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Supertankers and Superports (Citations from the NTIS Data Base).
Aug 79,
Guy E. Habercom, Jr.

National Technical Information Service, Springfield, VA.

Report period covered: Rept. for 1964-Jul 79,

Supersedes NTIS/PS-78/0814, NTIS/PS-77/0700, NTIS/PS-76/0591, NTIS/PS-75/510, and NTIS/PS-74/088. For the companion Published Search of the Engineering Index Data Base, see NTIS/PS-79/0850.

Construction and operation of supertankers and requirements for port facilities are reviewed in these Government-sponsored research reports. The environmental aspects are investigated. (This updated bibliography contains 187 abstracts, 38 of which are new entries to the previous edition.)

PRICE CODE: PC N01/MF N01

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Sample Citation from the NTIS Data Base

Compilation of State Data for Eight Selected Toxic Substances, Volume I — Title

Mitre Corp., McLean, VA. *Environmental Protection Agency, Washington, D.C. Office of Toxic Substances. (402-364) — Corporate Author, Sponsoring Agency

Final rept.
AUTHOR: Roberts, Elizabeth, Spewak, R., Stryker, S., Tracey, S.

C5945F4 FLD: 06T 06F 57Y*, 57H, 68* — NTIS Subject Categories
USGRDR7606 Sep 75 165p* — Pages in Report, Report Date

REPT NO: MITRE-75-52-Vol-I
CONTRACT: EPA-68-01 2933
MONITOR: EPA/560/7-75/001-I
Paper copy also available in set of 5 reports as PB-248 649-SET, PC$36.00

ABSTRACT: In June 1974, toxic substances data in the U.S. were collected and analyzed in 20 key states. This report describes that effort and discusses the amount, type and usefulness of the data and toxic substances monitoring capabilities of the state agencies contracted.

DESCRIPTORS: *Enveriomental surveys, States (United States), Monitors, Toxicology, Arsenic, Beryllium, Cadmium, Cyanides, Lead (Metal), Mercury (Metal), Chlorine aromatic compounds, Data acquistion, Data processing, Water pollution, Air pollution, Chemical compounds

IDENTIFIERS: *Toxic agents, Biphenyl/chloro, State agencies, NTISEPOATS — Keywords

PB-248 660/3ST NTIS Prices: PC A08/MF A01 — Order Number, Microfiche Price Code, Paper Copy Price code

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201 to 300 technical report summaries	150	190
301 to 400 technical report summaries	175	220
401 to 500 technical report summaries	200	250
More than 500 technical report summaries		Negotiated

Under New Management. Port Growth and Emerging Coastal Management Programs

Washington Univ., Seattle. Inst. for Marine Studies.*National Oceanic and Atmospheric Administration, Rockville, MD. Office of Sea Grant.
AUTHOR: Hershman, Marc; Goodwin, Robert; Ruotsala, Andrew; McCrea, Maureen; Hayuth, Yehuda
F1411F1 Fld: 13B, 5A, 48B*, 47, 85G, 43, 86M GRAI7916
1978 226p*
Rept No: WSG-78-4
Grant: NOAA-04-7-158-44021
Monitor: NOAA-79031307

Abstract: This study and report on the interaction between U.S. port development and coastal management program development deals with the quite recent and still emerging areas of conflict involving port interests and those individuals and groups dedicated to coastal zone protection and noncommercial uses of our limited shoreline resources. A positive approach to methods that can be used to solve problems which have arisen and will continue to do so is presented. A balance can, and inevitably must, be found in order to avoid costly and unnecessary delays in the management of coastal resources. A national perspective on how port authorities and coastal management programs are dealing with one another is presented. Also some recommendations on future direction in these relationships are given for use by the maritime commerce and transportation industry and to coastal planners in state and local government.

Descriptors: *Seaports, *Marine terminals, *Coastal zone management, United States, Land use, Allocations, Conflicts, Economic development, Regulations, Law(Jurisprudence), Services, Demand(Economics), Harbor facilities, Cargo transportation, Government policies, Environmental impacts, Dredging, Hazardous materials, Pollution, Licenses, Recommendations

Identifiers: Sea Grant program, *Port authorities, NTISCOMNOA

PB-295 410/5ST NTIS Prices: PC A11/MF A01

Maine Port Development Study. Feasibility Study of the Development of Cargo Handling Facilities at Maine Ports

Maine Dept. of Transportation, Augusta.**Fay, Spofford and Thorndike, Inc., Boston, MA.**Maine State Planning Office, Augusta.**Economics Research Associates, Boston, MA.*National Oceanic and Atmospheric Administration, Washington, DC. Office of Coastal Zone Management.
F1394F2 Fld: 13B, 15E, 13J, 85G, 50B GRAI7916
Jan 78 178p
Monitor: 18
Prepared by Fay, Spofford and Thorndike, Inc., Boston, MA., and Economics Research Associates, Boston, MA. Prepared for Maine State Planning Office, Augusta. Sponsored in part by National Oceanic and Atmospheric Administration, Washington, DC. Office of Coastal Zone Management.

Abstract: The purpose of this study has been to determine the potential for new or expanded port cargo-handling facilities in Maine. Particular emphasis has been placed on a facility with the capability of handling the wide range of forest products produced in the state. A major impetus for this study was the State's desire to have more of its exports and imports move through Maine's ports, if such movement could be found to be practical and economical. Both engineering and economic considerations have been closely coordinated throughout the course of the study. Existing ports which presently handle general cargo were examined for their suitability as the site for a port development project. Each was evaluated regarding such characteristics as existing cargo facilities, land availability for new or expanded facilities, highway and rail access, depth of water, and availability of other port-related services. These investigations revealed that the Portland and Searsport areas are most suitable as a site for a cargo port development project, whether it be a new or expanded facility.

Descriptors: *Marine terminals, *Maine, Cargo transportation, Marine transportation, Distribution systems, International trade, Harbors, Seaports, Economic surveys, Site surveys

Identifiers: Portland(Maine), Searsport(Maine), NTISSLLC

PB-294 491/6ST NTIS Prices: PC 09/MF A01.

Evaluation of a Domestic Container Feeder Service on the Atlantic and Gulf Coast

Booz-Allen and Hamilton, Inc., Bethesda, MD.*Maritime Administration, Washington, DC. Office of Commercial Development. (408 597)

Final rept.
F1203B2 Fld: 15E, 13J, 85G*, 86L GRAI7914
Feb 79 170p*
Contract: MA-8-3035
Monitor: MA-PD-940-79040

Abstract: The Maritime Administration and Sea-Land Service, Inc., jointly undertook this study of a coastwise shipping service in the U.S. Gulf and East Coasts. The service investigated was one that would have the potential to handle domestic cargo in coastwise movement, and international relay cargo from secondary ports to load center ports. The principal findings were: the potential market for a waterborne feeder system in 1980 will include over 5 million TEU's of containerable international shipments and over 1.6 million TEU's of containerable domestic cargo; competitive factors will limit the market share that a feeder system can obtain; four feeder systems offer the opportunity for high load factors; the candidate feeder systems can capture over 170,000 TEU's of international cargo annually; feeder system costs are generally higher than the overland alternative but, depending upon the specific conditions, can be competitive with a direct call by the line haul vessel; although the legal framework does not encourage the development of feeder systems, it does not prohibit or severely limit them; and the overall impact of the proposed feeder system on the U.S. economy will exceed $475 million over a 20-year span.

Descriptors: *Cargo ships, *Cargo transportation, Market research, Economic analysis, Seaports, Marine terminals, Law(Jurisprudence), United States

Identifiers: *Containerships, Atlantic Coastal Plain Region(United States), Gulf Coastal Plain Region(United States), NTISCOMMA

PB-293 244/0ST NTIS Prices: PC A08/MF A01

Proceedings CAORF Symposium (2nd)- The Impact of Simulation on Today's Maritime Problems, Held on September 28-29, 1978

National Maritime Research Center-Kings Point, NY. Computer Aided Operations Research Facility.*Maritime Administration, Washington, DC.
F1195L1 Fld: 13J, 17G, 85G, 85D, 86L GRAI7914
Sep 78 209p
Monitor: 18
See also report dated Jun 77, PB-268 821. Sponsored in part by Maritime Administration, Washington, DC.

Abstract: ;Contents: Assessment of maritime risk of LNG terminals; Examination of the effect of changes to the International Rules of the Road; Development of a marine radar interrogator/transponder system; Research into training and certification; Analysis of computerized collision assessment systems' benefits; Investigations into aids to navigation; Looking ahead at CAORF.

Descriptors: *Marine transportation, *Computerized simulation, *Meetings, Marine terminals, Liquefied natural gas, Risk, Regulations, Collision avoidance, Traffic control, Radar, Education, Operations research, Surface navigation, Performance evaluation, Simulators, Computer aided instruction, Assessments

Identifiers: Computer aided operations research facility, NTISCOMMA

PB-293 062/6ST NTIS Prices: PC A10/MF A01

Identification and Evaluation of Deepwater Port Hose Inspection Methods

Transportation Systems Center, Cambridge, MA.*Coast Guard, Washington, DC. (407082)

Final rept. Aug 76-Mar 78
AUTHOR: Hathaway, W. T.; Frenkel, L.; Plank, G. R.; Bobo, S. N.
F1162K4 Fld: 13K, 13J, 94, 47 GRAI7914
Jan 79 155p
Rept No: TSC-USCG-79-10
Monitor: USCG-D-02-79

Abstract: The work contained in this report consists of a review of deepwater port hose failures to date, and the causes leading to these failures, as well as an evaluation of current hose inspection techniques and procedures, and an examination of available non-destructive test procedures which are not currently used on deepwater port hoses but show potential in this application. Inspection methods which appear to show potential for immediate application are x-ray inspection for hose component placement, durometer testing for liner hardness, and pressure-volume testing for overall structural characteristics. Those methods judged to require more experimental investigation, both in the laboratory and the field, are ultrasonic inspection and acoustic emission inspection. Included in the report are the results of laboratory tests with acoustic emission, ultrasonic, and durometer techniques and recommendations for further work utilizing these techniques. (Author)

Descriptors: *Fuel hoses, Inspection, Test methods, Deep water, Crude oil, Offshore structures, Failure, Defects(Materials), Oceanographic data, Underwater acoustics, Infrared equipment, Leakage(Fluid)

Identifiers: Deepwater ports, NTISDODXA, NTISDODCG

AD-A065 235/4ST NTIS Prices: PC A08/MF A01

Some Recent Trends in Hull Forms for Merchant Ships

Swedish State Shipbuilding Experimental Tanks, Goteborg. (338 000)
AUTHOR: Williams, Ake
F1125H4 Fld: 13J, 47A GRAI7913
1978 57p
Rept No: ISBN-91-38-04696-2; PUB-80
Monitor: 18
Also pub. as ISSN 0373-4714.

Abstract: Some examples are given of hull form investigations recently carried out by The Swedish State Shipbuilding Experimental Tank (SSPA). Special attention was paid to the qualities of the hull forms with regard to the propulsive performance including propeller cavitation and vibration. Two main categories of merchant ships were selected for closer studies, namely: Large tankers and bulkers (VLCCS/ULCCS) and high-powered container/ro-ro ships. The analysis and conclusions from the investigation seem to justify, for the VLCCS/ULCCS, a forebody of ellipsoidal form and an afterbody of twin-skeg (or twin-gondola) shape, as this combination gives the lowest required shaft horse power. For the high-powered container/ro-ro vessel, where cavitation and vibration problems often occur, an afterbody hull form with 'free space' around the propeller(s) is recommended. The choice of an economic forebody hull form depends strongly on whether a reasonably constant forward draft can be kept.

Descriptors: *Merchant ships, *Ship hulls, Structural design, Marine propellers, Vibration, Cavitation, Tankerships, Sweden

Identifiers: Containerships, Supertankers, Sensitivity analysis, NTISFNSW

PB-293 022/0ST NTIS Prices: PC A04/MF A01

Maritime Information Sources: A Guide to Current Statistical Data

Transportation Research Board, Washington, DC. (410340)
AUTHOR: Hamrick, Mary C.
F1052E4 Fld: 5B, 13J, 88B, 85G GRAI7913
Dec 78 247p
Contract: N00014-75-C-0711
Monitor: 18
Errata sheet inserted.

Abstract: This guide includes abstracts of government and privately maintained data bases and publications containing statistical data related to maritime transportation. With a few exceptions, the publications abstracted are periodically reissued or updated. Some organizations that collect data but issue no statistical publications may make them available on request. A listing of some of these organizations has also been provided. The guide is intended to assist the user in identifying data sources. Inclusion does not imply endorsement of the validity of the data nor is it an attempt to solicit customers for the organizations identified. The guide is divided into fourteen broad subject areas: Ports and Terminals; Maritime Economics; Commercial Vessel Construction and Repair, Characteristics, Movements, and Commercial Vessel Casualties, Government Vessel Construction and Repair and Characteristics; Cargo Movements and Trade Routes; Labor and Management--General Employment, Unions and Trade Associations, and Personnel Casualties; Government Personnel; and Inland Waterways.

Descriptors: *Marine transportation, *Statistical data, *Naval vessels, *Information systems, Merchant vessels, Data bases, Directories, Abstracts, Harbors, Marine terminals, Economics, Water traffic, Research ships, United States Government, Shipbuilding, Repair, Routing, Casualties, Inland waterways, United States, Foreign, Labor unions, Industries, Management, Government employees

Identifiers: Seaports, NTISDODXA

AD-A064 830/3ST NTIS Prices: PC A11/MF A01

Applicability of Cogas Marine Power Plants for Merchant Ships

Sharp (George C.), Inc., New York.*Maritime Administration, Washington, DC. (403 388)

Final rept.
F0774F1 Fld: 13J, 21E, 47A, 81D, 86L GPAI7910
12 Jan 79 225p
Rept No: 5615
Contract: MA-7-38009
Monitor: MA-RD-920-79017

Abstract: The report presents the results of a project investigating the commercial availability of equipment and the applicability of COGAS marine power plants for U.S. flag merchant ships. The report is subdivided into four parts and two appendices. Part I includes system optimization studies and a literature search. Various alternatives of steam cycles, heat recovery boiler pressures and efficiencies, steam turbine efficiencies and types of fuel are analyzed. Part II includes the work performed to develop the selected optimum steam cycle into a marine COGAS power plant. Part III is a technical bulletin including the design and performance of the COGAS power plant equipment. Part IV includes economic analyses comparing two U.S. flag ships, a containership and a tanker, fitted with steam and COGAS power plants. Appendix 'A' contains the arrangement of machinery drawings of COGAS installations on a containership and a tanker; and Appendix 'B' the equipment drawings of COGAS power plant components.

Descriptors: *Marine surface propulsion, *Ship turbines, Gas turbines, Steam turbines, Waste heat boilers, Reduction gears, Planetary gears, Systems engineering, Merchant ships, Tanker ships, Cargo ships, Economic analysis

Identifiers: *Combined cycle power plants, Containerships, NTISCOMMA

PB-289 980/5ST NTIS Prices: PC A10/MF A01

Evaluation of Liquid Cargo Tank Overpressure

David W Taylor Naval Ship Research and Development Center Bethesda MD
Structures Dept (387698)

Final rept.
AUTHOR: Swanek, Richard
F0705J4 Fld: 13J, 47A GRAI7910
Sep 78 80p
Contract: MIPR-Z-70099-6-65865
Monitor: USCG-D-71-78

Abstract: The phenomenon of cargo tank overpressure during transfer operations was analyzed and analytical models describing tank pressure rise during transfer operations were validated with scale model experiments. Factors examined affecting tank pressure were cargo properties, transfer rates, tank characteristics and vent system design. Findings indicate that typical vent systems employed today have adequate capacity for venting gas but inadequate capacity to vent liquid after the tank becomes liquid full. Furthermore, it appears that tank failure is inevitable for the case of liquid overfill unless loading rate(cu-ft per sec) to vent area (sq-ft) ratios are kept below 6ft/sec. Currently, most transfer operations exceed this value with tank failure expected less than one minute after the tank becomes liquid full. A method to evaluate the adequacy of existing cargo tanks against the overpressure hazard is presented. (Author)

Descriptors: *Tanks(Containers), *Cargo vehicles, Liquids, Overpressure, Mathematical models, Transfer, Scale models, Venting, Vapor pressure, Bulkheads, Loads(Forces), Safety

Identifiers: *Tanker ships, NTISDODXA, NTISDOTCG

AD-A062 941/0ST NTIS Prices: PC A05/MF A01

An Assessment of Transportable Breakwaters with Reference to the Container Off-Loading and Transfer System (COTS)

Civil Engineering Lab (Navy) Port Hueneme CA (391111)

Final rept. Feb 77-Jan 78
AUTHOR: Jones, D. B.
F0614K1 Fld: 13B, 15E, 50B GRAI7909
Sep 78 119p
Rept No: CEL-TN-1529
Project: F53536
Task: YF53536091
Monitor: 18

Abstract: A study covering three specific designs for a tethered float breakwater and simple and legged versions of the sloping float (inclined pontoon) breakwater has resulted in improved definition of certain aspects of the logistic burden connected with transportable breakwaters in military operations. Performance data reported for the two types were analyzed in order to determine the transverse cross-section dimensions required for 50% reduction of the significant wave height associated with the Pierson-Moskowitz wave spectrum with 7-second peak period. Specific designs with this capability were then examined to assess requirements for overseas transportation, installation, and cost. The state performance requirement was drawn from an analysis of the Container Off-Loading and Transfer System (COTS). This analysis concluded that wave-induced motions of moored lighters, barges, and floating platforms (with natural periods between 2 and 7 seconds) could adversely affect cargo flow rates. Thus, a breakwater effective for 7-second waves could decrease the frequency and duration of occasions when the system is degraded by wave action. Bargeships, ships with well decks, or large ocean-going barges would be required to transport the modules of the various designs for a 7-second breakwater. A LASH bargeship is the most likely carrier for COTS breakwaters. LASH capacity varies from 750 to 3,600 lineal feet of breakwater, depending upon the particular vessel and the breakwater design. For the various points in the COTS where a breakwater would be beneficial, the length of breakwater required varies from 650 to 4,000 feet. (Author)

Descriptors: *Breakwaters, Logistics, Transportable, Floating docks, Performance(Engineering), Pontoons, Floats, Tethering, Cargo handling, Experimental design, Marine terminals

Identifiers: COTS(Container Off-Loading and Transfer System), Container Off-Loading and Transfer System, *Tethered float breakwaters, NTISDODXA

AD-A062 432/0ST NTIS Prices: PC A06/MF A01

LOOP Deepwater Port License Application. Volume 4

Little (Arthur D.), Inc., Cambridge, MA.*Coast Guard, Washington, DC. Deepwater Ports Project. (208 850)

Final environmental impact statement.
F0542G3 Fld: 13B, 68H GRAI7907
11 Jun 76 522p
Contract: DOT-CG-52269(A)
Monitor: USCG/G-WDWP-76/05
See also Volume 3, PB-290 189.
Also available in set of 5 reports PC E20, PB-290 185-SET.

