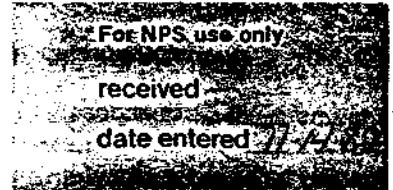


United States Department of the Interior
National Park Service



National Register of Historic Places Inventory—Nomination Form

See instructions in *How to Complete National Register Forms*
Type all entries—complete applicable sections

1. Name

historic N/S Savannah
and/or common

2. Location

street & number Moored on east side of Charleston Harbor NA not for publication
city, town Mount Pleasant vicinity of ~~congressional district~~
state South Carolina code 045 county Charleston code 019

3. Classification

Category	Ownership	Status	Present Use
<input type="checkbox"/> district	<input checked="" type="checkbox"/> public	<input checked="" type="checkbox"/> occupied	<input type="checkbox"/> agriculture <input checked="" type="checkbox"/> museum
<input type="checkbox"/> building(s)	<input type="checkbox"/> private	<input type="checkbox"/> unoccupied	<input type="checkbox"/> commercial <input type="checkbox"/> park
<input type="checkbox"/> structure	<input type="checkbox"/> both	<input type="checkbox"/> work in progress	<input type="checkbox"/> educational <input type="checkbox"/> private residence
<input type="checkbox"/> site	Public Acquisition	Accessible	<input type="checkbox"/> entertainment <input type="checkbox"/> religious
<input checked="" type="checkbox"/> object	<u>NA</u> in process	<input checked="" type="checkbox"/> yes: restricted	<input type="checkbox"/> government <input type="checkbox"/> scientific
	<u>NA</u> being considered	<input type="checkbox"/> yes: unrestricted	<input type="checkbox"/> industrial <input type="checkbox"/> transportation
		<input type="checkbox"/> no	<input type="checkbox"/> military <input type="checkbox"/> other:

4. Owner of Property

name Patriots Point Development Authority, State of South Carolina
street & number Post Office Box 986
city, town Mount Pleasant NA vicinity of state South Carolina 29464

5. Location of Legal Description

courthouse, registry of deeds, etc. Charleston County Courthouse
street & number 2 Courthouse Square
city, town Charleston state South Carolina 29401

6. Representation in Existing Surveys

title Inventory of Historic Places
in South Carolina has this property been determined eligible? yes no
date 1981 federal state county local
depository for survey records South Carolina Department of Archives and History
city, town Columbia state South Carolina 29211

7. Description

Condition		Check one	Check one
<input type="checkbox"/> excellent	<input type="checkbox"/> deteriorated	<input checked="" type="checkbox"/> unaltered	<input checked="" type="checkbox"/> original site
<input checked="" type="checkbox"/> good	<input type="checkbox"/> ruins	<input type="checkbox"/> altered	<input checked="" type="checkbox"/> moved date _____
<input type="checkbox"/> fair	<input type="checkbox"/> unexposed		

Describe the present and original (if known) physical appearance

The Nuclear Ship Savannah, the world's first nuclear-powered merchant ship, was designed by George W. Sharp, Inc., of New York and built in 1958-1961 by the New York Shipbuilding Corporation of Camden, New Jersey. The Savannah carried passengers and cargo to many ports during its experimental commercial career from 1965 to 1970. The Savannah is presently anchored at Patriots Point Naval and Maritime Museum in Charleston Harbor, South Carolina. With the exception of the removal of the nuclear fuel, the ship is unaltered.

Additional Information: The Savannah is 595 feet, 6 inches long with a beam of 78 feet, a full-load draught of 29 feet, 6 inches, and a full-load displacement of 21,840 tons. The 74-megawatt pressurized-water nuclear reactor, designed and fabricated by Babcock and Wilcox Company of New York, is located amidships in the hull. The reactor was fueled by 682,240 enriched uranium-235 pellets in thirty-two fuel elements. Twenty-one boron-steel control rods regulated the nuclear chain reaction; a SCRAM* button could shut down the reaction in one second in case of an emergency. The reactor is cased in a cylindrical steel containment vessel and shielded by 2,150 tons of shielding in eight layers: steel, water, steel, redwood, polyethylene, lead, ordinary concrete, and heavy concrete. The reactor operated on the principle that water under tremendous pressure (1,750 pounds per square inch) may be heated to great temperatures (524 degrees Fahrenheit) without boiling. The heat can then be transferred to water under low pressure. This produced steam to drive the DeLaval steam turbine engine, which provided for 22,000 maximum shaft horsepower for the single five-bladed propeller. This power plant was designed for a maximum speed of 20.25 knots.

