hampton Roads, Virginia**

If you choose to make comments, please send them directly to the project sponsor (jenright@dandp.com) and copy the DEQ Office of Environmental Impact Review: eir@deq.virginia.gov. We will coordinate a review when the environmental document is completed.

DEQ-OEIR's scoping response is also attached.

If you have any questions regarding this request, please email our office at eir@deq.virginia.gov.

Valerie

--

Valerie A. Fulcher, CAP, OM, Environmental Program Specialist

Department of Environmental Quality

Environmental Enhancement - Office of Environmental Impact Review

1111 East Main Street (new street address effective 12/27/17)

Richmond, VA 23219

804/698-4330

804/698-4319 (Fax)

email: Valerie.Fulcher@deq.virginia.gov

http://www.deq.virginia.gov/Programs/EnvironmentalImpactReview.aspx

Matthew J. Strickler
Secretary of Natural Resources

Clyde E. Cristman
Director

Rochelle Altholz
Deputy Director of Administration and Finance

Russell W. Baxter
Deputy Director of Dam Safety & Floodplain Management and Soil & Water Conservation

Thomas L. Smith
Deputy Director of Operations

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

August 4, 2018

Susan Frye
Chesapeake Geosciences, Inc.
596 Knollwood Road
Severna Park, MD 21146

Re: Nuclear Ship Savannah Decommissioning Supplemental EA

Dear Ms. Frye:

The Department of Conservation and Recreation's Division of Natural Heritage's (DCR) mission is conserving Virginia's biodiversity through inventory, protection, and stewardship. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal, unique or exemplary natural communities, and significant geologic formations.

As indicated in the information provided for the supplemental Environment Assessment (EA) for the Nuclear Ship Savannah Decommissioning if the vessel is moved from its current location in Baltimore, MD to Hampton Roads, VA to be decommissioned there is potential for the following " marine species to be encountered: West Indian Manatee, whales (North Atlantic right, humpback, fin, sperm, blue, and sei), reptiles (hawksbill sea turtle, **Kemp's** ridley sea turtle, green sea turtle, leatherback sea turtle, loggerhead), and also fish species (shortnose and Atlantic Sturgeon)". DCR supports the evaluation of potential impacts to these species during the supplemental EA and recommends coordination with the United States Fish and Wildlife Service, the National Marine Fisheries Service and the Virginia Department of Game and Inland Fisheries to ensure compliance with protected species legislation.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

Please note there are **State Natural Area Preserves under DCR's juri**sdiction in the project vicinity. For more information on the location of the DCR Natural Area Preserves, please visit http://www.dcr.virginia.gov/natural-heritage/natural-area-preserves/.

New and updated information is continually added to Biotics. Please re-submit a completed order form and project map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

A fee of $90.00 has been assessed for the service of providing this information. Please find attached an invoice for that amount. Please return one copy of the invoice along with your remittance made payable to the Treasurer of Virginia, **DCR - Division of Natural Heritage, 600 East Main Street, 24th Floor, Richmond, VA 23219.**

Payment is due within thirty days of the invoice date. Please note the change of address for remittance of payment as of July 1, 2013. Late payment may result in the suspension of project review service for future projects.

The Virginia Department of Game and Inland Fisheries (VDGIF) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from http://vafwis.org/fwis/ or contact Ernie Aschenbach at 804-367-2733 or Ernie.Aschenbach@dgif.virginia.gov.

Should you have any questions or concerns, please contact me at 804-371-2708. Thank you for the opportunity to comment on this project.

Sincerely,

S. René Hypes
Natural Heritage Project Review Coordinator

Cc: Amy Ewing, VDGIF
Troy Andersen, USFWS
David O'Brien, NOAA
Christine Vaccaro, NOAA

Russell Strickland
Emergency Response Director
Maryland Dept of the Environment
1800 Washington Blvd, Suite 7111
Baltimore, MD 21230-1720
Attn: russell.strickland@maryland.gov

Eva Nair
Environmental Program Manager III
Radiological Health Program
Air and Radiation Management Adm.
Maryland Dept of the Environment
1800 Washington Blvd.
Baltimore, MD 21230-1720
Attn: eva.nair@maryland.gov