Abstract: This document is Volume IV of the Environmental Impact Statement (FIS) covering the proposed Licensing by the Department of Transportation of LOOP, Inc., to own, construct and operate a deepwater port in the Gulf of Mexico, about 18 miles off LaFourche Parish, Louisiana. The complete LOOP FIS covers in detail many factors relating to the proposed Socility, other petroleum-related development, the environmental and potential impacts thereon, project and system alternatives, and mitigating measures to reduce impacts. Contents: Economic analysis; Safety zone analysis; Comment letters received during review of the draft environmental impact statement; Hearing officer's report for the public hearing held May 25, 1976; Compliance with the National Historic Preservation Act of 1966; 4(f) statement for LOOP, Inc. and the Louisiana State Wisner Wildlife Management Area; Detailed LOOP pipeline drawings.

Descriptors: *Deepwater terminals, *Louisiana, *Environmental impact statements-final, Oil pollution, Economic impact, Air pollution, Water pollution, Ecology, Coastal zone management, Pipeline transportation, Mexico Gulf

Identifiers: *Oil spills, Socioeconomic factors, Louisiana offshore oil ports, NTISDOTCG

PB-290 190/8ST NTIS Prices: PC A22/MF A01

LOOP Deepwater Port License Application. Volume 3

Little (Arthur D.), Inc., Cambridge, MA.*Coast Guard, Washington, DC. Deepwater Ports Project. (208 850)

Final environmental impact statement.
F0542G2 Fld: 13B, 68H GRAI79 7
11 Jun 76 451p
Contract: DOT-CG-52269(A)
Monitor: USCG/G-WSWP-76/04
See also Volume 2, PB-290 188, and Volume 4, PB-290 190.
Also available in set of 5 reports PC E20, PB-290 185-SET.

Abstract: This document is Volume III of the Environmental Impact Statement (EIS) covering the proposed Licensing by the Department of Transportation of LOOP, Inc., to own, construct and operate a deepwater port in the Gulf of Mexico, about 18 miles off LaFourche Parish, Louisiana. The complete LOOP EIS covers in detail many factors relating to the proposed Socility, other petroleum-related development, the environmental and potential impacts thereon, project and system alternatives, and mitigating measures to reduce impacts. Contents: Comments raised in the review process by federal agencies, state and local entities, and the public; Glossary of terms; Risk analysis of oil spills.

Descriptors: *Deepwater terminals, *Louisiana, *Environmental impact statements-final, Oil pollution, Economic impact, Air pollution, Water pollution, Ecology, Coastal zone management, Pipeline transportation, Mexico Gulf

Identifiers: *Oil spills, Socioeconomic factors, Louisiana offshore oil ports, Risk analysis, NTISDOTCG

PB-290 189/0ST NTIS Prices: PC A20/MF A01

LOOP Deepwater Port License Application. Volume 2

Little (Arthur D.), Inc., Cambridge, MA.*Coast Guard, Washington, DC. Deepwater Ports Project. (208 850)

Final environmental impact statement.
F0542G1 Fld: 13B, 68H GRAI7907
11 Jun 76 545p
Contract: DOT-CG-52269(A)
Monitor: USCG/G-WDWP-76/03
See also Volume 1, PB-290 187, and Volume 3, PB-290 189.
Also available in set of 5 reports PC E20, PB-290 185-SET.

Abstract: This document is Volume II of the Environmental Impact Statement (EIS) covering the proposed Licensing by the Department of Transportation of LOOP, Inc., to own, construct and operate a deepwater port in the Gulf of Mexico, about 18 miles off LaFourche Parish, Louisiana. The complete LOOP EIS covers in detail many factors relating to the proposed Socility, other petroleum-related development, the environmental and potential impacts thereon, project and system alternatives, and mitigating measures to reduce impacts. Contents: Probable impacts on the environment; Reasonable alternatives and associated environmental impacts; Probable adverse environmental effects which cannot be avoided; Relationship between local short-term uses and long-term productivity; Irreversible/irretrievable commitments of resources; Other interests and considerations of federal policy thought to offset the adverse environmental effects.

Descriptors: *Deepwater terminals, *Louisiana, *Environmental impact statements-final, Oil pollution, Economic impact, Air pollution, Water pollution, Ecology, Coastal zone management, Pipeline transportation, Mexico Gulf

Identifiers: *Oil spills, Socioeconomic factors, Louisiana offshore oil ports, NTISDOTCG

PB-290 188/2ST NTIS Prices: PC A23/MF A01

LOOP Deepwater Port License Application. Volume 1

Little (Arthur D.), Inc., Cambridge, MA.*Coast Guard, Washington, DC. Deepwater Ports Project. (208 850)

Final environmental impact statement.
F0542F4 Fld: 13B, 68H GRAI7907
11 Jun 76 489p
Contract: DOT-CG-52269(A)
Monitor: USCG/G-WDWP-76/02
See also Executive Summary, PB-290 186, and Volume 2, PB-290 188.
Also available in set of 5 reports PC E20, PB-290 185-SET.

Abstract: This document is Volume I of the Environmental Impact Statement (EIS) covering the proposed Licensing by the Department of Transportation of LOOP, Inc., to own, construct and operate a deepwater port in the Gulf of Mexico, about 18 miles off LaFourche Parish, Louisiana. The complete LOOP EIS covers in detail many factors relating to the proposed Socility, other petroleum-related development, the environmental and potential impacts thereon, project and system alternatives, and mitigating measures to reduce impacts. Contents: Description of the proposed action; Description of the environment affected.

Descriptors: *Deepwater terminals, *Louisiana, *Environmental impact statements-final, Oil pollution, Economic impact, Air pollution, Water pollution, Ecology, Coastal zone management, Pipeline transportation, Mexico Gulf

Identifiers: *Oil spills, Socioeconomic factors, Louisiana offshore oil ports, NTISDOTCG

PB-290 187/4ST NTIS Prices: PC A21/MF A01

LOOP Deepwater Port License Application. Executive Summary

Little (Arthur D.), Inc., Cambridge, MA.*Coast Guard, Washington, DC. Deepwater Ports Projects. (208 850)

Final environmental impact statement.
F0542F3 Fld: 13B, 68H GRAI7907
11 Jun 76 61p
Contract: DOT-CG-52269(A)
Monitor: USCG/G-WDWP-76/01
See also Volume 1, PB-290 187.
Also available in set of 5 reports PC E20, PB-290 185-SET.

Abstract: This document is an Executive Summary of the Environmental Impact Statement (EIS) covering the proposed Licensing by the Department of Transportation of LOOP, Inc., to own, construct and operate a deepwater port in the Gulf of Mexico, about 18 miles off LaFourche Parish, Louisiana. The complete LOOP EIS covers in detail many factors relating to the proposed Socility, other petroleum-related development, the environmental and potential impacts thereon, project and system alternatives, and mitigating measures to reduce impacts.

Descriptors: *Deepwater terminals, *Louisiana, *Environmental impact statements-final, Oil pollution, Economic impact, Air pollution, Coastal zone management, Water pollution, Ecology, Pipeline transportation, Mexico Gulf

Identifiers: *Oil spills, Socioeconomic factors, Louisiana offshore oil ports, NTISDOTCG

PB-290 186/6ST NTIS Prices: PC A04/MF A01

SEADOCK Deepwater Port Final Environmental Impact Statement. Volume IV

Little (Arthur D.), Inc., Cambridge, MA.*Coast Guard, Washington, DC. Deepwater Ports Project.

Final rept.
F0541F4 Fld: 13B, 68H GRAI7907
11 Jun 76 403p
Contract: DOT-CG-52269-A
Monitor: USCG/G-WDWP-76/10
See also Volume 3, PB-289 749.
Also available in set of 5 reports PC E19, PB-289 745.

Abstract: This document is Volume IV of the Environmental Impact Statement (EIS) covering the proposed Licensing by the Department of Transportation of SEADOCK, Inc. to own, construct and operate a deepwater port in the Gulf of Mexico, about 20 miles off Freeport, Texas. The complete SEADOCK EIS covers in detail many factors relating to the proposed Socility, other petroleum-related development, the environmental and potential impacts thereon, project and system alternatives, and mitigating measures to reduce impacts.

Descriptors: *Deepwater terminals, *Mexico Gulf, *Environmental impact statements-final, Offshore structures, Oil pollution, Water pollution, Economic impact, Site surveys, Environmental surveys, Air pollution, Coast Guard research, Coastal zone management, Texas

Identifiers: SEADOCK deepwater terminal, NTISDOTCG

PB-289 750/2ST NTIS Prices: PC A18/MF A01

SEADOCK Deepwater Port Final Environmental Impact Statement. Volume III

Little (Arthur D.), Inc., Cambridge, MA.*Coast Guard, Washington, DC. Deepwater Ports Project.

Final rept.
F0541F3 Fld: 13B, 68H GRAI7907
11 Jun 76 384
Contract: DOT-CG-52269-A
Monitor: USCG/G-WDWP-76/09
See also Volume 2, PB-289 748, and Volume 4, PB-289 750.
Also available in set of 5 reports PC E19, PB-289 745.

Abstract: This document is Volume III of the Environmental Impact Statement (EIS) covering the proposed Licensing by the Department of Transportation of SEADOCK, Inc. to own, construct and operate a deepwater port in the Gulf of Mexico, about 20 miles off Freeport, Texas. The complete SEADOCK EIS covers in detail many factors relating to the proposed Socility, other petroleum-related development, the environmental and potential impacts thereon, project and system alternatives, and mitigating measures to reduce impacts.

Descriptors: *DeepWater terminals, *Mexico Gulf, *Environmental impact statements-final, Offshore structures, Oil pollution, Water pollution, Economic impact, Site surveys, Environmental surveys, Air pollution, Coast Guard research, Coastal zone management, Texas

Identifiers: SEADOCK deepwater terminal, NTISDOTCG

PB-289 749/4ST NTIS Prices: PC A17/MF A01

SEADOCK Deepwater Port Final Environmental Impact Statement. Volume II

Little (Arthur D.), Inc., Cambridge, MA.*Coast Guard, Washington, DC. Deepwater Ports Project.

Final rept.
F0541F2 Fld: 13B, 68H GPAI7907
11 Jun 76 450
Contract: DOT-CD-52269-A
Monitor: USCG/G-WDWP-76/08
See also Volume 1, PB-289 747, and Volume 3, PB-289 749.
Also available in set of 5 reports PC E19, PB-289 745.

Abstract: This document is Volume II of the Environmental Impact Statement (EIS) covering the proposed Licensing by the Department of Transportation of SEADOCK, Inc. to own, construct and operate a deepwater port in the Gulf of Mexico, about 20 miles off Freeport, Texas. The complete SEADOCK EIS covers in detail many factors relating to the proposed Socility, other petroleum-related development, the environmental and potential impacts thereon, project and system alternatives, and mitigating measures to reduce impacts.

Descriptors: *Deepwater terminals, *Mexico Gulf, *Environmental impact statements-final, Offshore structures, Oil pollution, Water pollution, Economic impact, Site surveys, Environmental surveys, Air pollution, Coast Guard research, Coastal zone management, Texas

Identifiers: NTISDOTCG

PB-289 748/6ST NTIS Prices: PC A19/MF A01

SEADOCK Deepwater Port Final Environmental Impact Statement. Volume I

Little (Arthur D.), Inc., Cambridge, MA.*Coast Guard, Washington, DC. Deepwater Ports Project.

Final rept.
F0541F1 Fld: 13B, 68H GRAI7907
11 Jun 76 468p
Contract: DOT-CG-52269-A
Monitor: USCG/3-WDWP-76/07
See also Executive Summary, PB-289 746, and Volume 2, PB-289 748.
Also available in set of 5 reports PC E19, PB-289 745-SET.

Abstract: This document is Volume I of the Environmental Impact Statement (EIS) covering the proposed Licensing by the Department of Transportation of SEADOCK, Inc. to own, construct and operate a deepwater port in the Gulf of Mexico, about 20 miles off Freeport, Texas. The complete SEADOCK EIS covers in detail many factors relating to the proposed Socility, other petroleum-related development, the environmental and potential impacts thereon, project and system alternatives, and mitigating measures to reduce impacts.

Descriptors: *Deepwater terminals, *Mexico Gulf, *Environmental impact statements-final, Offshore structures, Oil pollution, Water pollution, Economic impact, Site surveys, Environmental surveys, Air pollution, Coast Guard research, Coastal zone management, Texas

Identifiers: SEADOCK deepwater terminal, NTISDOTCG

PB-289 747/8ST NTIS Prices: PC A20/MF A01

SEADOCK Deepwater Port Final Environmental Impact Statement. Executive Summary

Little (Arthur D.), Inc., Cambridge, MA.*Coast Guard, Washington, DC. Deepwater Ports Project.

Final rept.
F0541E4 Fld: 13B, 68H GPAI7907
11 Jun 76 55p
Contract: DOT-CG-52269-A
Monitor: USCG/G-WDWP-76-06
See also Volume 1, PB-289 747.
Also available in set of 5 reports PC E19, PB-289 745-SET.

Abstract: This document is an Executive Summary of the Environmental Impact Statement (EIS) covering the proposed Licensing by the Department of Transportation of SEADOCK, Inc. to own, construct and operate a deepwater port in the Gulf of Mexico, about 20 miles off Freeport, Texas. The complete SEADOCK EIS covers in detail many factors relating to the proposed Socility, other petroleum-related development, the environmental and potential impacts thereon, project and system alternatives, and mitigating measures to reduce impacts.

Descriptors: *Deepwater terminals, *Mexico Gulf, *Environmental impact statements-final, Offshore structures, Oil pollution, Water pollution, Economic impact, Site surveys, Environmental surveys, Air pollution, Coast Guard research, Coastal zone management, Texas

Identifiers: SEADOCK deepwater terminal, NTISDOTCG

PB-289 746/0ST NTIS Prices: PC A04/MF A01

Automated Management Control System for Public Marine Terminals. Phase I. System Definition, System Analysis, and Concept Design

Arinc Research Corp Annapolis MD (400247)

Final rept.
AUTHOR: Miller, J. T.; Greene, L. B.
F0472B1 Fld: 15E, 5A, 13B, 50B GRAI7907
Nov 78 166p
Rept No: 1341-01-1-1813
Contract: DO-A01-78-00-3006
Monitor: 18

Abstract: A project was conducted as the first phase of a multi-phase program to develop and demonstrate an automated management control system for public marine terminals. The objectives of the Phase I effort were as follows: Identify the requirements for control of containerized cargo in various categories of public marine terminals; Define a family of concepts for an automated management control system that would satisfy the identified requirements; Develop and apply a methodology for assessing the impact of various automation concepts on terminal financial performance and operational effectiveness; Explore the potential extension of the automation concept beyond the terminal boundaries to permit (1) additional information users, and (2) shared resources, and to Develop a detailed plan for implementing Phase II of the overall program.

Descriptors: *Marine terminals, *Management planning and control, Systems analysis, Automation, Shipping, Containerized shipping, Computers, Cost analysis, Tables(Data), Merchant vessels, Logistics, Life cycle costs

Identifiers: NTISDODXA

AD-A061 632/6ST NTIS Prices: PC A08/MF A01

Offshore Terminal System Concepts

Soros Associates, Inc., New York.*Maritime Administration, Washington, DC.*National Aeronautics and Space Administration, Washington, DC.

Executive summary (Final).
F0431C4 Fld: 13J, 85G, 47 GRAI7906
Sep 72 133p
Contract: MA-1-35409
Project: MA-55-400-81-013
Monitor: MA-RD-730001
Sponsored in part by National Aeronautics and Space Administration, Washington, DC.