The Savannah has seven cargo holds with a capacity of 9,400 tons. Hull stability was maintained by automatic submerged Sperry Gyrofans. The Savannah carried a crew of sixty-seven and had accommodations for sixty passengers as well. The ship has air-conditioning, elevators, modern functional decorations, and a swimming pool for the comfort of the passengers.

A streamlined superstructure is located just aft of center. The superstructure contains the pilothouse and bridge, the officers' and passengers' lounges, the main lobby, and the emergency generator room. Three radio-radar masts and numerous cargo booms and winches are also on the main deck. Four lifeboats on davits are located on the superstructure.

*"SCRAM button shuts down the reactor in less than a second by ramming in the control rods. Operators push this switch only in an emergency. Scientists trace their use of the word to the early days of the atomic industry, when they had orders to clear out--scram--in case of a nuclear mishap."
Alan Villiers, "Aboard the N.S. Savannah," National Geographic (August 1962) p. 289.

8. Significance

Period	Areas of Significance—Check and justify below			
<input type="checkbox"/> prehistoric	<input type="checkbox"/> archeology-prehistoric	<input type="checkbox"/> community planning	<input type="checkbox"/> landscape architecture	<input type="checkbox"/> religion
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> archeology-historic	<input type="checkbox"/> conservation	<input type="checkbox"/> law	<input type="checkbox"/> science
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> agriculture	<input type="checkbox"/> economics	<input type="checkbox"/> literature	<input type="checkbox"/> sculpture
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> architecture	<input type="checkbox"/> education	<input type="checkbox"/> military	<input type="checkbox"/> social/ humanitarian
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> art	<input checked="" type="checkbox"/> engineering	<input type="checkbox"/> music	<input type="checkbox"/> theater
<input type="checkbox"/> 1800-1899	<input checked="" type="checkbox"/> commerce	<input type="checkbox"/> exploration/settlement	<input type="checkbox"/> philosophy	<input checked="" type="checkbox"/> transportation
<input checked="" type="checkbox"/> 1900--	<input type="checkbox"/> communications	<input type="checkbox"/> industry	<input type="checkbox"/> politics/government	<input type="checkbox"/> other (specify)
		<input type="checkbox"/> invention		

Specific dates 1958-1961 **Builder/Architect** George W. Sharp, Inc./New York Ship Building Corporation

Statement of Significance (in one paragraph)

The Nuclear Ship Savannah, designed by George W. Sharp, Inc. and built in 1958-1961 by the New York Shipbuilding Corporation, was the world's first nuclear-powered merchant vessel. The ship was built to demonstrate the applicability of nuclear power to commercial shipping and carried cargo and passengers worldwide during its commercial career from 1965 to 1970. Since 1981 the Savannah has been moored in the Charleston Harbor as part of the Patriots Point Naval and Maritime Museum. Although the ship achieved significance within the past fifty years, its exceptional importance in the field of transportation science and technology warrants an exception to the fifty-year criterion.

Additional Information: A nuclear-powered merchant vessel was proposed by President Dwight D. Eisenhower in 1955, as evidence of the nation's desire to use nuclear power peacefully.¹ The design for the Savannah's pressurized-water reactor was begun in 1956. The project was under the joint administration of the United States Maritime Administration and the Atomic Energy Commission.² The keel of the Savannah was laid on May 22, 1958, at the shipyards of the New York Shipbuilding Corporation, Camden, New Jersey.³ The ship was launched on July 21, 1959, the reactor core was installed on November 11, 1961, and criticality was attained on December 21.⁴ After successful sea trials off Yorktown, Virginia, during the spring of 1962, the Savannah made her first demonstration commercial voyage to Savannah, Georgia, that August.⁵ The ship continued demonstration cruises to United States and foreign ports under the operation of States Marine Lines, 1962-1963, and American Export Isbrandtsen Line, 1964-1965.⁶ Savannah's experimental commercial career lasted from 1965 to 1970 under bareboat charter to First Atomic Ship Transport, Inc.⁷ The ship visited ninety-six ports, including Charleston, South Carolina, and cruised 454,675 miles during her short career. The Savannah was taken out of service in November 1970 and "mothballed" until loaned by the Maritime Administration in 1981 to the State of South Carolina for public display at Patriots Point Naval and Maritime Museum in Charleston Harbor.⁸