Trevor Clark
U.S. Fish & Wildlife Service
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401
Attn: trevor_clark@fws.gov

Environmental Protection and Sustainability
Environmental Impact Review
Jefferson Building
105 West Chesapeake Ave.
Suite 400
Towson, MD 21204
Email: eps@baltimorecountymd.gov

Endangered Species Coordinator
NMFS Northeast Regional Office
Protected Resources Division
One Blackburn Drive
Gloucester, MA 01930-2298
Jennifer.Anderson@noaa.gov

Joe Abe, Coastal Policies and Project Review
Chesapeake & Coastal Service
Maryland Department of Natural Resources 4
Tawes State Office Building E-2
580 Taylor Avenue
Annapolis, Maryland 21401
Phone: 410-260-8740
Attn: joseph.abe@maryland.gov

Maryland State Clearinghouse
Maryland Office of Planning, Suite 1101
301 West Preston Street
Baltimore, MD 21201-2365
mdp.clearinghouse@maryland.gov

J Rodney Little – Director & SHPO
Department of Planning
Maryland Historical Trust – Crownsville Office
100 Community Place
Crownsville, MD 21032-2023
Phone 410-514-7601
RLtiitle@mdp.state.md.us

Baltimore Port Alliance
Pilot/Maritime Center Second Floor
3720 Dillon Street
Baltimore, MD 21224
Attn: info@baltimoreportalliance.org

US Coast Guard Sector Maryland-Capitol Region
D05-SMB-SECBALT-PSC@uscg.mil **or** Stephen.g.thompson@uscg.mil

The Propeller Club of Baltimore
Brian Greenbaum
3301 Edwards Lane
Middle River, MD 21220
treasurer@propellerclubofbaltimore.com

From:	Nancy Love
To:	"mdp.clearinghouse@maryland.gov"
Cc:	"kristine.gilson@dot.gov"; "laila.linares@dot.gov"; "Jill Enright"
Subject:	Draft Supplemental Environmental Assessment (EA) for decommissioning the Nuclear Ship SAVANNAH (NSS) [Maryland Department of Planning Clearinghouse State Application Identifier: MD20180627-0498]
Date:	Thursday, March 21, 2019 2:53:00 PM
Attachments:	NS SAVANNAH Draft EA Revised 24OCT2018 with appendices.pdf

Maryland State Clearinghouse
Maryland Office of Planning, Suite 1101
301 West Preston Street
Baltimore, MD 21201-2365
mdp.clearinghouse@maryland.gov

To Whom It May Concern:

In follow-up to our June 2018 correspondence, I am writing to you on behalf of the Maritime Administration (MARAD) who has prepared a Draft Supplemental Environmental Assessment (EA) for a proposed project to fully decommission the Nuclear Ship SAVANNAH (NSS). This action will result in the termination of their nuclear license by the US Nuclear Regulatory Commission (NRC) under 10 CFR Part 50 as a power generation reactor.

The attached Draft Supplemental EA is available for your review. If you have any questions or concerns please address them by April 21, 2019 to Ms. Kristine Gilson, REM, CHMM, MARAD Office of Environment, kristine.gilson@dot.gov, 202-366-1939.

Regards,
Nancy Love

Nancy D. Love, PG
Environmental Scientist
CGS-BMT JV, LLC

From: sylvia.mosser@maryland.gov
To: kristine.gilson@dot.gov; Nancy Love
Cc: sylvia.mosser@maryland.gov
Subject: Acknowledgment of Clearinghouse Project: MD20190322-0143
Date: Tuesday, March 26, 2019 2:13:48 PM

Hello Ms. Kristine Gilson & Ms. Nancy Love,

The following link includes the State Clearinghouse Review Process Acknowledgment letter for your project, Draft Supplemental Environmental Assessment (EA): Proposed Project to Fully Decommission the Nuclear Ship SAVANNAH (NSS) at Pier 13, Canton Marine Terminal in Baltimore City, MD; the Decommission will Result in Termination of the NSS' Nuclear License (Prior: MD20180627-0498).

Click this link to view the acknowledgment letter,
http://apps.planning.maryland.gov/EMIRC_Files/MD20190322-0143.zip .
This is a 2 MB file.