Abstract: This report summarizes a 3-part report which (1) analyzes U.S. bulk commodity imports and exports: (2) identifies petroleum as the principal commodity, for which the economy of movement in supersize ships would justify construction of deepwater terminal facilities on the North Atlantic and Gulf Coasts, a requirement for coal and ore is cited but is said to depend on future market trends; (3) identifies transportation costs for supersize tankers, dry bulk carriers, feeder tankers, feeder barges, and pipelines; (4) surveys East, Gulf, and West Coast ports and deepwater sites suitable for deepwater terminal construction; (5) selects five candidate sites and presents a conceptual design for each; (6) compares capital and operating costs as well as total transportation costs of alternative transportation systems; (7) evaluates the benefits and limitations of multi-use terminals; (8) defines specific environmental protection features; and (9) describes requirements for advanced construction methods.

Descriptors: *Petroleum transportation, *Deepwater terminals, Offshore structures, Site surveys, Cost analysis, Petroleum industry, Construction costs, International trade, Marine transportation

Identifiers: *SuPeRtankers, *Deepwater ports, NTISNASA, NTISCOMMA

N77-70853/5ST NTIS Prices: PC A07/MF A01

Bulk Carrier Operations Safety Enhancement Project. Phase II, Volume II. Shiptank Electrostatic Model Studies

Southwest Research Inst., San Antonio, TX.*Maritime Administration, Washington, DC. (328 200)

Final rept. 15 Jun 76-13 Oct 78
AUTHOR: Owen, Thomas E.; Spiegel, Ronald J.
F0345I4 Fld: 13J, 13L, 47A*, 85D*, 85G GRAI7905
10 Oct 78 210p*
Contract: MA-5-38044
Project: SwRI-02-4317
Monitor: MA/RD-920-78072
See also Volume 1, PB-288 264.

Abstract: Ship tank Electrostatic Model Studies presents experimental electrostatic results from laboratory scale model ship tank washing and liquid sloshing tests using fresh water, seawater and crude oil liquids. Geometric scaling law relationships based on a linear theoretical description of the electrical phenomena are experimentally confirmed to provide potential means for extrapolating laboratory test results to full scale tank enclosures. Electrostatic model study results are summarized to provide general technical guidelines for ship tank design and operational factors related to electrostatic hazard reduction. Electrostatic instrumentation and numerical computer models developed especially for the scale model laboratory tests are described and documented.

Descriptors: *Tanker ships, *Storage tanks, *Washing, *Electrostatic charge, Model tests, Sloshing, Accident prevention, Electric fields, Electric corona, Computerized simulation

Identifiers: NTISCOMMA

PB-288 265/2ST NTIS Prices: PC A10/MF A01

Bulk Carrier Operations Safety Enhancement Project. Phase II, Volume I. Tank Atmosphere Control

Southwest Research Inst., San Antonio, TX.*Maritime Administration, Washington, DC. (328 200)

Final rept. 15 Jun 76-13 Oct 78
AUTHOR: Bass, Robert L.; Morrow, Thomas B.
F0345I3 Fld: 13J, 13L, 47A*, 85D*, 85G, 86L GRAI7905
10 Oct 78 215p*
Contract: MA-5-38044
Project: SwRI-02-4317
Monitor: MA/PD-920-78071
See also Volume 2, PB-288 265 and Phase 1 report dated 7 Jun 76, PB-256 188.

Abstract: An experimental study was conducted utilizing scale modeling techniques to establish improved methods for ship tank gas freeing and inerting. Scaling studies were performed to establish appropriate similitude criteria. Parametric studies were undertaken to investigate the effects of tank internal geometries, inlet/outlet configurations and locations, blower flow capacities, and gas densities on the gas exchange process. A comprehensive set of experiments was conducted on six ship tank models which represent extremes in tank geometry for U.S. designed and constructed ships. Design and operational information is presented and techniques to improve the efficiency of gas exchange are recommended for both dilution and displacement methods.

Descriptors: *Tanker ships, *Storage tanks, *Atmosphere contamination control, Petroleum transportation, Air cleaners, Inert atmospheres, Rare gases, Purging, Washing, Blowers

Identifiers: *Marine safety, NTISCOMMA

PB-288 264/5ST NTIS Prices: PC A10/MF A01

Study of Deepwater Port Oil Transfer Control Systems

Harris (Frederic R) Inc NY (162700)

Final rept. Apr 77-Jun 78
AUTHOR: Robson, Ian C.; Scherkenbach, William W.
F0175E4 Fld: 13J, 15E, 47, 74E, 97K GRAI7903
Jun 78 377p
Contract: DOT-CG-64503-A
Monitor: USCG-D-58-78
Prepared in cooperation with Hittman Associates Inc., Columbia, MD.

Abstract: This report deals with the description, reliability and rating of oil transfer control systems in Deepwater ports. A typical oil transfer control system is hierarchically defined along with equipment description and purpose, reliability, spill risk, effects of failure and alternative procedures. A numerical rating system is presented which enables the design reviewer to compare a proposed control system with a benchmark system. Equipment Staging Diagram, Fault Trees and a Failure Mode and Effects Analysis are presented for the defined control system to aid in its analysis. (Author)

Descriptors: *Marine terminals, *Crude oil, *Cargo handling, Deep water, Fault trees, Failure, Transfer, Logistics, Control systems, Petroleum industry, Environmental protection

Identifiers: *Oil transfer control systems, Single point mooring, NTISDODXA, NTISDOTCG

AD-A060 144/3ST NTIS Prices: PC A17/MF A01

Tank Barge Oil Pollution Study

Automation Industries Inc Silver Spring Md Vitro Labs Div (408035)

Final rept. Jul 77-Feb 78
AUTHOR: Bender, Avi; Brown, Gerald G. Jr; Rosenbusch, Joseph M.
F0022A2 Fld: 13B, 68D GRAI7901
Feb 78 69p
Contract: DOT-CG-71603-A
Monitor: USCG-CG-M-2-78

Abstract: This study was conducted to determine and categorize the causes of tank barge oil spill incidents and the extent of the resulting pollution. Coast Guard pollution incident data files were reviewed for the 3-year period from 1974-1976, and discussions were held with pollution control and marine safety personnel in four Coast Guard district offices. Operational and causal patterns were identified, present pollution prevention efforts were examined, and means of reducing the spill volumes and number of incidents were investigated. The analysis revealed a preponderance of small oil spills (= or 100 gal) which occur during cargo transfer operations; however, these incidents contributed less than 10% of the total volume spilled. The major spills (100 gal), which occur primarily during underway operations, represented a small portion of the total incidents but contributed the bulk of the oil volume spilled. A number of preventive measures were examined. Improved tankerman training and use of coamings should substantially reduce the number of small spills. Double-hull barge construction should prove effective in preventing many large spills resulting from collisions or groundings. Several other preventive measures were also considered which involve the regulatory area and barge/shore facility interfaces. (Author)

Descriptors: *Oil pollution, *Oil spills, Barges, Coast Guard research , Inland waterways, Handling, Errors, Losses, Safety

Identifiers: *Water pollution abatement, *Materials handling, Marine terminals, Tanker ships, NTISDODXA, NTISDOTCG

AD-A059 116/4ST NTIS Prices: PC A04/MF A01

Evaluation of Deepwater Ports Mooring Load Monitoring and Prediction Systems

Hydronautics Inc Laurel Md (174500)

Final technical rept.
AUTHOR: Barr, Roderick A.; Tebay, Sterling; Loeser, Douglas
E2433D3 Fld: 13J, 47 GRAI7823
Feb 78 230p
Rept No: TR-7719-1
Contract: DOT-CG-64157-A
Monitor: USCG-D-21-78

Abstract: This report describes a study of mooring load monitoring and prediction systems for deepwater ports. The study considers both the complete systems and the various components of each system. The primary purpose of the study is to define and critically compare all candidate monitoring and prediction systems that might be used at a U.S. deepwater port and to recommend what, if any, systems should be required at such ports. The study is primarily directed to oil import terminals using single point moorings of the Catenary Anchor Leg Mooring (CALM), Single Anchor Leg Mooring (SALM), and tower types, but alongside moorings and lng ports are considered briefly. Factors such as hawser properties, which affect allowable mooring loads, are also considered.

Descriptors: *Mooring, *Marine terminals, Monitoring, Anchors(Marine), Towers, Loads(Forces), Deep water, Measurement, Telemeter systems, Rope, Failure, Predictions, Strain gages, Mooring buoys, Warning systems, Tankers, Petroleum products, Imports, Harbors, Liquefied natural gas

Identifiers: Ports, Deep water oil terminals, Mooring lines, Hawsers, Mooring load monitoring systems, MLMS(Mooring Load Monitoring Systems), NTISDODXA

AD-A057 665/2ST NTIS Prices: PC A11/MF A01

Preliminary Evaluation of Wind and Wave Effects at Potential LNG Terminal Sites, State of California. Appendix B: An Evaluation of the Relative Wave Climate at Six Offshore LNG Sites Considering Island Influences and Topographic Effects

Army Engineer Waterways Experiment Station Vicksburg Miss (038100)

Miscellaneous paper (Final)
AUTHOR: Hales, Lyndell Z.
E2423D4 Fld: 13J, 8C, 47 GRAI7823
Jul 78 453p
Rept No: WES-MP-H-78-2-APP-B
Monitor: 18
Appendix B to Rept. no. WES-MP-H-78-2 dated Jan 78, AD-A049 883. See also Appendix A, AD-A054 130.

Abstract: This Station (WES) was requested to assist in the preliminary evaluation of the wave climate at alternate potential Liquefied Natural Gas (LNG) terminal sites by applying existing hindcast wave data of a general nature to obtain estimates of the times of excessive wave conditions at the various sites. After the preliminary evaluation was completed, WES was again requested to assist by analyzing the effects of island sheltering and topographic influences on the wave climates of six offshore sites in order to provide a more refined estimate of the wave conditions existing at the potential sites. Because of the absence of a comprehensive deepwater wave hindcast data base of sufficient degree of confidence to permit estimates of the absolute magnitude of occurrences of waves of different periods and heights, the analysis conducted is a relative evaluation only and should not be interpreted as projections of actual downtime, but rather as a consistently uniform basis for comparison. When the appropriate topographic coefficients had been applied to the deepwater hindcast wave data and the resulting wave climate at the potential offshore LNG site had been obtained, it was required that the effects of this resultant wave climate be determined on four possible terminal concepts at each of the six sites. These four concepts include: (a) fixed terminal with one pier, (b) fixed terminal with two piers, (c) floating barge, and (d) deepwater mooring tower.

Descriptors: *Marine terminals, *Site selection, *Ocean waves, Height, Probability, Wind velocity, Climate, Santa Barbara Islands, Topography, Offshore, Deep water, Peak values, Refraction, Oceanographic data, Seasonal variations, Piers, Floating bases, Barges, Towers, Mooring, Tankers, Ship motion, Liquefied natural gas, Legislation, California, Coastal regions

Identifiers: Wind waves, Hindcasting, Santa Barbara Channel, Swells(Marine), NTISDODXA

AD-A057 426/9ST NTIS Prices: PC A20/MF A01

LNG Single Point Mooring Terminal - Report on Initial Studies

Donaldson Associates, Rancho Palos Verdes, Calif.*Maritime Administration, Washington, D.C. Office of Commercial Development.*Pacific Marine Associates.

Final rept.
AUTHOR: Donaldson, G. B. Jr
E2373J1 Fld: 13J, 13K, 47, 97K GPAI7822
Jun 78 112p
Rept No: DA-0678R
Contract: MA-7-38026
Monitor: MA-RD-940-78057
Sponsored in part by Pacific Marine Associates.

Abstract: This report describes an initial investigation on a proprietary Single Point Mooring (SPM) concept for Liquefied Natural Gas (LNG) and other low temperature fluids. The study included analytical evaluation of buoy and hose string motions, together with preliminary design and analysis of a coaxial LNG/vapor swivel, a self-sealing LNG disconnect, and a floating LNG hose assembly. Thermal and hydraulic analyses were also carried out for the seabed pipeline. All results were positive, and further investigation is recommended.

Descriptors: *Tanker ships, *Mooring, *Liquefied natural gas, Fuel hose, Self sealing disconnect fittings, Offshore structures, Design criteria, Pipeline transportation

Identifiers: *Single point mooring systems, NTISCOMMA

PB-283 474/5ST NTIS Prices: PC A06/MF A01

Improved Fender Systems for Shallow and Deep Draft Berths. Phase I

Dravo Van Houten, Inc., New York.*Maritime Administration, Washington, D.C. (217 600)

Final rept.
AUTHOR: Han, Edward; Priori, Gennaro; Juran, David
E2365D3 Fld: 13J, 47 GRAI7822
Jun 78 218p
Contract: MA-7-38031
Monitor: MA/GEN-970/78046

Abstract: This report presents investigations and descriptions of the following: state-of-the-art of fender design; available fender units; comparison of fender unit performance; common system configurations; adequacy of systems' function; docking procedures; fender system costs; mooring practices; types of damage to fender systems; problems with fenders; maintenance and repair practices; examination of trends in ships' characteristics. The functions of various fender systems are described, and types of damage and problems that may occur are presented. Problems with fender systems are ranked, and design objectives are identified.

Descriptors: *Marine terminals, *Anchoring, *Absorbers(Materials), Energy absorption, Ship hulls, Ship structural components, Shock absorbers, Maintenance

Identifiers: Fenders(Marine equipment), State of the art, NTISCOMMA

PB-283 268/1ST NTIS Prices: PC A10/MF A01

Emission Control Technology for Two Model Marine Terminals Handling Crude Oil and Gasoline

Brown (Robert) Associates, Carson, Calif.*Environmental Protection Agency, Research Triangle Park, N.C. Office of Air Quality Planning and Standards.
AUTHOR: Gammell, Don M.
E2364G2 Fld: 13B, 68A, 97R, 47 GRAI7822
Apr 78 138p
Contract: EPA-68-02-2838
Monitor: EPA/450/3-78/016

Abstract: This report presents results of a study which developed basic background information on emission control systems for a hypothetical deep water marine terminal handling crude oil and an inland marine terminal handling crude oil and gasoline. The study includes comparative cost analysis for alternative emission control systems together with comparable safety and reliability analysis for both marine terminal modules.

Descriptors: *Air pollution control, *Marine terminals, *Hydrocarbons, Technology, Economics, Design criteria, Equipment, Storage tanks, Safety, Petroleum products, Crude oil, Tanker ships, Evaporation control, Oil storage

Identifiers: *Fugitive emissions, NTISEPAAQP

PB-283 215/2ST NTIS Prices: PC A07/MF A01

Sectional Property Tabulations for Computer Solution of Accelerations Caused by Collision. Volume II

Sharp (George G.), Inc., New York.*Maritime Administration, Washington, D.C. (403 388)

Final rept. Jan-May 78
AUTHOR: Yang, C. C.
E2254I3 Fld: 13J, 47A, 86L GRAI7821
3 May 78 119p
Contract: MA-7-38028
Monitor: MA-RD-920-78054
See also Volume 1 dated 21 Apr 78, PB-283 211.

Abstract: Using the main scantlings for a 600,000 ton nuclear tanker and curves of weight per foot including steel outfit machinery and deadweight items developed by Newport News Shipbuilding, the vessel was divided into 20 sections with half stations at the ends. Cross sectional area, mass, moment of inertia and virtual mass were calculated at each section. Additional properties required for the virtical, horizontal and combined torsional-horizontal bending modes of vibration were calculated. These properties were calculated for both the ballast and full load conditions, and are used as input data to the General Bending Response Program as described in Volume I.

Descriptors: *Nuclear powered ships, *Tankers, *Collision research, Vibration, Acceleration, Bending moments, Transient response, Computer applications

Identifiers: *Supertankers, GBRC computer program, *Impact acceleration, NTISCOMMA

PB-283 212/9ST NTIS Prices: PC A06/MF A01

Computer Solution of Accelerations Caused by Collision. Volume I. Report

Sharp (George G.) Inc., New York.*Maritime Administration, Washington, D. C. (403 388)

Final rept. Jan-May 78
AUTHOR: Gotimer, J. C.
E2254I2 Fld: 13J, 47A, 86L GRAI7821
21 Apr 78 86p
Contract: MA-7-38028
Monitor: MA-RD-920-78049
See also Volume 2 dated 3 May 78, PB-283 212.

Abstract: Using methods of forced vibration analysis, calculations of impact accelerations were carried out in way of the reactor space of a 600,000 ton nuclear tanker when struck by another ship in the area of the collision barrier. The General Bending Response Program was used by representing the ship as an elastically coupled non-uniform beam-spring model subject to a Fourier series representation of the transient force of impact. Sectional properties were developed for the ship in both ballast and full load conditions in order to describe the model. Sensitivity calculations were made for variations in loading conditions, ship-hull damping, impact duration and impact magnitude for the lateral mode of vibration. An additional calculation was made for the combined torsional-horizontal bending mode of vibration.