The N/S Savannah was built as an experiment to reveal if and how well nuclear energy could serve the merchant marine. Being a technological experiment, it was not expected to be an economic success, and it was not. Technologically, however, it was a triumph. Political and economic considerations will determine whether or not and when the technological lessons of the Savannah will be applied to future naval architecture and propulsion systems. In any case, Savannah remains unique and a symbol of the highest level of technology ever attained by the American merchant marine.

The Savannah achieved significance during the last fifty years as a revolutionary, one-of-a-kind technological experiment which helped to establish the nation's prominence in the development and use of nuclear energy for commercial transportation. This exceptional degree of significance warrants an exception to the fifty-year criterion,

9. Major Bibliographical References

see continuation sheet

10. Geographical Data

Acreeage of nominated property approximately 2½

Quadrangle name Charleston, S.C.

Quadrangle scale 1:24000

UMT References

A

1	7	6	0	2	2	0	0	3	6	2	8	1	6	0
Zone			Easting				Northing							

B

Zone			Easting				Northing							

C

Zone			Easting				Northing							

D

Zone			Easting				Northing							

E

Zone			Easting				Northing							

F

Zone			Easting				Northing							

G

Zone			Easting				Northing							

H

Zone			Easting				Northing							

Verbal boundary description and justification The nominated property is shown bounded by the red line on the accompanying National Oceanic and Atmospheric Administration map # 11524, entitled "Charleston Harbor." This boundary includes only the historic ship, excluding adjacent piers and anchorages.

List all states and counties for properties overlapping state or county boundaries

state NA code county NA code

state NA code county NA code

11. Form Prepared By

name/title Dr. Clark G. Reynolds, Curator and Historian John E. Wells, S.C. Department of Archives and History

organization Patriots Point Naval & Maritime Museum date July 16, 1982

street & number Post Office Box 986 telephone (803) 884-2727

city or town Mount Pleasant state South Carolina 29464

12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

national state local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

State Historic Preservation Officer signature Charles E. Lee Sept 7, 1982
title State Historic Preservation Officer date

For NPS use only: I hereby certify that this property is included in the National Register. date

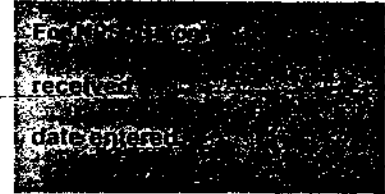
Keeper of the National Register

Attest: date

Chief of Registration

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Inventory—Nomination Form**



Continuation sheet 1

Item number 9

Page 1

BIBLIOGRAPHY

Braynard, Frank O. "The New Savannah." U.S. Naval Institute Proceedings 86
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Villiers, Alan. "Aboard the N.S. Savannah." National Geographic 122 (August
1962): 280-298.

10017

N/S Savannah
Footnotes

¹ Frank O. Braynard, "The New Savannah," U.S. Naval Institute Proceedings 86 (February 1960): 72.

² Ibid.; Maritime Administration, U.S. Department of Commerce, "N.S. Savannah: Program Status," August 1970.

³ Braynard, p. 74; "Program Status."