Thank you.

Sylvia Mosser, Planner
sylvia.mosser@maryland.gov
410-767-4487

Myra Barnes, Lead Clearinghouse Coordinator
myra.barnes@maryland.gov

Please take our customer service survey.

APPENDIX C
RECORD OF NON-APPLICABILITY (RONA)

APPENDIX C
RECORD OF NON-APPLICABILITY (RONA) FOR CLEAN AIR ACT CONFORMITY

MARITIME ADMINISTRATION
NUCLEAR SHIP SAVANNAH DECOMMISSIONING

Introduction

The U.S. Environmental Protection Agency (EPA) published *Determining Conformity of General Federal Actions to State or Federal Implementation Plans; Final Rule*, in the 30 November 1993, Federal Register (40 C.F.R. Parts 51 and 93). This publication provides implementing guidance to document Clean Air Act (CAA) Conformity Determination requirements.

Federal regulations prohibit any Department, Agency, or instrumentality of the Federal Government to engage, support, provide financial assistance, license to permit, or approve any activity that does not conform to an applicable implementation plan. It is the responsibility of the Federal agency to determine whether a Federal action conforms to the applicable implementation plan before the action is taken (40 C.F.R. Part 51.850(a)).

Federal actions may be exempt from a formal Conformity Determination if: (1) the actions fit within one of the exemption categories or (2) their emissions do not exceed designated *de minimis* levels for criteria pollutants (40 C.F.R. § 93.153(c)). The exemption categories apply to actions that would result in no emission increase or an increase in emission that is clearly *de minimis*.

Proposed Action

Action Proponent: U.S. Department of Transportation Maritime Administration (MARAD). Nuclear Ship Savannah (NSS) is wholly owned by MARAD. The Nuclear Regulatory Commission is the authority that grants the license to MARAD. MARAD is responsible for management of the vessel.

Location: The vessel is currently located at Pier 13, Canton Marine Terminal in Baltimore, MD.

Proposed Action Name: Decommissioning of NSS

Proposed Action and Emission Summary:
The purpose of the Proposed Action is to decommission NSS. Four alternatives, including the no-action alternative, are under consideration. The Proposed Action Alternatives would not require construction of new facilities because existing facilities have the capability of berthing a vessel of this size. As an inactive vessel, NSS would be towed from its current location to the decommissioning facility; no dredging is required. Each alternative is briefly discussed below.

Baltimore, MD, Alternative. This alternative would decommission NSS at a facility in Baltimore, MD in accordance with applicable Federal, state and local laws and regulations.

Hampton Roads, VA, Alternative. This alternative would decommission NSS at a facility in Hampton Roads, VA. The vessel would be towed from its current location to a facility in Hampton Roads, VA, for decommissioned in accordance with applicable Federal, state and local laws and regulations.

Philadelphia, PA Alternative. This alternative would decommission NSS at a facility in Philadelphia, PA. The vessel would be towed from its current location to a facility in Philadelphia, PA for decommissioning in accordance with applicable Federal, state and local laws and regulations.

No-Action Alternative. The No-Action Alternative includes continued berthing of NSS at Baltimore, MD. Under the No-Action Alternative, existing conditions would remain unchanged and no emissions would be generated to trigger a Conformity Determination.

Pursuant to the National Ambient Air Quality Standards (NAAQS), Table 1 summarizes the attainment status for each alternative. Table 2 presents the *de minimis* levels for the applicable criteria pollutants.

Table 1. Attainment Status for Alternative Locations

Location	Attainment Status for Criteria Pollutants[1]
Baltimore, MD, Alternative	Moderate non-attainment for the eight-hour ozone standard and maintenance for the $PM_{2.5}$ standard.
Hampton Roads, VA, Alternative	Attainment for all criteria pollutants.
Philadelphia, PA Alternative	Marginal non-attainment for the eight-hour ozone standard and attainment for the $PM_{2.5}$ standard.