Descriptors: *Nuclear powered ships, *Tankers, *Collision research, Vibration, Acceleration, Bending moments, Transient response, Computer applications

Identifiers: *Supertankers, GBRC computer program, *Impact acceleration, NTISCOMMA

PB-283 211/1ST NTIS Prices: PC A05/MF A01

Service Bases for Offshore Oil

Maine State Planning Office, Augusta.**New England River Basins Commission, Boston, Mass.**Alaska Consultants, Inc., Anchorage.*National Oceanic and Atmospheric Administration, Washington, D.C. Office of Coastal Zone Management.
AUTHOR: Colgan, Charles S.; Lindvall, James
E2102F2 Fld: 8I, 13J, 5A, 48A, 47, 97 GRAI7820
1977 111p
Rept No: OCS/TM-2
Monitor: 18
Prepared in cooperation with New England River Basins Commission, Boston, Mass. and Alaska Consultants, Inc., Anchorage. Sponsored in part by National Oceanic and Atmospheric Administration, Washington, D.C. Office of Coastal Zone Management.

Abstract: In January 1978, the U.S. Department of the Interior will sell leases allowing drilling for oil and gas in an area of the North Atlantic called Georges Bank, which is approximately 200 miles south east of Maine. The first onshore facilities established to support offshore drilling operations are Service Bases, which serve as the logistical link between onshore suppliers and offshore operations. This report provides a detailed description of the modern Service Base, its characteristics, requirements, and potential impacts. It should be remembered that it is not at all certain where in Maine Service Bases would locate, or even if Services Bases will be located in Maine at all. The State Planning Office report, Maine and the Search for OCS Oil and Gas, discusses in more detail the factors which affect the siting of Service Bases and other onshore facilities associated with OCS.

Descriptors: *Offshore drilling, *Oil wells, *Natural gas wells, *Marine terminals, Management planning, Logistics services, Facilities management, Harbor facilities, Land use, Manpower, Georges Bank, Maine

Identifiers: Service bases, Offshore terminals, NTISSLLC

PB-282 549/5ST NTIS Prices: PC A06/MF A01

Deepwater Port Inspection Methods and Procedures

Science Applications Inc Mclean Va (408404)

Final rept.
AUTHOR: Mastandrea, J. R.; Gilbert, K. J.; Simmons, J. A.; Kimball, D. B.
E2045C1 Fld: 13B, 13J, 68D, 47 GRAI7820
Mar 78 591p
Contract: DOT-CG-60670-A
Monitor: USCG-D-31-78
Prepared in cooperation with Science Applications, Inc., Santa Ana, CA.

Abstract: The Deepwater Ports Act of 1974 gives the Secretary of the Department of Transportation and, by delegation, the U.S. Coast Guard, specific authority to regulate the design, construction and operation of Deep Water Ports (DWPs) off the coast of the United States. Some of the regulations deal with safety and prevention of oil pollution. This study is one of several providing information for future regulations dealing with pollution. It identifies and assesses inspection methods and procedures for the Oil Transfer System (OTS) of DWPs. Recommendations are made for inspection methods and procedures that would provide an effective means of minimizing accidental oil spills from the OTS of DWPs in U.S. waters. The recommendations were based primarily on a cost-effectiveness analysis for both commonly used and technologically advanced inspection methods and procedures that were considered to provide the best available technology for DWPs in U.S. waters. Inspection methods considered apply primarily to the components of the OTS, onsite, during normal operations and also to components of other systems whose failure could affect the integrity of the OTS. Failure of components and subsystems of the OTS, which contributed most significantly to the risk of oil spills, were identified in a system safety analysis. (Author)

Descriptors: *Harbors, *Marine terminals, *Environmental protection, *Oil pollution, Marine engineering, Deep water, Oil spills, Safety, Coast Guard research, Leak detectors, Pipelines, Regulations, Offshore structures, Cost effectiveness, Mooring buoys, Cargo handling, Logistics support, Inspection, Tables(Data), Marine architects, Waste disposal, Storage

Identifiers: Deepwater ports, *Water pollution control, NTISDODXA, NTISDOTCG

AD-A055 727/2ST NTIS Prices: PC A25/MF A01

World LPG Forecast and Implications for the U.S. Merchant Marine, 1978-1990

Temple, Barker and Sloane, Inc., Wellesley Hills, Mass.**Resource Planning Associates, Cambridge, Mass.*Maritime Administration, Washington, D.C. Office of Policy and Plans.
T1982I4 Fld: 21D, 13J, 97B*, 47A*, 85G*, 96C, 86L GRAT7819
May 78 295p*
Monitor: MA-GEN-370-78055
Prepared in cooperation with Resource Planning Associates, Cambridge, Mass.

Abstract: This study summarizes historical and current LPG trade and vessels operating worldwide. It also forecasts LPG trade required for the U.S. and other major markets through 1990. Using an economic model to assess the market for LPG ships, the study forecasts vessel requirements for U.S. LPG trade and prospects for building required vessels in the U.S.

Descriptors: *Liquified petroleum gases, *Fuel consumption, *Shipbuilding, Tanker ships, Propane, Butane, Forecasting, Liquified natural gas, Shipyards, Economic analysis, Regulations, International trade, Sources, Design criteria, Markets, Mathematical models

Identifiers: Fuel demand, Foreign trade, NTISCOMMA

PB-282 306/0ST NTIS Prices: PC A13/MF A01

Environmental Planning for Offshore Oil and Gas. Volume IV: Regulatory Framework for Protecting Living Resources

Conservation Foundation, Washington, D.C.*Fish and Wildlife Service, Washington, D.C. Office of Biological Services.

Final technical rept.
AUTHOR: Banta, John S.
E1883G3 Fld: 10A, 97R*, 68*, 97, 91 GRAI7818
Mar 78 143p*
Contract: DI-16-0008-962
Monitor: FWS/OBS-77/15
See also Volume 3, PB-281 444, and Volume 5, PB-281 446.
Also available in set of 9 reports PC E20, PB-281 441-SET.

Abstract: The regulatory framework related to Outer Continental Shelf (OCS) developments and impacts is analyzed; the laws governing offshore developments are enumerated; the regulatory framework controlling inshore and onshore buildup in support of OCS development is described. Part 1 reviews the organizational structure and program of the U.S. Fish and Wildlife Service. Part 2 discusses OCS oil and gas leasing procedures, stipulations and permits for tracts under Federal jurisdiction. Part 3 describes the permit review process for nearshore and onshore developments such as pipelines, platform construction yards and service bases.

Descriptors: *Energy source development, *Offshore operations, *Petroleum, *Natural gas, *Oil recovery, Environmental impacts, Ecology, Fishes, Wildlife, Continental shelves, Leasing, Regulations, Legislation, Public law, Licenses, Solid waste disposal, Water pollution, Oil pollution, Deepwater terminals, Tanker ships, Offshore platforms, Petroleum pipelines

Identifiers: Outer continental shelves, NTISDIFWBS

PB-281 445/7ST NTIS Prices: PC A07/MF A01

Proposed Sinking Tests (ULCC) Task IV

Sharp (George G.), Inc., New York.*Maritime Administration, Washington, D.C. (403 388)

Final rept. Jan-Mar 78
AUTHOR: Minorsky, V. U.
E1622E2 Fld: 13J, 47A, 86L GRAI7816
13 Mar 78 36p
Rept No: GGS-5612-4
Contract: MA-7-38028
Monitor: MA-RD-920-78041

Abstract: A previous sinking test performed in 1971 in Hamburg, Germany was translated, and studied. It is appended. It is recommended that the test model be made only for the stern of the tanker and be made of transparent plastic so as to monitor the entrapped air; it is also recommended that the velocity and attitude of the sinking model be recorded only by camera. A list of U.S. Model tanks suitable for this test and a rough cost estimate are given.

Descriptors: *Tanker ships, *Submerging, Ship hulls, Flooding, Model tests, Model basins

Identifiers: *Sinking, *Supertankers, Ultra large crude carriers, Sinking tests, NTISCOMMA

PB-279 998/9ST NTIS Prices: PC A03/MF A01

Palau: Native Paradise or Petroleum Superport

University of Southern California, Los Angeles. Inst. of Marine and Coastal Studies.*National Oceanic and Atmospheric Administration, Rockville, Md. Office of Sea Grant.
AUTHOR: Soule, Dorothy F.
E1474L4 Fld: 13B, 10A, 97R, 68, 86M GRAI7815
1977 7p
Rept No: USCSG-R-02-78
Monitor: NOAA-78041208
Pub. in Oceans 77 Proceedings, p5D1-5D6 1977.

Abstract: Numerous environmental groups, scientists and humanists have gone on record concerning that incomparable biological resource, the coral reefs and limestone islands of Palau. The Trust Territory, which governs Micronesia, is due to be dissolved in 1981 but there is little economic base for independence. Its strategic location, remoteness and low population have led to Palau as a potential site for superport development. International politics, secrecy, spying and rumored pay-offs seemed to leave Palauans virtually without a voice in the decision making.

Descriptors: *Palau Islands, Cultural geography, Culture(Social Sciences), History, Geography, Land use, Petroleum industry, Social effect, Environmental impacts, Scenarios

Identifiers: *Deepwater terminals, Sea Grant program, NTISCOMNOA

PB-281 178/4ST NTIS Price: PC A02

Potential for Deepwater Port Development in the United States

General Accounting Office, Washington, D.C. Energy and Minerals Div.

Report to the Congress.
E1463F3 Fld: 13B, 47*, 85G*, 85E GRAI7815
5 Apr 78 75p*
Rept No: EMD-78-9
Monitor: 18

Abstract: The economic and environmental advantages generally associated with deepwater ports and the expected continued U.S. reliance on large quantities of imported oil suggest that the development of a mid-Atlantic deepwater port may be in the national interest. It deserves attention at this time. Industry is planning to construct and operate deepwater ports off Louisiana and Texas. GAO recommends that the Secretary of Transportation complete a study of the cost-effectiveness and feasibility of a mid-Atlantic deepwater port by December 31, 1978. The Secretary should also submit to the Congress a plan for the port's development unless the study finds that some other option is more desirable.

Descriptors: *Seaports, *Deepwater terminals, *Feasibility, Marine terminals, Pipeline transportation, Site surveys, Environmental impacts, Economic analysis

Identifiers: Mid-Atlantic coast, NTISGAO

PB-279 493/1ST NTIS Prices: PC A04/MF A01

A Study of the Economic Impact of Two Planned Offshore Oil Ports in the Gulf of Mexico, Volume 4, on the Economy of Southwest Louisiana. General Petro-Industry Characteristics

Lake Charles-McNeese Urban Observatory, La.**League of Cities-Conference of Mayors, Inc., Washington, D.C.*Department of Housing and Urban Development, Washington, D.C. Assistant Secretary for Policy Development and Research.

Final rept.
AUTHOR: Perrault, Armand L.; Cartier, Allen
E1214J1 Fld: 10A, 97, 48A GRAI7813
16 Dec 77 38p
Monitor: HUD/PES-1318
See also Volume 1, PB-278 862, and Volume 3, PB-278 864. Prepared in cooperation with League of Cities-Conference of Mayors, Inc., Washington, D.C. Contract HUD-H-2196R.

Abstract: This report complements research on the economic impact of a superport upon southwest Louisiana.

Descriptors: *Crude oil, *Petroleum, *Energy source development, *Petroleum industry, *Deepwater terminals, Offshore operations, Leasing, Offshore drilling, Petroleum transportation, Pipeline transportation, Marine terminals, Terminal facilities, Tanker terminals, Reviewing, Mexico Gulf

Identifiers: NTISHUDPDR, NTISNLCCM

PB-278 865/1ST NTIS Prices: PC A03/MF A01

A Study of the Economic Impact of Two Planned Offshore Oil Ports in the Gulf of Mexico, Volume 3, on the Economy of Southwest Louisiana. Secondary Industry Characteristics

Lake Charles-McNeese Urban Observatory, La.**League of Cities-Conference of Mayors, Inc., Washington, D.C.*Department of Housing and Urban Development, Washington, D.C. Assistant Secretary for Policy Development and Research.

Final rept.
AUTHOR: Perrault, Armand L.; Cartier, Allen
E1214I4 Fld: 10A, 97, 48A GRAI7813
16 Dec 77 28p
Monitor: HUD/RES-1311
See also Volume 2, PB-278 863, and Volume 4, PB-278 865. Prepared in cooperation with League of Cities-Conference of Mayors, Inc., Washington, D.C. Contract HUD-H-2196R.
Also available in set of 4 reports, PC E08, PB-278 861-SET.

Abstract: This report complements research on the economic impact of a superport in southwest Louisiana.

Descriptors: *Crude oil, *Petroleum, *Petroleum industry, *Energy source development, *Deepwater terminals, Refineries, Natural gas processing plants, Maintenance, Reviewing, Mexico Gulf

Identifiers: *Southwest Region(Louisiana), NTISHUDPDR, NTISNLCCM

PB-278 864/4ST NTIS Prices: PC A03/MF A01

A Study of the Economic Impact of Two Planned Offshore Oil Ports in the Gulf of Mexico, Volume 2, on the Economy of Southwest Louisiana. Categorical Impact of Energy Production on Southwest Louisiana

Lake Charles-McNeese Urban Observatory, La.**League of Cities-Conference of Mayors, Inc., Washington, D.C.*Department of Housing and Urban Development, Washington, D.C. Assistant Secretary for Policy Development and Research.

Final rept.
AUTHOR: Perrault, Armand L.; Cartier, Allen
E1214I3 Fld: 10A, 97, 97R, 68D, 96, 48A GRAI7813
16 Dec 77 92p
Monitor: HUD/RES-1316
See also Volume 1, PB-278 862, and Volume 3, PB-278 864. Prepared in cooperation with League of Cities-Conference of Mayors, Inc., Washington, D.C. Contract HUD-H-2196R.

Abstract: This report complements research on the economic impact of a superport in southwest Louisiana. While area citizens have enjoyed the benefits of the oil and gas resources and the associated economic stimulus provided, this same progress has resulted in a variety of problems. Among these are the increased demand for public services as well as environmental degradation. The study inventories the obvious economic impacts in relation to offshore activity and presents the acquired data as a resource tool for planners.

Descriptors: *Crude oil, *Petroleum, *Terminal facilities, *Tanker terminals, *Energy source development, *Deepwater terminals, Environmental impacts, Oil pollution, Water pollution, Social effect, Economic impact, Offshore operations, Petroleum industry, Mexico Gulf

Identifiers: *Southwest Region(Louisiana), NTISHUDPDR, NTISNLCCM

PB-278 863/6ST NTIS Prices: PC A05/MF A01

A Study of the Economic Impact of Two Planned Offshore Oil Ports in the Gulf of Mexico, Volume 1, on the Economy of Southwest Louisiana. Historic Role of Oil and Gas Production in Southwest Louisiana

Lake Charles-McNeese Urban Observatory, La.**League of Cities-Conference of Mayors, Inc., Washington, D.C.*Department of Housing and Urban Development, Washington, D.C. Assistant Secretary for Policy Development and Research.

Final rept.
AUTHOR: Perrault, Armand L.; Cartier, Allen
E1214I2 Fld: 10A, 97, 48A GRAI7813
16 Dec 77 32p
Rept No: UO-LCCM-LAC-77-021
Monitor: HUD/RES-1317
See also Volume 2, PB-278 863. Prepared in cooperation with League of Cities-Conference of Mayors, Inc., Washington, D.C. Contract HUD-H-2196R.
Also available in set of 4 reports PC E08, PB-278 861-SET.

Abstract: This report analyzes the circumstances that induced two groups of oil companies to plan the building of two deepwater ports, LOOP and Seadock, on the Gulf of Mexico. It explores the possibilities for enhancing the economic growth and development of the production and economics of larger scale transportation associated with the use of supertankers.

Descriptors: *Crude oil, *Petroleum, *Energy source development, *Deepwater terminals, Refineries, Reserves, Production, Petroleum industry, Terminal facilities, Tanker terminals, Economic impact, Mexico Gulf, History, Reviewing

Identifiers: *Southwest Region(Louisiana), NTIS HUDPDR, NTIS NLCCM

PB-278 862/8ST NTIS Prices: PC A03/MF A01

A Summary of Knowledge of the Central and Northern California Coastal Zone and Offshore Areas. Volume III. Socioeconomic Conditions. Book 1

Winzler and Kelly, Eureka, Calif.*Bureau of Land Management, Washington, D.C.

Final rept.
E1201J3 Fld: 13B, 5C, 6F, 48B, 68D, 85, 57H GRAI7813
Aug 77 632p
Contract: DI-AA550-CT6-52
Monitor: BLM/ST-78/22
PB-274 209-SET WAS ANNOUNCED AND INCORRECTLY PRICED IN GRA 78-03. See also Volume 2, Book 3, PB-274 214 and Volume 3, Book 2, PB-274 215. Also available in set of 8 reports PC E99, PB-274 209-SET.

Abstract: ;Contents: Industrial, commercial, and military activity; Petroleum industry; Transportation systems; Demography and socioeconomic considerations.

Descriptors: *Industries, *Transportation, *Offshore drilling, *Military facilities, *Coastal zone management, *California, *Water pollution, Reviews, Manufacturing, Recreation, Marine terminals, Demography, Petroleum industry, Economic development, Manpower, Cargo transportation, Electric power plants, Pipelines, Refineries, Marine transportation, Bibliographies, Land use, Petrochemistry, Tables(Data), Fisheries

Identifiers: Outer continental shelves, Central Region(California), Northern Region(California), Baseline studies, Ecosystems, NTISDIBLM

PB-274 215/3ST NTIS Prices: PC A99/MF A01

A Summary of Knowledge of the Central and Northern California Coastal Zone and Offshore Areas. Volume I. Physical Conditions. Book 1

Winzler and Kelly, Eureka, Calif.*Bureau of Land Management, Washington, D.C.