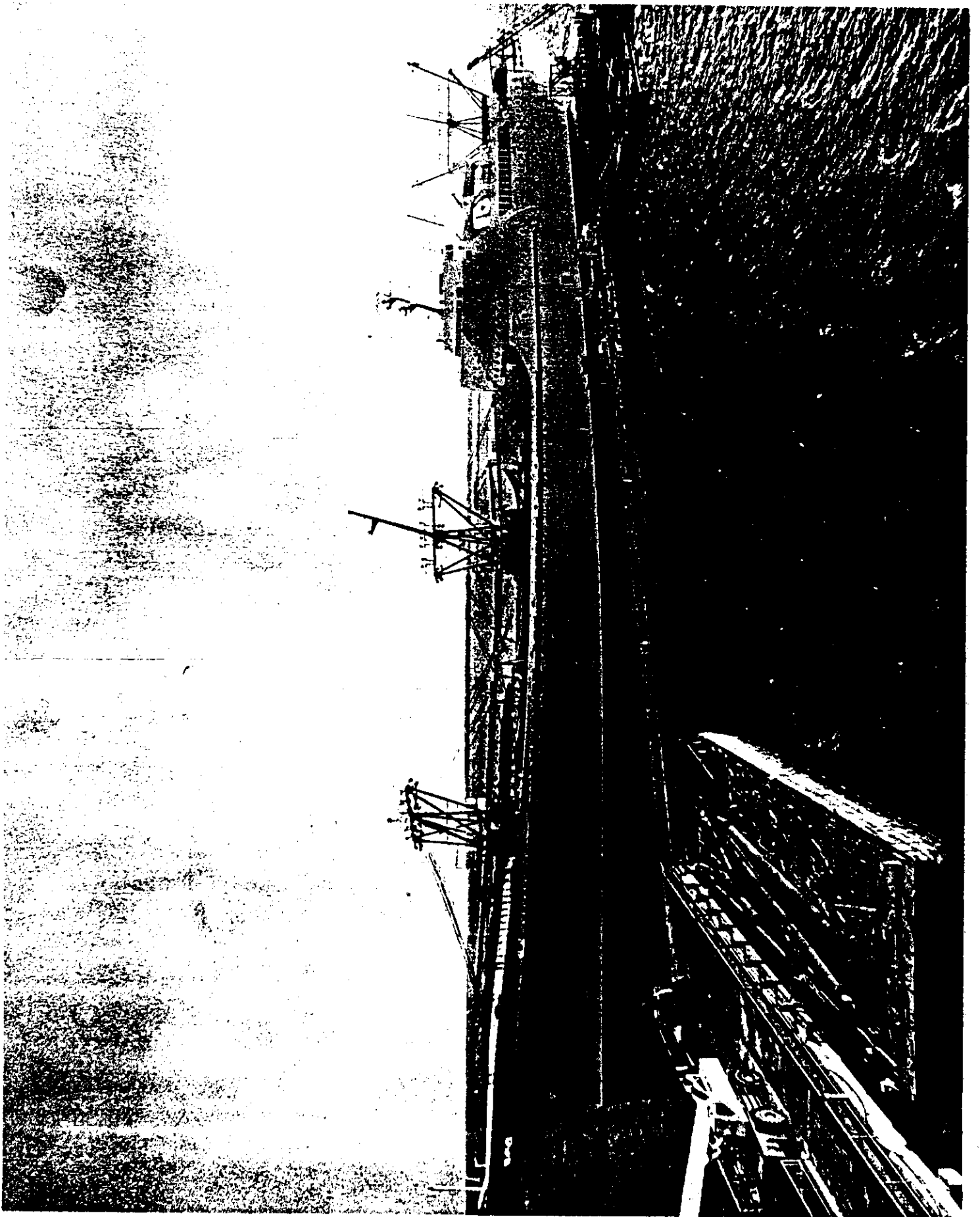
⁴ Ibid.