Table 2. Applicable Criteria Pollutant *de minimis* Levels (Tons/Year) for Alternative Locations (40 C.F.R. § 93.153)

Location	VOC	NOx	$PM_{2.5}$
Baltimore, MD, Alternative	50	100	100
Philadelphia, PA Alternative	50	100	100

The Proposed Action is subject to the General Conformity Rule because the project area is within nonattainment areas and the Proposed Action will cause air pollutant emissions. However, the Proposed Action does not require construction, and the air pollutant emissions from towing are temporary and clearly *de minimis*. According to 40 C.F.R. § 93.153(c), the Proposed Action qualifies for the following exemption category:

"(vii) Routine Movement of mobile assets, such as ships and aircraft, in homeport assignments and stations (when no new support facilities or personnel are required) to perform as operational **groups and/or for repair or overhaul."**

The Baltimore, MD and Philadelphia, PA facilities are within nonattainment areas. Calculations of the emissions from the tugs result in significantly less than one ton per year for each of VOC, NO_x, and $PM_{2.5}$. The towing to Baltimore, MD or Philadelphia, PA is less than the *de minimis* emission threshold.

In general, vessel decommissioning activities could result in temporary minor, localized impacts to air quality, but are not expected to change designation of the area with respect to NAAQS. Additionally, decommissioning activities that comply with applicable rules and regulations would not significantly affect air quality. The Baltimore, MD and Philadelphia, PA facilities have all required permits. The decommissioning of NSS would not represent a new or significantly different line of work for the facility, with different effects on the environment, but rather a continuation of a long term, ongoing program, with minimal surrounding effect.

[1] The six criteria pollutants are ozone (O_3), CO, NO_2, PM, SO_2, and lead (Pb).

In summary, the Baltimore, MD and Philadelphia, PA locations are in nonattainment areas, but MARAD is exempt from preparing a Conformity Determination because the action falls within one of the exemption categories and emissions from the towing action are considered *de minimis*. No significant impacts to air quality can be attributed to decommissioning activities. Details of the air quality impacts are provided in the NSS Supplemental Environmental Assessment and Nuclear Regulatory Commission (NRC) Generic Environmental Impact Statement (GEIS) on the decommissioning of nuclear facilities. The Hampton Roads, VA location is in attainment; therefore, the CAA General Conformity Rule does not apply to these locations.

Affected Air Basins: Baltimore, MD and Philadelphia, PA

Date RONA prepared: 8 August 2018

Proposed Action Exemption

The Proposed Action is located within nonattainment areas; therefore, the Proposed Action is not exempt from the General Conformity Rule. However, per 40 C.F.R. § 93.153(c) the Proposed Action qualifies as a "routine movement" and fits within one of the EPA's exemption categories. Additionally, the towing to Baltimore, MD and Philadelphia, PA is less than the *de minimis* emission threshold. Vessel decommissioning activities could result in temporary minor, localized impacts to air quality, but are not expected to change designation of the area with respect to NAAQS. Hampton Roads, VA is in attainment. Therefore, the Proposed Action is exempt from a formal Conformity Determination.

Attainment Area Status and Emission Evaluation Conclusion

Baltimore, MD is in a moderate nonattainment area for the 8-hour ozone standard and maintenance for $PM_{2.5}$ standard; VOCs and NOx are precursors to the formation of ozone. Moreover, Philadelphia, PA is in a marginal nonattainment area for the 8-hour ozone standard.

MARAD concludes that the conformity requirements do not apply to the Proposed Action. At Baltimore, MD, the potential removal of the vessel is considered a "routine movement" which would result in a temporary increase of marine vessel emissions that are clearly *de minimis*. Moreover, the vessel emissions emitted during tow to Proposed Action locations fall well below the *de minimis* thresholds. Vessel decommissioning activities that comply with applicable rules and regulations would not significantly affect air quality. 40 C.F.R. § 93.153(c) supports the conclusion that the *de minimis* thresholds for applicable criteria pollutants would not be exceeded as a result of implementation of the Proposed Action. Therefore, MARAD concludes that further formal Conformity Determination procedures are not required, resulting in this RONA.

RONA Approval

To the best of my knowledge, the information presented in this Record of Non-Applicability is correct and accurate and I concur with the finding that the Proposed Action does not require a formal Conformity Determination.

MARAD

4-22-19
Date

APPENDIX D
PREPARERS

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APPENDIX E
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