Final rept.
E120 1I2 Fld: 13B, 8G, 8J, 4B, 6F, 8C, 48B, 68D, 47C, 55C, 57H
GRAI7813
Aug 77 402p
Contract: DI-AA550-CT6-52
Monitor: BLM/ST-78/17
PB-274 209-SET WAS ANNOUNCED AND INCORRECTLY PRICED IN GRA 78-03. See also Volume 1, Book 2, PB-274 211.
Also available in set of 8 reports PC E99, PB-274 209-SET.

Abstract: The report presents a comprehensive literature survey and interpretation of existing knowledge in physical and biological sciences and the existing socioeconomic and cultural conditions of the coastal counties from Ventura County to the Oregon Border, inclusive of the northern Channel Islands. Twenty-four chapters cover each discipline and a master bibliography includes over 12,000 citations. Each chapter contains information on the existing environment, informational and data gaps, on-going research, recommendations for further research, and a list of references. This document contains the following chapters: Summary of conflicts and hazards; Geological features; Climate; Physical oceanography.

Descriptors: *Oceanographic data, *Marine meteorology, *Offshore drilling, *Geology, *Coastal zone management, *California, *Water pollution, Reviews, Hazards, Ocean waves, Harbors, Sea water, Wind (Meteorology), Air water interactions, Pipelines, Socioeconomic status, Military facilities, Geomorphology, Waste disposal, Water traffic, Geologic structures, Marine terminals, Bathymetry

Identifiers: Outer continental shelves, Central Region (California), Northern Region (California), Baseline studies, Ecosystems, NTISDIBLM.

PB-274 210/4ST NTIS Prices: PC A18/MF A01

Guidelines for Deepwater Port Single Point Mooring Design

Exxon Research and Engineering Co Linden N J Government Research Lab (391338)

Final rept.
AUTHOR: Flory, John F.; Benham, Frank A.; Marcello, James T.; Poranski, Peter F.; Woehleke, Steven P.
EC863G3 Fld: 13J, 47 GRAI7810
Sep 77 309p
Rept No: EXXON/EE-17E-T77
Contract: DOT-CG-62451-A
Monitor: USCG-D-49-77

Abstract: This report provides guidelines for the establishing of design mooring loads for SPMs (single point moorings) and for the design of mooring components of SPMs. It first discusses the manners in which waves, winds, current, the tanker, and the mooring system influence mooring loads. It then describes how mooring loads should be determined through model testing and statistical analysis. Next, it discusses how the arrangement and strength of mooring fittings on tankers may limit the maximum allowable mooring loads. The report then discusses the properties of the synthetic ropes normally used as mooring hawsers and recommends factors of safety for SPM hawsers. It also discusses the rules and standards which should be used for mooring structures, anchor chains, bases, and piles. Next, the report discusses synthetic-rope testing and field inspection. The report ends with recommendations for further investigation of large-diameter synthetic rope properties, testing, and inspection. The report contains an extensive glossary of SPM terminology and a bibliography of other reports and articles in the field of SPMs. (Author)

Descriptors: *Mooring, *Loads(Forces), *Tankers, Mooring buoys, Wind velocity, Wind direction, Ocean currents, Ocean waves, Offshore, Offshore structures, Deep water, Rope, Nylon, Elastic properties, Strength(General), Marine terminals

Identifiers: *Single point mooring, *Deepwater ports, NTISDODXA, NTISDOTCG

AD-A050 182/5ST NTIS Prices: PC A14/MF A01

Preliminary Evaluation of Wind and Wave Effects at Potential LNG Terminal Sites, State of California

Army Engineer Waterways Experiment Station Vicksburg Miss (038100)

Final rept.
AUTHOR: Hales, Lyndell Z.
EC781G4 Fld: 13J, 13B, 21D, 47, 50B GRAI7809
Jan 78 236p
Rept No: WES-MP-H-78-2
Monitor: 18

Abstract: The California Legislature decreed that the California Coastal Commission had until 1 February 1978 to identify, evaluate, and rank alternate potential Liquefied Natural Gas (LNG) Terminal sites on the California coast. Because of the Corps' experience in various aspects of such studies, the U. S. Army Engineer Waterways Experiment Station was requested by the Coastal Commission to assist, particularly in the use of existing hindcast data to evaluate possible effects of wind and waves on the docking and unloading of a LNG tanker. The effect of wind and wave climate was relatively evaluated at 26 potential LNG terminal sites along the coast of California. The analysis did not apply wave refraction theory at any of the sites, so the absolute magnitudes of the values obtained at each site are subject to refinement. The computations which were performed were optimized on a site-specific basis; i.e., they have been determined by utilizing the situations unique to that one particular location, and the results should not be extrapolated far beyond the respective site, if at all.

Descriptors: *Liquefied natural gas, *Marine terminals, *Site selection, Wind velocity, California, Ocean waves, Meteorological data, Coastal regions, Tankers, Deep water, Shores, Seasonal variations, Diurnal variations, Tables(Data), History, Pacific Ocean, Oceanographic data

Identifiers: NTISDODXA

AD-A049 883/2ST NTIS Prices: PC A11/MF A01

Tank Vessels and Marine Terminal Facilities for Oil and Liquified Natural Gas: A Selected Bibliography

Alaska State Dept. of Environmental Conservation, Juneau.
E0511L1 Fld: 13J, 47* GRAI7806
Aug 77 278p*
Monitor: 18

Abstract: Early in 1977 the Alaska Department of Environmental Conservation began developing a comprehensive bibliography on tank vessels and marine oil terminal facilities. This began in conjunction with a new departmental program charged with regulating tankers and oil terminals operating in the state. Topics include oil and liquified natural gas (LNG) tank vessels, oil and LNG marine terminals and offshore facilities and deep water ports. State and federal legislation dealing with tankers and terminals, marine insurance and pollution funds and oil pollution resulting from oil related marine operations are some of the other subjects covered in this bibliography.

Descriptors: *Tanker ships, *Marine terminals, *Bibliographies, Pipeline transportation, Liquefied natural gas, Oil pollution, Offshore structures, Mooring, Design, Alaska

Identifiers: NTISAKDE

PB-275 489/3ST NTIS Prices: PC A13/MF A01

A Summary of Knowledge of the Central and Northern California Coastal Zone and Offshore Areas. Volume III. Socioeconomic Conditions. Book 1

Winzler and Kelly, Eureka, Calif.*Bureau of Land Management, Washington, D.C.

Final rept.
E0255L3 Fld: 13B, 5C, 6F, 48B, 68D, 85, 57H GRAI7803
Aug 77 632p
Contract: DI-AA550-CT6-52
Monitor: BLM/ST-78/22
See also Volume 2, Book 3, PB-274 214 and Volume 3, Book 2, PB-274 215.
Also available in set of 8 reports PC E20, PB-274 209-SET.

Abstract: ;Contents: Industrial, commercial, and military activity; Petroleum industry; Transportation systems; Demography and socioeconomic considerations.

Descriptors: *Industries, *Transportation, *Offshore drilling, *Military facilities, *Coastal zone management, *California, *Water pollution, Reviews, Manufacturing, Recreation, Marine terminals, Demography, Petroleum industry, Economic development, Manpower, Cargo transportation, Electric power plants, Pipelines, Refineries, Marine transportation, Bibliographies, Land use, Petrochemistry, Tables(Data), Fisheries

Identifiers: Outer continental shelves, Central Region(California), Northern Region(California), Baseline studies, Ecosystems, NTISDIBLM

PB-274 215/3ST NTIS Prices: PC A99/MF A01

A Summary of Knowledge of the Central and Northern California Coastal Zone and Offshore Areas. Volume I. Physical Conditions. Book 1

Winzler and Kelly, Eureka, Calif.*Bureau of Land Management, Washington, D.C.

Final rept.
E0255K2 Fld: 13B, 8G, 8J, 4B, 6F, 8C, 48B, 68D, 47C, 55C, 57H
GRAI7803
Aug 77 402p
Contract: DI-AA550-CT6-52
Monitor: BLM/ST-78/17
See also Volume 1, Book 2, PB-274 211.
Also available in set of 8 reports PC E20, PB-274 209-SET.

Abstract: The report presents a comprehensive literature survey and interpretation of existing knowledge in physical and biological sciences and the existing socioeconomic and cultural conditions of the coastal counties from Ventura County to the Oregon Border, inclusive of the northern Channel Islands. Twenty-four chapters cover each discipline and a master bibliography includes over 12,000 citations. Each chapter contains information on the existing environment, informational and data gaps, on-going research, recommendations for further research, and a list of references. This document contains the following chapters: Summary of conflicts and hazards; Geological features; Climate; Physical oceanography.

Descriptors: *Oceanographic data, *Marine meteorology, *Offshore drilling, *Geology, *Coastal zone management, *California, *Water pollution, Reviews, Hazards, Ocean waves, Harbors, Sea water, Wind (Meteorology), Air water interactions, Pipelines, Socioeconomic status, Military facilities, Geomorphology, Waste disposal, Water traffic, Geologic structures, Marine terminals, Bathymetry

Identifiers: Outer continental shelves, Central Region (California), Northern Region (California), Baseline studies, Ecosystems, NTISDIBLM

PB-274 210/4ST NTIS Prices: PC A18/MF A01

Coastal Effects of Offshore Energy Systems. An Assessment of Oil and Gas Systems, Deepwater Ports, and Nuclear Powerplants Off the Coast of New Jersey and Delaware. Volume II. Parts 1 and 2. Working Papers 4 thru 10

Office of Technology Assessment, Washington, D.C.
EC253K3 Fld: 10A, 97, 97R GRAI7803
Nov 76 990p
Rept No: OTA-O-38
Monitor: 18
See also Volume 1, PB-274 033.

Abstract: This report consists of ten working papers prepared as background material for the assessment of the effects of three proposed offshore energy systems on the coastal areas of New Jersey and Delaware. The three proposed offshore energy systems are: exploration for and development of offshore oil and gas, deepwater ports for supertankers, and floating nuclear powerplants. The 10 working papers cover: federal and state regulation of the three systems, the biological impacts, the risk of oil spills in developing oil and gas resources and operating deepwater ports, the air and water quality impacts, regional energy supply and demand considerations, the fiscal effects of developing the three systems, environmental studies, a safety analysis of floating nuclear powerplants, an analysis of fuel and waste handling of floating nuclear powerplants, and an analysis of the economic considerations of floating nuclear powerplants. (Portions of this document are not fully legible)

Descriptors: *Offshore sites, *Deepwater terminals, *Offshore nuclear power plants, *Offshore drilling, *Energy source development, *Technology assessment, Petroleum, Natural gas, Continental shelves, Coastal zone management, Environmental impacts, Oil pollution, Radioactive wastes, Air pollution, Water pollution, Safety, Economic impact, Government policies, National government, Legislation, Regulations, New Jersey, Delaware

Identifiers: NTISCONOTA

PB-274 034/8ST NTIS Prices: PC E12/MF A01

Coastal Effects of Offshore Energy Systems. An Assessment of Oil and Gas Systems, Deepwater Ports, and Nuclear Powerplants Off the Coast of New Jersey and Delaware. Volume 1. Working Papers 1 thru 3

Office of Technology Assessment, Washington, D.C.
E0253K2 Fld: 10A, 97, 97R GRAI7803
Nov 76 291p
Rept No: OTA-O-37
Monitor: 18
See also Volume 2, PB-274 034.

Abstract: This report examines the effects of three proposed offshore energy systems on the coastal areas of New Jersey and Delaware. The three systems are: exploration for and development of offshore oil and gas, deepwater ports for supertankers, and floating nuclear powerplants. The report specifically delineates possible actions Congress may want to consider in legislating for the offshore energy systems, analyzes past and future government actions, presents the possible economic, social, political, institutional, and legal impacts of implementing the technologies, and the implications of not implementing the technologies for New Jersey and Delaware. (Color illustrations reproduced in black and white)

Descriptors: *Offshore sites, *Deepwater terminals, *Offshore nuclear power plants, *Offshore drilling, *Energy source development, *Technology assessment, Petroleum, Natural gas, Continental shelves, Coastal zone management, Environmental impacts, Oil pollution, Safety, Radioactive wastes, New Jersey, Government policies, National government, Substitutes, Citizen participation, Social effect, Economic impact, Legislation, Regulations, Delaware

Identifiers: Legal aspects, NTISCONOTA

PB-274 033/OST NTIS Prices: PC A13/MF A01

A Technology Assessment of Offshore Industry and Its Impact on the Maritime Industry 1976-2000. Volume II

BDM Corp., McLean, Va.*Maritime Administration, Washington, D.C.

Final rept.
AUTHOR: Durfee, James H.
E0162J2 Fld: 8I, 10A, 48A*, 97*, 47*, 86L GRAI7802
Aug 77 144p*
Rept No: BDM/W-77-425-TR-Vol-2
Contract: MA-5-38024
Monitor: MA-RD-940-78003
See also Volume 1, PB-272 983, and Executive summary, PB-272 985.
Also available in set of 3 reports PC E12, PB-272 982-SET.

Abstract: Volume Two examines the various impacts on the traditional maritime industry of offshore industry development, and describes the areas of planning needed by the maritime industry to accommodate those impacts.

Descriptors: *Offshore operations, *Technology assessment, Petroleum engineering, Oil recovery, Electric power generation, Mineral deposits, Mining engineering, Offshore platforms, Fishing, Fisheries, Nuclear power, Gas production, Deepwater terminals, Offshore sites, Economics, Economic analysis, Manpower, Marine transportation, Regulations, Legislation, Law(Jurisprudence), Environmental impacts, Trends, Forcasting, Planning

Identifiers: Legal aspects, NTISCOMMA

PB-272 984/6ST NTIS Prices: PC A07/MF A01

A Technology Assessment of Offshore Industry. The United States Offshore Industry. Current Status, Trends and Forecast 1976-2000. Volume I

BDM Corp., McLean, Va.*Maritime Administration, Washington, D.C.

Final rept.
AUTHOR: Durfee, James H.
EC162J1 Fld: 8I, 10A, 48A*, 97*, 47*, 86L GRAI7802
Aug 77 522p*
Rept No: BDM/W-77-425-TR-Vol-1
Contract: MA-5-38024
Monitor: MA-RD-940-78002
See also Volume 2, PB-272 984.
Also available in set of 3 reports PC E12, PB-272 982-SET.

Abstract: Volume One presents a description of the current status of the U.S. offshore industry together with developing trends in the industry and an examination of the various forces that influence development. A 25 year forecast of offshore industry development is included. Also included is a description of the U.S. commercial ocean fishing industry and a 25 year forecast of industry development.

Descriptors: *Offshore operations, *Technology assessment, Petroleum engineering, Oil recovery, Electric power generation, Mineral deposits , Mining engineering, Offshore platforms, Fishing, Nuclear power, Fisheries, Gas production, Deepwater terminals, Offshore sites, Economics, Manpower, Marine transportation, Regulations, Legislation, Law(Jurisprudence), Environmental impacts, Trends, Forecasting

Identifiers: Legal aspects, Maritime industry, NTISCOMMA

PB-272 983/8ST NTIS Prices: PC A22/MF A01

Development of Accident Event Trees and Evaluation of Safety System Failure Modes for the Nuclear Ultra Large Crude Carrier (ULCC)

NUS Corp., Rockville, Md.*Maritime Administration, Washington, D.C. Office of Advanced Ship Development. (404 340)

Final rept.
AUTHOR: Coffey, R. S.; Goodwin, E. F.; Lewe, C. K.; Maltese, J. G.; Pyatt, D. W.
E0162F3 Fld: 13J, 13L, 47A GRAI7802
Feb 77 167
Rept No: NUS-1845
Contract: MA-T-38160
Project: MA-163603
Monitor: MA-RD-920-77092
Supersedes NUS-1548.

Abstract: Various ship accidents which have the potential of causing damage to the nuclear power systems of the nuclear powered Ultra Large Crude Carrier (ULCC) are identified. For each ship accident, an event tree is developed which shows the possible causal relationship between ship accident and derangement of nuclear safety-related systems. System state diagrams are developed which define the degree of availability of each safety-related system. As an example of the use of the methodology, availability state tables are derived for each safety-related system for all potential results of a collision accident. Further, an analytic set of probability equations are derived relating the probability of loss-of-function, either partial or complete, of the low pressure safety injection system to the various consequences of a collision.

Descriptors: *Tanker ships, *Nuclear powered ships, *Accidents, Collisions, Fires, Explosions, Nuclear reactor accidents, Safety, Trees(Mathematics)

Identifiers: *Ultra large crude carriers, *Supertankers, *Fault tree analysis, NTISCOMMA

PB-272 711/3ST NTIS Prices: PC A08/MF A01

Liquefied Natural Gas: Safety Issues, Public Concerns, and Decision Making

Harvard Univ., Cambridge, Mass. Energy and Environmental Policy Center.*Energy Research and Development Administration. (9504298)
AUTHOR: Van Horn, A. J.; Wilson, R.
D3831I4 Fld: 10A, 21D, 97K, 97R, 68 GRAI7726
Nov 76 131p
Contract: EY-76-C-02-0016
Monitor: 18
Microfiche copies only.