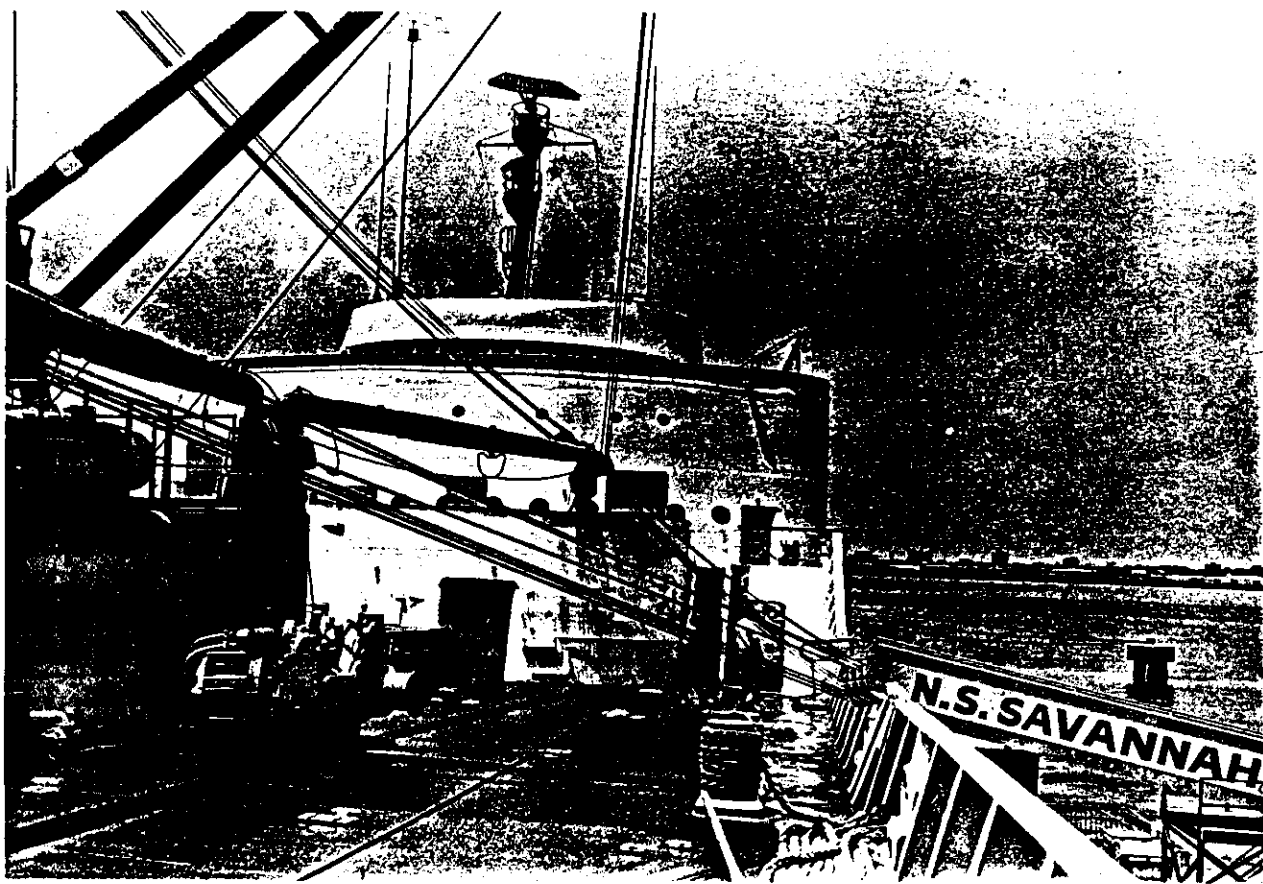
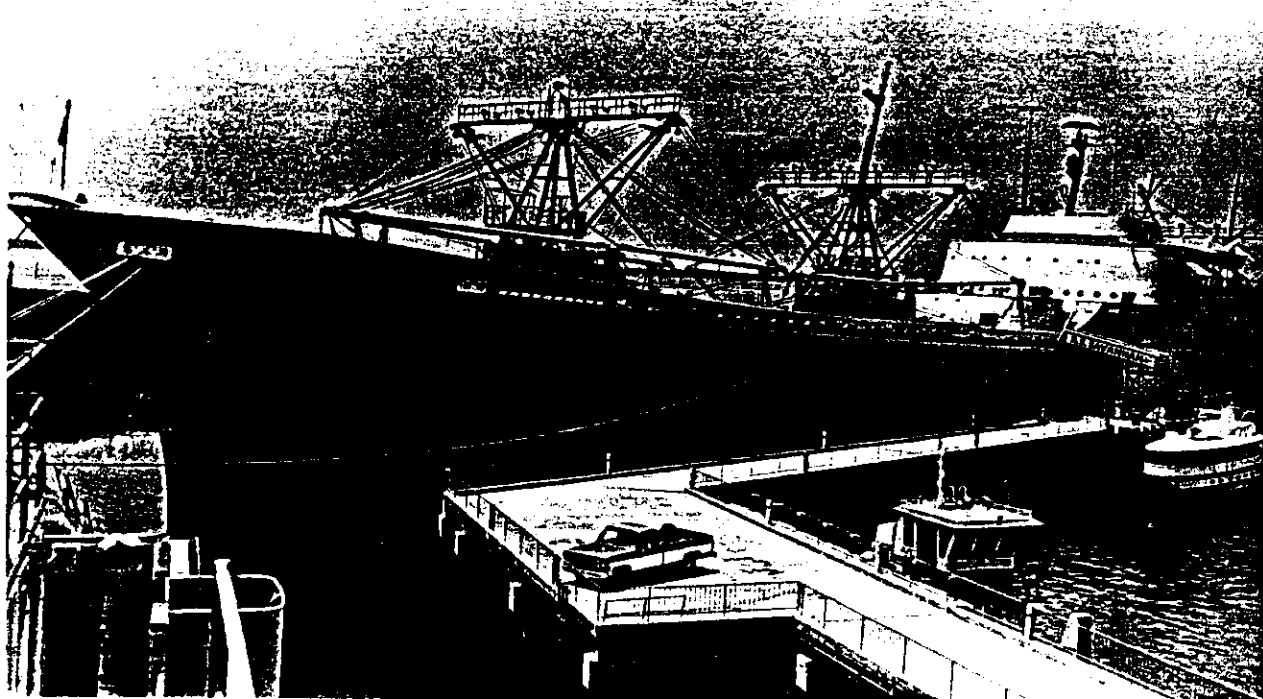
⁵ Alan Villiers, "Aboard the N.S. Savannah," National Geographic 122 (August 1962): 280-281; "Program Status."