Abstract: Natural gas is an important, widely used fossil fuel which is convenient and relatively non-polluting. Because J.S. domestic suppliers have been declining since 1972, suppliers have sought to import additional gas in the form of liquefied natural gas (LNG), which is 1/600 the volume of natural gas and is therefore convenient for transportation and storage. If present plans and proposals pending approval are implemented, there will be a rapid increase in the use of liquefied natural gas in the United States. The facilities required include liquefaction plants, large ocean-going tankers, import-receiving terminals, storage depots, and gas-transmission pipelines. A description is presented of the risks and impacts presented by LNG operations in the near future. The safety issues are summarized and the origins of public concern in two LNG facilities siting disputes are examined. Some of the important criteria that need to be evaluated for responsible decision making are suggested. On balance, the overall risks of LNG supply systems are probably less than those of some energy systems now in use. Nevertheless, continued attention to the potential risks is needed to ensure that this remains true. (ERA citation 02:045014)

Descriptors: *Liquefied natural gas, Environmental effects, Hazards, Natural gas distribution systems, Physical properties, Public relations, Safety, Tanker ships, Terminal facilities

Identifiers: ERDA/030000, ERDA/294003, NTISERDA

BNL-22284 NTIS Prices: MF A01

The Alaskan Oil Disposition Study: Potential Air Quality Impact of a Major Off-Loading Terminal in the Pacific Northwest

Environmental Protection Agency, Seattle, Wash. Region X.
AUTHOR: Bray, David C.
D3533I2 Fld: 13B, 10A, 97R, 68A GRAI7723
Mar 77 123p
Rept No: EPA/910/9-77/044
Monitor: 18

Abstract: This study evaluates the air quality impact of a marine oil transfer terminal for Alaskan oil. It includes an evaluation of specified sites with regard to present emissions and air quality; the determination of the potential emissions associated with a major crude oil offloading facility; and a preliminary modeling analysis to assess the potential air quality problems which might be associated with the operation of such a port.

Descriptors: *Terminal facilities, *Marine terminals, *Petroleum transportation, Crude oil, Tanker ships, Air pollution, Hydrocarbons, Sulfur oxides, Nitrogen oxides, Particles, Carbon monoxide, Organic acids, Aldehydes, Mathematical models, Scenarios

Identifiers: *Air pollution potential, *Air quality, *Pacific Northwest Region(United States), Particulates, NTISEPAL

PB-271 261/0ST NTIS Prices: PC A06/MF A01

Nuclear Powered Tanker. Maritime Design Study for 600,000 DWT Nuclear Tanker. Volume 5. Economic Evaluation

Newport News Shipbuilding, Va. Hull Technical Dept.*Maritime Administration, Washington, D.C. Office of Industrial Programs.

Final rept.
D3305L4 Fld: 13J, 21F, 47A, 81I GRAI7721
Aug 76 128p
Rept No: 1010-M/1-Vol-5
Contract: MA-5-38022
Monitor: MA/RD-920-77046A
See also Volume 4, PB-269 726.
Paper copy also available in set of 5 reports PC E17, PB-269 722-SET.

Abstract: The study extended over a period of approximately six months. The principal objectives of the study were to develop the preliminary design for a 600,000 DWT nuclear powered ULCC, perform ship safety analyses, develop a preliminary quality assurance program, develop a ship construction schedule of key events, develop the shipyard/reactor manufacturer scope of supply, define the interfaces specifically related to the nuclear propulsion plant. In terms of budgetary estimates, an economic evaluation was performed for ship construction cost, ship refueling and drydocking cost, first of a kind ship construction cost, ship manning cost, and contingencies.

Descriptors: *Tanker ships, *Marine nuclear propulsion, *Economic analysis, Construction costs, Operating costs, Service life, Variable costs, Rates(Costs), Incentives

Identifiers: NTISCOMMA

PB-269 727/4ST NTIS Prices: PC A07/MF A01

Nuclear Powered Tanker. Maritime Design Study for 600,000 DWT Nuclear Tanker. Volume 4. Engineering and Production Support

Newport News Shipbuilding, Va. Hull Technical Dept.*Maritime Administration, Washington, D.C. Office of Industrial Programs.

Final rept.
D3305L3 Fld: 13J, 21F, 47A, 81I GRAI7721
Dec 75 170p
Rept No: 1010-M/1-Vol-4
Contract: MA-5-38022
Monitor: MA/RD-920-77046
See also Volume 3, PB-269 725.
Paper copy also available in set of 5 reports PC E17, PB-269 722-SET.

Abstract: The study extended over a period of approximately six months. The principal objectives of the study were to develop the preliminary design for a 600,000 DWT nuclear power ULCC, perform ship safety analyses, develop a preliminary quality assurance program, develop a ship construction schedule of key events, develop the shipyard/reactor manufacturer scope of supply, define the interfaces specifically related to the nuclear propulsion plant.

Descriptors: *Tanker ships, *Marine nuclear propulsion, *Quality assurance, Logistics management, Procurement, Statistical quality control, Process control, Quality control

Identifiers: NTISCOMMA

PB-269 726/6ST NTIS Prices: PC A08/MF A01

Nuclear Powered Tanker. Maritime Design Study for 600,000 DWT Nuclear Tanker. Volume 3. Ship Safety

Newport News Shipbuilding, Va. Hull Technical Dept.*Maritime Administration, Washington, D.C. Office of Industrial Programs.

Final rept.
D3305L2 Fld: 13J, 21F, 47A, 81I GRAI7721
Dec 75 379p
Rept No: 1010-M/1-Vol-3
Contract: MA-5-38022
Monitor: MA/RD-920-77045
See also Volume 2, PB-269 724.
Paper copy also available in set of 5 reports, PC E17, PB-269 722-SET.

Abstract: The study extended over a period of approximately six months. In terms of budgetary estimates, an economic evaluation was performed for ship construction cost, ship refueling and drydocking cost, first of a kind ship construction cost, ship manning cost, and contingencies. Additionally, recommendations are made as a result of the ship safety studies.

Descriptors: *Tanker ships, *Marine nuclear propulsion, *Nuclear reactor safety, Design, Radiation hazards, Radiation shielding, Quality assurance, Radioactive waste processing, Refueling, Fire safety

Identifiers: NTISCOMMA

PB-269 725/8ST NTIS Prices: PC A17/MF A01

Nuclear Powered Tanker. Maritime Design Study for 600,000 DWT Nuclear Tanker. Volume 2. Preliminary Design

Newport News Shipbuilding, Va. Hull Technical Dept.*Maritime Administration, Washington, D.C. Office of Industrial Programs.

Final rept.
D3305L1 Fld: 13J, 21F, 47A, 81I GRAI7721
Dec 75 236p
Rept No: 1010-M/1-Vol-2
Contract: MA-5-38022
Monitor: MA/RD-920-77043-Vol-2
See also Volume 1, PB-269 723.
Paper copy also available in set of 5 reports PC E17, PB-269 722-SET.

Abstract: The study extended over a period of approximately six months. The principal objectives of the study were to develop the preliminary design for a 600,000 DWT nuclear powered ULCC, perform ship safety analyses, develop a preliminary quality assurance program, develop a ship construction schedule of key events, develop the shipyard/reactor manufacturer scope of supply, define the interfaces specifically related to the nuclear propulsion plant.

Descriptors: *Tanker ships, *Marine nuclear propulsion, *Design, Design criteria, Construction costs, Nuclear reactor safety, Quality assurance, Refueling, Drydocks, Scheduling

Identifiers: NTISCOMMA

PB-269 724/1ST NTIS Prices: PC A11/MF A01

Nuclear Powered Tanker. Maritime Design Study for 600,000 DWT Nuclear Tanker. Volume 1. Preliminary Specifications (MOD 1)

Newport News Shipbuilding, Va. Hull Technical Dept.*Maritime Administration, Washington, D.C. Office of Industrial Programs.

Final rept.
D3305K4 Fld: 13J, 21F, 47A, 81I GRAI7721
Dec 75 505p
Rept No: 1010-M/1-Vol-1
Contract: MA-5-38022
Monitor: MA/RD-920-77043-Vol-1
Paper copy also available in set of 5 reports PC E17, PB-269 722-SET.

Abstract: The study extended over a period of approximately six months. The principal objectives of the study were to develop the preliminary design for a 600,000 DWT nuclear powered ULCC, perform ship safety analyses, develop a preliminary quality assurance program, develop a ship construction schedule of key events, develop the shipyard/reactor manufacturer scope of supply, define the interfaces specifically related to the nuclear propulsion plant. In terms of budgetary estimates, an economic evaluation was performed for ship construction cost, ship refueling and drydocking cost, first of a kind ship construction cost, ship manning cost, and contingencies. Additionally, recommendations are made as a result of the ship safety studies.

Descriptors: *Tanker ships, *Marine nuclear propulsion, *Specifications, Design criteria, Construction costs, Nuclear reactor safety, Quality assurance, Refueling, Drydocks, Scheduling

Identifiers: NTISCOMMA

PB-269 723/3ST NTIS Prices: PC A22/MF A01

An Energy Policy White Paper Containing Positions on: Outer Continental Shelf Drilling for Oil and Natural Gas; Deepwater Port Construction; and the Governmental Placement of the State Energy Office. Presented to the Legislature of the State of New Jersey by Senator Frank J. Dodd, Senate President

New Jersey Senate, Trenton.
D3154J3 Fld: 10A, 8I, 97G, 48A GRAI7720
1975 54p
Monitor: 18

Abstract: This report discusses the formulation and adoption of a comprehensive energy policy for the state of New Jersey by developing a coherent position on three of the most essential components of that policy.

Descriptors: *Energy policy, *Continental shelves, *Offshore operations, *Deepwater terminals, *Government policies, *New Jersey, Offshore drilling, Natural gas, Petroleum, Office management, State government

Identifiers: NTISSLLC

PB-269 043/6ST NTIS Prices: PC A04/MF A01

Utilization of Uranium Cost/Benefit Study for Nuclear Powered Merchant Ships

NUS Corp., Rockville, Md.*Maritime Administration, Washington, D.C. Office of Advanced Ship Development.

Special study.
AUTHOR: Smith, E. R.
D3152C4 Fld: 21F, 13J, 81I, 47A, 85G GRAI7720
May 77 64p
Rept No: NUS-1843
Contract: MA-T-38160
Project: MA-163-601
Monitor: MA-RD-920-77094

Abstract: This study presents a cost/benefit analysis for the utilization of uranium in merchant ships versus the use of uranium for the generation of electricity in central power stations. The study concludes that an alternative naval fuel to oil must be developed for the merchant marine to reduce U.S. dependency upon foreign supplies of a critical fuel. The study further indicates that use of uranium for ship propulsion results in transport of large quantities of needed import/exports while the residual oil saved will generate the same quantity of electricity in a central power station as the uranium used for ship propulsion.

Descriptors: *Merchant ships, *Nuclear powered ships, *Benefit cost analysis, Oxide nuclear fuels, Uranium oxides, Marine surface propulsion, Natural resources, Fuel consumption

Identifiers: Uranium fuels, Very large crude carriers, Ultra large crude carriers, Fuel requirements, *Supertankers, NTISCOMMA

PB-268 905/7ST NTIS Prices: PC A04/MF A01

Proceedings CAORF Symposium (1st), Held on June 23-24, 1977

National Maritime Research Center-Kings Point, N.Y. Computer Aided Operations Research Facility.*Maritime Administration, Washington, D.C.
D3151A4 Fld: 13J, 17G, 85G, 85D, 86L GRAI7720
Jun 77 119p
Monitor: MA-RD-900-77094

Abstract: ;Contents: An experimental investigation of collision avoidance system benefits; Collision avoidance behavior and uncertainty; Implementation of a CAORF experiment; Configuration of the CAORF system and data base for an experiment; CAORF validation of ship and scene; Validation of mate behavior on CAORF; Human collision avoidance behavior and uncertainty as a function of visibility, traffic density and navigational aids; A quick look at the value of transponder systems in collision avoidance; A review of Valdez experiment; Situation difficulty.

Descriptors: *Collision avoidance, *Ship maneuvering, *Meetings, Simulators, Marine transportation, Human factors engineering, Surface navigation, Evasive action, Operations research, Systems engineering, Transponders, Tanker ships, Safety, Common carriers, Computerized simulation

Identifiers: VLCC(Very Large Crude Carriers), Very large crude carriers, Supertankers, CAORF(Computer Aided Operations Research Facility), Computer aided operations research facility, NTISCOMMA

PB-268 821/6ST NTIS Prices: PC A06/MF A01

Environmental Impact Analysis of the Nuclear Merchant Ship Program-Addendum

NUS Corp., Rockville, Md.*Maritime Administration, Washington, D.C. Office of Advanced Ship Development.

Special study
D3151A1 Fld: 13B, 21F, 13J, 68D, 81I, 47A, 68F GRAI7720
Jun 77 130p
Rept No: NUS-1926
Contract: MA-T-38160
Project: MA-163-602
Monitor: MA-RD-920-77093

Abstract: This study represents a qualitative extension of an earlier Environmental Impact Analysis of the Nuclear Merchant Ship Program (MarAd, 1975) using an Ultra Large Crude Carrier (ULCC) as the reference ship, to other types of ships including a containership, dry-bulk cargo vessel, and an icebreaking oil tanker. This qualitative analysis shows that, for ships operating into coastal ports (containerships and possibly dry-bulk carriers), both ecological and radiological impacts would be somewhat greater than for the reference ULCC docking at an offshore terminal. These impacts can be kept within the guidelines established for land based nuclear power plants by implementation of appropriate operating procedures.

Descriptors: *Merchant ships, *Nuclear powered ships, *Environmental impacts, Thermal environments, Marine biology, Cooling, Marine terminals, Water pollution, Marine surface propulsion

Identifiers: Ultra large crude carriers, *Supertankers, *Containerships, NTISCOMMA

PB-268 814/1ST NTIS Prices: PC A07/MF A01

Marine Service Bases for Offshore Oil Development

Alaska Consultants, Inc., Anchorage.**Alaska State Dept. of Community and Regional Affairs, Juneau. Div. of Community Planning.*National Oceanic and Atmospheric Administration, Washington, D.C. Office of Coastal Zone Management.
D2971D2 Fld: 5A, 13J, 15E, 94C, 97 GRAI7718
Jul 76 94p
Monitor: 18
Sponsored in part by Alaska State Dept. of Community and Regional Affairs, Juneau. Div. of Community Planning.

Abstract: This report is a continuation of special studies the Division of Community Planning is undertaking on various critical issues of common interest to Federal and State agencies, and affected local governments. Marine service bases will be an integral part of any OCS development along the Alaskan coastline. They will often be sophisticated staging areas, operating around the clock, providing drilling materials and support equipment from the coast to the offshore fields. While size and function will vary with offshore activity, the marine service base will remain the longest lived of any activity related to OCS development. Marine bases carefully conceived and efficiently operated can make positive contributions to a community's economic diversification and stability. Poorly planned facilities can, conversely, be detrimental to a community's interests, and cause negative onshore impacts associated with OCS development. This study should serve as a guide for ensuring the compatability of service bases with local and regional needs.

Descriptors: *Petroleum industry, *Offshore operations, *Marine terminals, *Logistics services, Facilities management, Supply management, Harbor facilities, Services, Land use, Manpower, Offshore drilling, Alaska

Identifiers: *Service bases, *Offshore terminals, NTISSLLC

PB-267 892/8ST NTIS Prices: PC A05/MF A01

Marine Affairs Journal, Number 4, October 1976

Rhode Island Univ., Kingston. Marine Affairs Program.*National Oceanic and Atmospheric Administration, Rockville, Md. Office of Sea Grant.

Occasional pub.
AUTHOR: Nixon, Dennis
D2795J3 Fld: 8G, 4B, 6C, 47, 55C, 98F, 86M GRAI7715
Oct 76 114p
Monitor: NOAA-77041531
Sponsored in part by National Oceanic and Atmospheric Administration, Rockville, Md. Office of Sea Grant.

Abstract: This issue contains results of studies prepared by students of the Master of Marine Affairs Program at the University of Rhode Island. Titles of papers are: The Future of Hard Minerals Mining on the Continental Margin: The New England Example; Regulation of the United States Commercial Diving Industry; Mariculture as a Source of Food from the Sea; The Development of the Irish Moss Industry in New England and Canada's Maritime Provinces; Marine Weather Routing Systems; An Economic Comparison Between Sailing and Conventional Bulk Cargo Vessels: Can Sail Compete with Diesel; ULCC's and International Straits; and Supership: A Critical Appraisal.

Descriptors: *Ocean environments, *Natural resources, *Aquaculture, *Marine meteorology, Aquatic plants, Seafood, Periodicals, Cargo ships, Tanker ships

Identifiers: Sea Grant program, *Supertankers, *Underwater mining, Chondrus crispus, Irish moss, NTISCOMNOA

PB-267 417/4ST NTIS Prices: PC A06/MF A01

Alaskan Arctic Natural Gas Transportation System. Volume III. Western LNG Terminal Company. Docket No. CP 75-83-1

Federal Power Commission, Washington, D.C.

Draft environmental impact statement.
D2672F1 Fld: 21D, 10A, 97R, 97K, 68H GRAI7715
Nov 75 445p
Monitor: 18
See also Volume 1, PB-267 029.

Abstract: This report covers the proposed marine terminal facilities, regasification plant and associated pipelines operated by Western LNG Terminal Company at Point Conception, California where Alaskan LNG would be received and processed. Specific alternatives to the facilities are discussed.