⁶ "Program Status"; "N.S. Savannah: General Plans and Drawings," Radiation Safety Services, Irmo, S.C., n.d.

⁷ "Program Status."

⁸ Ibid.





SPURD REAR	30.0	30.0
HORSE REAR	30.0	30.0
CUSTOMER BEACH	30.0	30.0
SOUTH CHANNEL	30.0	30.0
HOG ISLAND REAR	30.0	30.0
DRUM ISLAND REAR	30.0	30.0
TOUR CAKEE LIVER BEACH	30.0	30.0
TURKING BAY	30.0	30.0
TOWN CREEK SPICE BEACH	30.0	30.0
HYERS BEACH	30.0	30.0
DANIEL ISLAND REAR	30.0	30.0
DANIEL ISLAND BEACH	30.0	30.0
CLOUTER CREEK BEACH	30.0	30.0
NAVY YARD BEACH	30.0	30.0
NORTH CHARLESTON BEACH	30.0	30.0
FILBIN CREEK BEACH	30.0	30.0
PORT TERMINAL BEACH	30.0	30.0
ORDNANCE BEACH	30.0	30.0
SHIPTARD CREEK	30.0	30.0
RAIR CHANNEL	30.0	30.0
LOWER TURNING BASIN	30.0	30.0
UPPER TURNING BASIN	30.0	30.0

A. CHANNEL MAINTAINED TO A DEPTH OF 600 FEET FOR 2000 TONS OF DISBURSED P&G GUMMETS WATER
 PLEASANT ISLAND
 B. ALONG CHANNEL BANK
 NOTE: CONSULT THE COAST OF GEORGIA FOR CHANNELS WATER

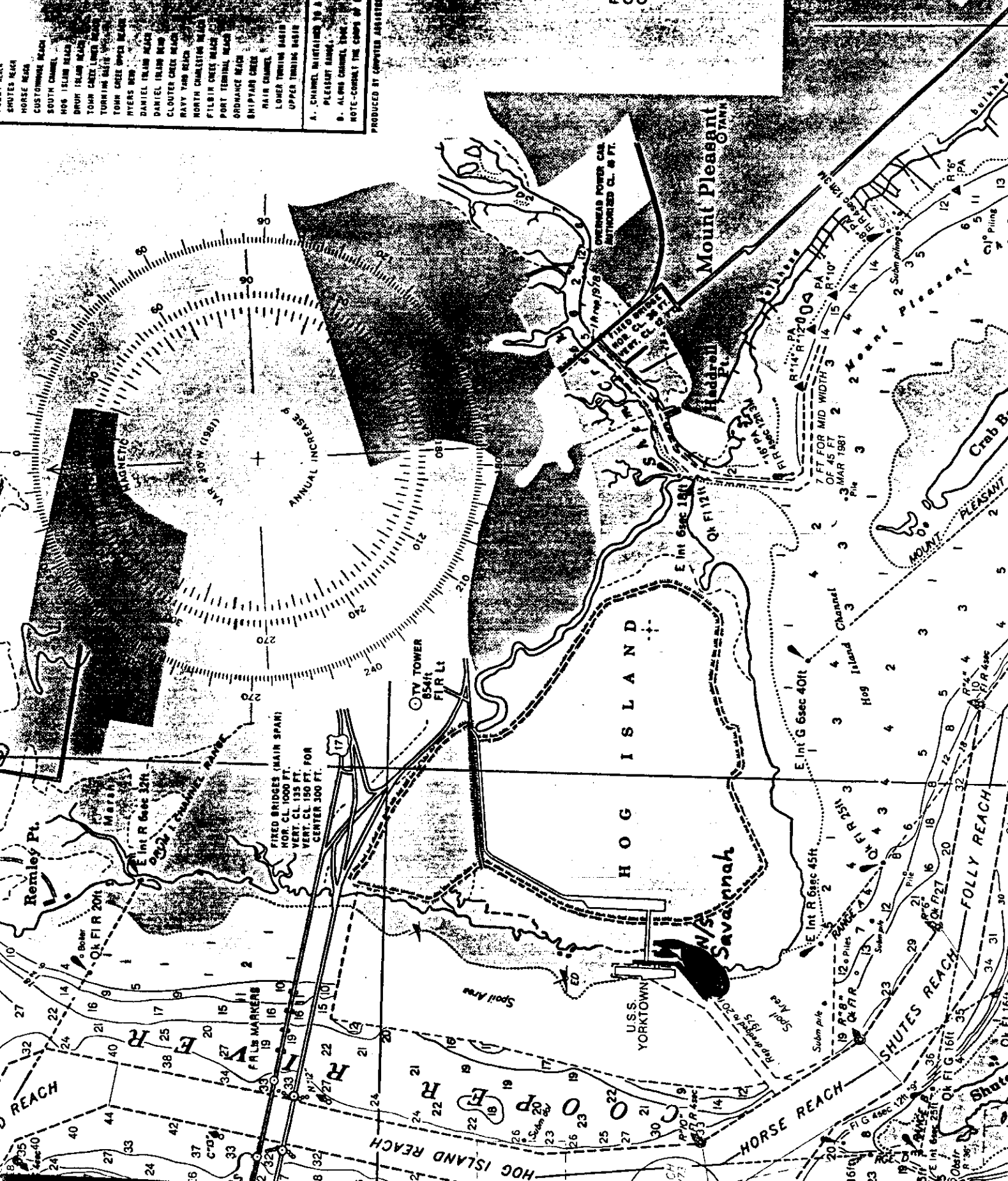
PRODUCED BY COMPUTER ASSISTED METHODS

MOAA VHF-7
 The National
 below provided
 broadcasts. It
 but for most s
 from the center
 Charleston, S.C.
 Beaufort, S.C.

Report all spills of oil
 Response Center via 8000
 Coast Guard facility if in
 CFR 153.

Only marine radio
 surface use. Limited
 signals as aids to
 U.S. Coast Guard L
 Hydrographic/Topog
 Radio direction
 casing stations are
 caution.
 Station positions
 Ⓞ(Accurate k

INTRACOAST
 The project-d
 ton to Beaufort, S
 The controllin
 published in the C
 Local Notice to M



MAGNETIC
 VARS 30°W (1981)
 ANNUAL INCREASE 9'

FIXED BRIDGES (MAIN SPAN)
 HOR. CL 1000 FT.
 VERT. CL 115 FT.
 VERT. CL 150 FT. FOR
 CENTER 300 FT.

TV TOWER
 854 FT
 FIR Lt

OVERHEAD POWER CABLE
 AUTHORIZED CL. 60 FT.

Mount Pleasant
 Haddrell Pt.

Channel
 Hog Island
 7 FT FOR MID WIDTH 3
 OF 45 FT
 -3 MAR 1981

REACH
 HOG ISLAND REACH
 HORSE REACH
 SHUTES REACH
 FOLLY REACH

Remley Pt.
 E Int R 6sec 30ft
 OK FIR 20ft

HOG ISLAND
 U.S. YORKTOWN

Mount Pleasant
 Haddrell Pt.
 E Int G 6sec 40ft

Channel
 Hog Island
 E Int R 6sec 45ft
 OK FIR 25ft

SHUTES REACH
 FOLLY REACH
 E Int G 6sec 12ft
 OK FIR 16ft