Descriptors: *Natural gas distribution systems, *Energy transport, *Pipeline transportation, *Alaska, *Environmental impact statements - draft, Natural gas, Climate, Topography, Geology, Soils, Hydrology, Vegetation, Wildlife, Social effect, Economic impact, Land use, Recreation, Air pollution, Noise pollution, Liquefied natural gas, Terminal facilities, Marine terminals, Recommendations, California

Identifiers: Western LNG Terminal Company, Point Conception (California), NTISFPC

PB-267 031/3ST NTIS Prices: PC$11.75/MF$3.00

Final Environmental Impact Statement for the Construction and Operation of an LNG Import Terminal at Staten Island, New York. Docket Nos. CP73-47 - Eascogas LNG, Inc., CP73-88 - Eascogas LNG, Inc., CP73-132 - Distrigas Corporation, CP73-148 - Distrigas Pipeline Corporation, CP73-230 - Distrigas of New York Corporation, CP74-122 - Distrigas of New York Corporation. Volume 2. Attachments

Federal Power Commission, Washington, D.C. Bureau of Natural Gas.
D2654L3 Fld: 21D, 13B, 97R, 97K, 68H GRAI7715
Jul 74 413p
Monitor: 18
See also Volume 1, PB-266 344.

Abstract: This report contains letters and other supportive material relating to applications from Eascogas LNG, Inc. (Eascogas) and Distrigas Corporation (Distrigas) seeking authorization to import liquefied natural gas from Algeria to terminals on the Eastern Seaboard of the United States.

Descriptors: *Terminal facilities, *Marine terminals, *Pipeline terminals, *Liquefied natural gas, *Environmental impact statement - final, Environmental impacts, Water pollution, Air pollution, Noise pollution, Safety, Land use, Evaporation, Buoyancy, Diffusion, Climate , Staten Island, New York

Identifiers: Eascogas, Distrigas, NTISFPC

PB-266 345/8ST NTIS Prices: PC$11.00/MF$3.00

Proceedings of a Workshop on Environmental Oceanography of the Gulf of Mexico, College Station, Texas, 15--16 March 1976

Texas Agricultural and Mechanical Univ., College Station. Dept. of Oceanography.*Energy Research and Development Administration. (9503069)
D2552L3 Fld: 10A, 13B, 97R, 47, 68D GRAI7714
1976 55p
Rept No: CONF-760363-
Contract: E(40-1)-5017
Monitor: 18
Conference on environmental oceanography in the Gulf of Mexico, College Station, Texas, United States of America (USA), 15 Mar 1976.

Abstract: A workshop was convened under the sponsorship of the Energy Research and Development Administration to define the most critical energy-related environmental problems in the Gulf of Mexico and develop the framework for a program of research to solve these problems. A major and immediate concern is activity related to the oil and gas industry: production, transportation (including potential superport construction), processing, and use of petroleum-derived fuels. The problems which might be posed by the development of other potential sources of energy, such as coastal and offshore nuclear power plants, were also given consideration. Several keynote speakers presented their thoughts on Gulf environmental problems from different points of view, and their remarks are recorded in Appendix I. (ERA citation 02:023324)

Descriptors: *Gulf of Mexico, *Natural gas wells, *Oil wells, Accidents, Coastal waters, Deep water oil terminals, Environment, Environmental effects, Offshore sites, Oil spills, Pipelines, Tanker ships, Transport

Identifiers: ERDA/530200, ERDA/030800, ERDA/020900, *Meetings, Deepwater terminals, Superports, *Energy management, *Environmental impacts, *Water pollution, Petroleum refining, Offshore structures, Offshore drilling, NTISERDA

ORO-5017-1 NTIS Prices: PC$4.50/MF$3.00

Final Environmental Impact Statement for the Construction and Operation of an LNG Import Terminal at Staten Island, New York. Docket Nos. CP73-47 - Eascogas LNG, Inc., CP73-88 - Eascogas LNG, Inc., CP73-132 - Distrigas Corporation, CP73-148 - Distrigas Pipeline Corporation, CP73-230 - Distrigas of New York Corporation, CP74-122 - Distrigas of New York Corporation. Volume 1

Federal Power Commission, Washington, D.C. Bureau of Natural Gas.
D2523J2 Fld: 21D, 13B, 97R, 97K, 68H GRAI7714
Jul 74 394p
Monitor: 18
See also Volume 2, PB-266 345.

Abstract: The administrative action here involved arises from applications from Eascogas LNG, Inc. (Eascogas) and Distrigas Corporation (Distrigas) seeking authorization pursuant to Section 3 of the Natural Gas Act to import liquefied natural gas (LNG) from Algeria to terminals on the Eastern Seaboard of the United States.

Descriptors: *Terminal facilities, *Marine terminals, *Pipeline terminals, *Liquefied natural gas, *Environmental impact statement - final, Environmental impacts, Water pollution, Air pollution, Noise pollution, Safety, Land use, Staten Island, New York

Identifiers: Eascogas, Distrigas, NTISFPC

PB-266 344/1ST NTIS Prices: PC$10.75/MF$3.00

United States Coast Pilot 9, Pacific and Arctic Coasts. Alaska, Cape Spencer to Beaufort Sea. Eighth Edition. January 1977

National Ocean Survey, Rockville, Md. (406 613)
D2523H4 Fld: 17G, 13J, 85G*, 76, 86R GRAI7714
Jan 77 412p*
Monitor: NOAA-77032907

Abstract: The National Ocean Survey Coast Pilots are a series of eight nautical books that cover a wide variety of information important to navigators of United States coastal and intracoastal waters. Most of this book information cannot be shown graphically on the standard nautical charts and is not readily available elsewhere. Coast Pilot subjects include navigation regulations, outstanding landmarks, channel and anchorage peculiarities, dangers, weather, ice, freshets, routes, pilotage, and port facilities. This volume of Coast Pilot 9, cancels the Seventh (October 1964) Edition and contains specific information on Cape Spencer to Beaufort Sea, Cape Spencer to Cook Inlet, Kodiak Island, Alaska Peninsula, Aleutian Islands, Bering Sea and Arctic Ocean.

Descriptors: *Inland waterways, *Navigation, *Coasts, *North Pacific Ocean, *Arctic Ocean, *Alaska, Oceanographic surveys, Navigational aids, Sea ice, Regulations, Ocean tides, Marine terminals, Channels(Waterways), Meteorological data, Harbor facilities, Beaufort Sea, Bering Sea, Hazards, Anchorages, Aleutian Islands

Identifiers: Coast Pilot 9, NTISCOMNOA

PB-266 291/4ST NTIS Prices: PC$11.00/MF$3.00

Analysis of the Alternatives Available for the Transportation and Disposition of Alaskan North Slope Crude Oil. Draft. Executive Summary

Federal Energy Administration, Washington, D.C. Office of Energy Resource Development.
D2515A3 Fld: 21D, 97K GRAI7714
30 Nov 76 42p
Rept No: FEA/G-77/156
Monitor: 18

Abstract: The report determines the extent to which oil produced in Alaska will be in excess to the needs of the West Coast region and analyzes transportation alternatives that need to be considered for the movement of any oil in excess of West Coast demand. A general description of the various major alternative transportation systems is provided and environmental information relating to the construction and operation of a crude oil marine terminal is presented. North Slope crude oil pricing options and considerations and the potential for foreign exchange or trade agreements are covered.

Descriptors: *Crude oil, *Alaska, Energy supplies, Energy demand, Transportation, Tanker ships, Pipelines, Environmental impacts, Oil pollution, Marketing, Market research, Cost engineering

Identifiers: North Slope, NTISEXFEA

PB-265 984/5ST NTIS Prices: PC$4.00/MF$3.00

Influence of Ship Size, Afterbody Shape and Propeller Speed of Rotation on Propeller Performance

Swedish State Shipbuilding Experimental Tank, Goteborg. (338 000)
Dyne, Gilbert
D2233B4 Fld: 13J, 20D, 47A GRAI7712
1977 32p
Rept No: Pub-79
Monitor: 18

Abstract: The influence of ship size, afterbody shape and propeller rate of revolution on the propulsion, cavitation and pressure fluctuation properties of a full-formed tanker was studied at SSPA in 1971-72. The shaft power and propeller rpm were first predicted from resistance, self propulsion and open water tests with 7 m long models in the towing tank. The same models were then tested in SSPA large cavitation tunnel where the wake was measured, the flow around the stern and the cavitation patterns were observed and the vibratory pressures at the hull above the propeller were recorded and analyzed.

Descriptors: *Tanker ships, *Marine propellers, *Cavitation, Fluid flow, Ship hulls, Pressure gradients, Vibration, Ship models, Sweden

Identifiers: NTISFNSW, NTISSWSS

PB-264 957/2ST NTIS Prices: PC$4.00/MF$3.00

Study of Collision Effects

Sharp (George G.), Inc., New York.*Maritime Administration, Washington, D.C. (403 388)

Final rept. on Task 2, Sep 76-Jan 77
Minorsky, V. U.
D2222L2 Fld: 13J, 85G, 85D GRAI7712
14 Jan 77 32p
Rept No: 5570-2
Contract: MARAD-6-38053
Monitor: MA/RD-920-77058-T-2
See also report on Task 1, PB-264 556 and report on Task 5, PB-264 557.

Abstract: Statistics for casualties to ships over 2000 gross tons are given for 1975 and added, in the case of collisions, to previous statistics for the years 1964-1974, so as to give collision-derived casualties. These are differentiated for tanker and non-tanker types, and depending on whether the ship was the struck or striking vessel. The main findings are that about one-fifth of struck non-tankers sink as the result of a collision, and about one-third of struck tankers catch fire or explode.

Descriptors: *Collision research, *Ships, Statistical analysis, Tanker ships, Fires, Marine transportation, Water traffic, Accident prevention

Identifiers: NTISCOMMA

PB-264 558/8ST NTIS Prices: PC$4.00/MF$3.00

The Offshore, Oceanographic, Marine, Shipbuilding and Port Equipment Market in France

Planning Research and Systems Ltd., London (England).*Domestic and International Business Administration, Washington, D.C.*American Embassy, Paris (France). Office of Commercial Affairs.

Foreign market survey rept.
D2211D1 Fld: 5C, 13J, 96C, 47 GRAI7712
Dec 76 55p
Monitor: 18
Sponsored in part by Domestic and International Business Administration, Washington, D.C. and American Embassy, Paris (France). Office of Commercial Affairs.

Abstract: The market research was undertaken to study the present and potential US share of the market in France for offshore, oceanographic, marine, shipbuilding and port equipment; to examine growth trends in French end-user industries over the next few years; to identify specific product categories that offer the most promising export potential for US companies; and to provide basic data which will assist US suppliers in determining current and potential sales and marketing opportunities. The trade promotional and marketing techniques were also reviewed.

Descriptors: *Market surveys, *Marine engineering, *Equipment, *France , Exports, Shipbuilding, Offshore drilling, Marine terminals, Oceanography, Market research, United States

Identifiers: SIC 3533, SIC 3731, SIC 9770, NTISCOMDIB

DIB-77-06-502 NTIS Prices: PC$10.00/MF$3.00

Long Beach Harbor Numerical Analysis of Harbor Oscillations. Report 4. Alternate Plans for Pier J Completion and Tanker Terminal Project (No Landfill)

Army Engineer Waterways Experiment Station Vicksburg Miss (C38100)

Miscellaneous paper Sep 75-Oct 76
Wanstrath, John J.
D2001H1 Fld: 13E, 8C, 50B, 47E GRAI7711
Feb 77 34p
Monitor: 18
See also report 3, AD-A031 173.

Abstract: A hybrid finite element numerical model was used to calculate harbor resonance for the Pier J completion and tanker terminal project of Long Beach Harbor with no landfill. The numerical model calculates harbor oscillation for harbors of arbitrary shape and variable depth. A finite element grid which covered the immediate vicinity of the breakwater-protected tanker terminal area was used to calculate the response of this area to incident waves with periods from 30 sec to approximately 6 min. (Author)

Descriptors: *Harbor models, California, Oscillation, Numerical analysis, Piers, Tankers, Marine terminals, Harbors, Hydraulic models, Water waves, Breakwaters, Finite element analysis, Numerical methods and procedures

Identifiers: *Long Beach Harbor, NTISDODXA

AD-A037 066/8ST NTIS Prices: PC$4.00/MF$3.00

Installation, Test and Evaluation of the Destator. A Device to Enhance the Operational Safety and Performance of Bulk Petroleum Carriers

Cierva Electrooptical Corp., Madrid (Spain).*Maritime Administration, Washington, D.C.*CincoTech Corp., Beverly Hills, Calif.

Final rept.
D1655J2 Fld: 13L, 13J, 85D, 85G, 86I GRAI7708
14 Nov 76 245p
Monitor: MA/RD-920-76053
Prepared in cooperation with CincoTech Corp., Beverly Hills, Calif., Contract MA-4-37065.

Abstract: At-sea test results are presented of a device (Destator) for enhancing the operational safety of bulk petroleum carriers. Described are the test program formulation, the intrinsic safety certification program, the equipment description and the installation. Also presented are the at-sea test descriptions and results in both a clean gas-free as well as dirty-inerted environment.

Descriptors: *Static dischargers, *Marine safety equipment, Safety, Tanker ships, Tanks(Containers), Cleaning, Washing, Petroleum transportation, Explosionproofing, Tests

Identifiers: *Destators, NTISCOMMA

PB-263 166/1ST NTIS Prices: PC$8.00/MF$3.00

Standardized Stern Project. Volume II. Executive Summary

Henry (J. J.) Co., Inc., New York.*Maritime Administration, Washington, D.C. Office of Maritime Technology. (407 157)

Final rept.
Gross, Charles H. Jr
D1654G3 Fld: 13J, 47A, 86L GRAI7708
Sep 76 10p
Contract: MA-5-38036
Monitor: MA-RD-940-77049
See also Volume 1, PB-262 926.

Abstract: The stern section of a modern merchant ship, built with machinery and deckhouse aft, is the most labor and capital intensive portion of a ship's construction. This study analyzed the feasibility of standardizing the design and construction of this portion of a ship, for application to a wide variety of merchant ship types, as a means of improving commercial shipbuilding producibility.

Descriptors: *Shipbuilding, *Ship hulls, *Standardization, Ship structural components, Design standards, Economic analysis, Logistics, Feasibility, Cargo ships, Tanker ships

Identifiers: *Ship sterns, NTISCOMMA

PB-262 927/7ST NTIS Prices: PC$3.50/MF$3.00

Standardized Stern Project. Volume I

Henry (J. J.) Co., Inc., New York.*Maritime Administration, Washington, D.C. Office of Maritime Technology. (407 157)

Final rept.
Gross, Charles H. Jr
D1654G2 Fld: 13J, 47A, 86L GRAI7708
Sep 76 59p
Contract: MA-5-38036
Monitor: MA-RD-940-77048
See also Volume 2, PB-262 927.

Abstract: The stern section of a modern merchant ship, built with machinery and deckhouse aft, is the most labor and capital intensive portion of a ship's construction. This study analyzed the feasibility of standardizing the design and construction of this portion of a ship, for application to a wide variety of merchant ship types, as a means of improving commercial shipbuilding producibility. The concept permits one to obtain the advantages of multiple ship production (lower construction cost and shorter construction time), without restricting a prospective ship owner's flexibility in tailoring the overall vessel design to carry his particular cargo, and meet his requirements for payload capacity, cargo handling capabilities, and ship performance. The study found that the standardized stern concept is both technically sound and economically feasible, and that three basic stern units would be able to be used to satisfy 79% of all forecasted U.S. new building requirements to the end of the century. Moreover, with a production run of sixteen units, standardization of the stern unit would save a minimum of 7% of all the total cost of the stern. This savings could approach 20% if additional measures were taken to enhance producibility, such as the optimization of material flow patterns in individual yards and the use of more labor efficient materials and techniques.

Descriptors: *Shipbuilding, *Ship hulls, *Standardization, Ship structural components, Design standards, Economic analysis, Logistics, Feasibility, Cargo ships, Tanker ships

Identifiers: *Ship sterns, NTISCOMMA

PB-262 926/9ST NTIS Prices: PC$4.50/MF$3.00

The North Carolina Petrocomplex Study

North Carolina Dept. of Natural and Economic Resources, Raleigh.**North Carolina State Dept. of Administration, Raleigh. Office of Marine Affairs.**Research Triangle Inst., Research Triangle Park, N.C. Center for Development and Resource Planning.*Coastal Plains Regional Commission, Charleston, S.C.*Federal Energy Administration, Washington, D.C. (408 858)

Final rept. Jul 74-Sep 76.
D1642H2 Fld: 10A, 5C, 97, 96A, 68 GRAI7708
Oct 76 250p
Contract: CPRC-10540014, FEA-CA-12-50010-00
Monitor: CPRC-10540014
Prepared in cooperation with North Carolina State Dept. of Administration, Raleigh. Office of Marine Affairs, and Research Triangle Inst., Research Triangle Park, N.C. Center for Development and Resources Planning, Rept. nos. FY-26U-1170 and RM-26U-1170-1-1.

Abstract: This report estimates the benefits and cost that would occur to the citizens of North Carolina if a large-scale development of petroleum industry occurred in the Coastal Plains of the state. This development would include refineries, petrochemical plants, storage and transportation facilities, and an offshore, deepwater terminal. The benefits and cost were considered in economic, social and environmental terms.

Descriptors: *Petroleum industry, *North Carolina, Petroleum refining, Refineries, Deepwater terminals, Petrochemistry, Petroleum products, Energy sources, Social effect, Economic impact, Environmental impacts, Manpower, Benefit cost analysis, Land use, Air pollution, Water pollution, Oil pollution, Ecology

Identifiers: *Energy source development, Eastern region(North Carolina), NTISEXFEA, NTISCOMCPC

PB-262 426/0ST NTIS Prices: PC$8.00/MF$3.00

Standard Specifications for Tanker Construction

Maritime Administration, Washington, D.C. (217 600)

Final rept.
D0343I2 Fld: 13J, 47A, 85G GRAI7702
4 Jul 76 614p
Rept No: MA-GEN-720-77011
Monitor: 18
See also COM-72-11469.

Abstract: These standard specifications for tanker construction are intended to provide guidance to the maritime industry for the preparation of detail ship specifications. They are complete in all aspects of required contract work and embody the following pertinent features: Levels of quality for construction differential subsidy, current requirements of regulatory bodies, latest technological developments, measures of standardization to encourage mass production techniques, standard text to reflect legal aspects of contract work, and metric identification of all standard sizes and dimensions.

Descriptors: *Tanker ships, *Shipbuilding, *Specifications, Ship structural components, Rigging, Fixtures, Fittings, Navigation, Marine safety equipment, Air circulation, Marine engineering, Human factors engineering, Openings, Ship hulls, Coverings, Painting, Piping systems , Survival equipment, Metrology, Marine propulsion, Sea water, Furniture, Fire protection, Construction, Quality control, Technology

Identifiers: NTISCOMMA

PB-258 661/8ST NTIS Prices: PC$16.25/MF$3.00

Methodology for Estimating Capacity of Marine Terminals. Volume II. NORCAL Port Capacities for Alameda, Benicia, Oakland, Richmond, and San Francisco

Northern California Ports and Terminals Bureau, Inc., San Francisco, Calif.*Manalytics, Inc., San Francisco, Calif.*Maritime Administration, Washington, D.C.

Final rept.
C7691E4 Fld: 13J, 5C, 85B GRAI7625
Aug 76 13p
Contract: MA-5-38001
Monitor: MA/RD-970-T76070-Vol-2
See also Volume 1, PB-256 597. Prepared by Manalytics, Inc., San Francisco, Calif.

Abstract: The study presents a standardized method for estimating throughput capacity of marine terminals. Not only port authorities, but ocean carriers and large shippers have repeated use for a precise, accurate and efficient method for estimating the capacity of a given facility or for estimating the spatial and equipment requirements for a facility to handle a given throughput.

Descriptors: *Marine terminals, *Marine transportation, Planning, Estimates, Capacity, Ports, Harbors, Cargo transportation, International trade, Containerizing, Bulk cargo, Common carriers, Facilities, Requirements, San Francisco Bay, California

Identifiers: NTISCOMMA

PB-256 598/4ST NTIS Prices: PC$3.50/MF$3.00

Methodology for Estimating Capacity of Marine Terminals. Volume I. Standardized Methodology

Northern California Ports and Terminals Bureau, Inc., San Francisco, Calif.*Manalytics, Inc., San Francisco, Calif.*Maritime Administration, Washington, D.C.

Final rept.
C7691E3 Fld: 13J, 5C, 85B GBAI7625
Feb 76 234p
Contract: MA-5-38001
Monitor: MA/BD-970-T76070-Vol-1
See also Volume 2, PB-256 598. Prepared by Manalytics, Inc., San Francisco, Calif.

Abstract: The study presents a standardized method for estimating throughput capacity of marine terminals. Not only port authorities, but ocean carriers and large shippers have repeated use for a precise, accurate and efficient method for estimating the capacity of a given facility or for estimating the spatial and equipment requirements for a facility to handle a given throughput.

Descriptors: *Marine terminals, *Marine transportation, Planning, Forecasting, International trade, Cargo transportation, Ports, Harbors, San Francisco Bay, Containerizing, Bulk cargo, Capacity, Common carriers, Estimates, California

Identifiers: NTISCOMMA

PB-256 597/6ST NTIS Prices: PC$8.00/MF$3.00

Port Requirements for the San Francisco Bay Area. Phase I. Summary Report

Northern California Ports and Terminals Bureau, Inc., San Francisco, Calif.*Maritime Administration, Washington, D.C.

Final rept.
Boerger, Frank C.
C7691E1 Fld: 13J, 5C, 85B GRAI7625
Jul 76 53p
Contract: MA-5-38001
Monitor: MA/BD-970-T76068

Abstract: Studies were undertaken to investigate the long-term needs for facilities to accommodate future international and domestic shipping in the San Francisco Bay Area. These studies provide a basis for answering queries by environmentalists concerning the need for port expansion. They provide a tool to demonstrate a definite relationship between growth in commerce and the required expansion of port capabilities.

Descriptors: *Marine terminals, *Marine transportation, Facilities, Ports, Harbors, San Francisco Bay, Estimates, Forecasting, Commerce, International trade, Capacity, Cargo transportation, California, Bulk cargo, Containerizing, Planning

Identifiers: NTISCOMMA

PB-256 595/0ST NTIS Prices: PC$4.50/MF$3.00

Risk Analysis Methods for Deepwater Port Oil Transfer Systems

Transportation Systems Center Cambridge Mass (407082)

Final rept. Jul 75-Mar 76
Frenkel, I., Hathaway, W. T.
C7452E3 Fld: 13B, 68D, 47, 85D GRAI7623
Jun 76 146p
Rept No: TSC-USCG-76-2
Monitor: USCG-D-69-76

Abstract: This report deals with the risk analysis methodology for oil spills from the oil transfer systems in deepwater ports. Failure mode and effect analysis in combination with fault tree analysis are identified as the methods best suited for the assessment of comparative risk from different technical alternatives. The necessary methodology and analytical expressions are developed and their application is demonstrated in some general sample calculations. Basic data sources are listed, and the quality of the data is discussed. It is shown that the available data are not sufficiently complete for quantitative calculations of the risk for the entire system. Comparative calculations, however, can be made, and a systematic qualitative examination of the system is possible.

Descriptors: *Oil spills, *Risk analysis, Deep water, Oil pollution, Marine transportation, Fault tree analysis, Detection, Transfer

Identifiers: *Deepwater terminals, Transportation safety, Oil pollution detection, Oil pollution abatement, NTISDODCG, NTISDOTCG

AD-A029 329/0ST NTIS Prices: PC$6.00/MF$3.00

Ship Steel Weldments for Low Temperature Service

National Bureau of Standards, Washington, D.C.*Maritime Administration, Washington, D.C. (240 800)

Final rept.
McHerry, H. I.
C7413L4 Fld: 11F, 13J, 47A, 86V GRAI7622
May 76 9
Project: NBS-2752430
Monitor: 18
Pub. in Welding Jnl., v55 n5 p387-393 May 76. Prepared in cooperation with Maritime Administration, Washington, D.C.

Abstract: The ship steels, welding practices and weldment toughness requirements applicable to low temperature (to -46 C) regions of liquefied-natural-gas (LNG) tankers are reviewed. In the construction of LNG ships, the principal welding productivity problem is the low deposition rate associated with the low heat input welding practices required to provide sufficient toughness in the weld heat-affected-zone (HAZ). A potential solution to this problem is to use improved steels which can be welded using efficient procedures and still provide satisfactory HAZ toughness. The steelmaking practices that contribute to low temperature toughness are reviewed with respect to economic limitations associated with ship steels and to their potential for improving HAZ toughness.

Descriptors: *Steels, *Welding, *Tanker ships, Cryogenics, Liquefied natural gas, Marine transportation, Toughness, Brittleness

Identifiers: Reprints, Transportation safety, NTISCOMNBS, NTISCOMMA

PB-256 997/8ST NTIS Prices: PC$3.50/MF$3.00

Speed and Power Prediction Techniques for High Block Ships Applied in Nagasaki Experimental Tank

Mitsubishi Heavy Industries Ltd., Tokyo (Japan). (391 512)
Tamura, Kinya
C6482G4 Fld: 13J, 20D, 47A, 46B GRAI7612
Feb 76 16p
Rept No: MTB-103
Monitor: 18

Abstract: The model-ship correlation method applied in the Nagasaki Experimental Tank, MHI and its historical background are described. The method, which belongs to the category of theoretical methods, has been used for speed and power prediction of various kinds of ships during these twenty years. The difficulty in power prediction caused by the rapid expansion in size and block coefficient has been overcome by the introduction of a three-dimensional extrapolation method in place of the two-dimensional one, without making any serious misleading prediction. For the current high block ships, it is essential to distinguish the type of flow pattern, around the stern of the model since two kinds of flow pattern exist. The method used to distinguish the flow in model and its influence on model-ship correlation are discussed.

Descriptors: *Ship models, *Model tests, Predictions, Velocity, Marine surface propulsion, Correlation, Wakes, Hydrodynamics, Model basins, Tanker ships, Marine propellers, Japan

Identifiers: *High block ships, NTISJMHI

PB-251 430/5ST NTIS Prices: PC$3.50/MF$2.25

Preliminary Results on Seamount and Continental Slope Reflection Enhancement of Shipping Noise

Scripps Institution of Oceanography San Diego Calif Marine Physical Lab (217400)

Summary rept.
AUTHOR: Morris, G. B.
C6445E3 FLD: 20A, 46A, 63A GRAI7612
7 Nov 75 13p
REPT NO: MPL-U-57/75, SIO-Ref-75-34
CONTRACT: N00014-69-A-0200-6002
PROJECT: NR-260-103
MONITOR: 18

ABSTRACT: Measurements of ambient noise levels made during a time period when a supertanker passed the observation site clearly show such vessels to be a strong acoustic source. The tonals associated with the propeller blade rate and its frequency harmonics were clearly observed on single, omni-directional hydrophones for ranges out to 240 nautical miles. The received signals from the radiated noise from this vessel increased in level by as much as 10 dB when it was in the vicinity of a seamount and the continental slope, suggesting a reflection enhancement. The magnitude of this observed reflection enhancement varies inversely with hydrophone depth, being the largest for the shallowest depth. (Author)

DESCRIPTORS: *Ship noise, Tankers, Radiated noise, Acoustic reflection, Seamounts, Continental slopes, Propeller noise, Acoustic measurement, Ocean bottom topography, North Pacific Ocean, Sound transmission, Underwater sound, Range(Distance), Ambient noise

IDENTIFIERS: Supertankers, NTISDODXA, NTISDODN

AD-A023 476/5ST NTIS Prices: PC$3.50/MF$2.25

Methodology for Determining Size and Configuration of a Deepwater Port Safety Zone

Little (Arthur D) Inc Cambridge Mass*Coast Guard, Washington, D.C. Deepwater Ports Project. (208850)

Final rept.
AUTHOR: Schimke, G.
C6072D1 FLD: 13J, 13B, 47A*, 50B* GRAI7608
Jan 76 92p
REPT NO: ADL-78784-20
CONTRACT: DOT-CG-52269
MONITOR: USCG-WDWP-2-76

ABSTRACT: This report documents the method that will be used by the Coast Guard to consider navigational safety and environmental factors in defining a 'Safety Zone' around a deepwater port. The methodology has been developed in response to Section 10(d) of the Deepwater Port Act of 1974 (Public Law 93-627) and in consideration of regulations pursuant thereto (33 CFR 150, Subpart C). The report also lists the various types of data required for the determination of a safety zone using the method described, and suggests appropriate formats for data presentation. Thus, in addition to providing a checklist for the application of the methodology, the specified data requirements could be used as guidelines by prospective deepwater port license applicants.

DESCRIPTORS: *Marine terminals, *Water traffic, Deep water, Safety, Envelope(Space), Environmental protection, Maneuverability, Navigation reference, Anchors(Marine), Stationkeeping

IDENTIFIERS: *Deepwater terminals, *Ship maneuvers, DOT/5A, DOT/4DZ/DD , DOT/4CZ/CI, NTISDODCG, NTISDOTCG

AD-A021 071/6ST NTIS Prices: PC$5.00/MF$2.25

Achieving Federal-State Coordination in Coastal Resources Management

Louisiana State Univ., Baton Rouge. Sea Grant Legal Program.*National Oceanic and Atmospheric Administration, Rockville, Md. Office of Sea Grant.*Marshall-Wythe School of Law, Williamsburg, Va.
AUTHOR: Hershman, Marc J.
C5821L3 FLD: 13B, 05D, 48B, 92D, 86M GRAI7604
1975 30p
REPT NO: LSU-SG-75-R2
MONITOR: NOAA-75112004
Sponsored in part by Marshall-Wythe School of Law, Williamsburg, Va.
Pub. in William and Mary Law Review, v16 n4 p747-772 1975.

ABSTRACT: The article deals with four legal cases which show different aspects of Federal-State relationships. Each of these cases are documented examples of alternative roles for states to play in coastal resource decision making. The cases deal specifically with the Trident nuclear submarine base to be built in Bangor, Washington, the proposed lease-sale of outer continental shelf areas off of Southern California for oil wells, the deepwater port proposed for Louisiana, and participation in offshore leasing of and profit sharing from oil and gas operations. Each of these cases are discussed in depth. The author concludes from his study that the problems involved will not be resolved while both the Federal and State governments have sovereign power over the same land, and he suggests that both governments articulate their policies and cooperate in the administration of coastal resources.

DESCRIPTORS: *Coastal zone management, *Commercial law, Submarines, Decision making, National government, State government, Law(Jurisprudence), Continental shelves, Offshore drilling, Leasing, Deep water, Marine terminals, Oil wells, Natural gas, Crude oil, Washington(State), California

IDENTIFIERS: Reprints, Sea grant program, Intergovernmental relationships, Bangor(Washington), Trident Submarine Base, Deepwater terminals, NTISCOMNOA

PB-247 902/0ST NTIS Price: PC$4.00

A Computer Simulation Technique for Oil Spills Off the New Jersey-Delaware Coastline

Coast Guard Research and Development Center Groton Conn (408730)

Final rept.
AUTHOR: Miller, Martin C., Bacon, Jerry C., Lissauer, Ivan M.
C5783D2 FLD: 13B, 8C, 68D, 47B GRAI7604
Sep 75 50p
REPT NO: CGR/DC-24/75
MONITOR: USCG-D-171-75

ABSTRACT: Predictions of the movement of oil slicks and their impact locations along the shoreline of New Jersey and Delaware were determined for two potential deepwater ports and two potential drilling sites. A hydrodynamical-numerical model for the New York Bight area was coupled with a wind generating model to produce temporal patterns of concentration of oil. Shoreline impact determinations were made for the four spill sites for the average winter storm conditions and average summer high pressure systems generated by the models.

DESCRIPTORS: *Oil spills, *New Jersey, *Delaware, Predictions, Sites, Impact, Deep water, Marine terminals, Hydrodynamics, Mathematical models, Computerized simulation, Storms, Winter, Coastal regions, Offshore drilling, Wind, Oil pollution, Shores

IDENTIFIERS: DOT/5C, DOT/4BZ/BL, Oil wells, Deep water oil terminals, NTISDODCG, NTISDOTCG

AD-AC18 947/2ST NTIS Prices: PC$4.00/MF$2.25

Oil Transportation by Tankers: An Analysis of Marine Pollution and Safety Measures

Office of Technology Assessment, Washington, D.C.
C5322K2 FLD: 13B, 13J, 68D*, 47A*, 85B*, 97 GRAI7523
Jul 75 305p*
MONITOR: 18

ABSTRACT: This report presents a factual background on tankers and a discussion of issues related to the safety of tanker operation and the potential presented by tankers for introducing polluting oil into the marine environment. The report focuses on technical alternatives concerning the design, construction and operation of tankers in U.S. waters as these relate to safety and pollution prevention. Supertanker operations are given emphasis when they present particular or unusual problems.

DESCRIPTORS: *Oil pollution, *Water transportation, *Tanker ships, *Supertankers, Environmental issues, Threat evaluation, Prevention, Safety, Design, Structural engineering, Operations, Marine transportation

IDENTIFIERS: *Technology assessment, Oil spills, NTISCONOTA

PB-244 457/8ST NTIS Prices: PC$9.25/MF$2.25

Oil Water Separators (A Bibliography with Abstracts)

National Technical Information Service, Springfield, Va. (391 812)

Rept. for 1964-Aug 75
AUTHOR: Smith, Mona F.
C5243H2 FLD: 13B, 07A, 13J, 68D*, 47A*, 97*, 99B*, 86W GRAI7522
Sep 75 94p*
MONITOR: 18

ABSTRACT: The citations cover Federally-sponsored research on these devices primarily for oil pollution control. Centrifuge separators, coolescers, and filters are included. Oil recovery from oil spills and separation from ballast and bilge water are also cited. (Contains 89 abstracts) See also NTIS/PS-75/542, Oil Pollution Removal and NTIS/PS-75/595, Oil Pollution Detection and Sensing.

DESCRIPTORS: *Bibliographies, *Oil pollution, *Water pollution, Separators, Offshore terminals, Collection, Waste disposal, Petroleum transportation, Marine transportation, Ballast, Oils, Ships, Tests, Materials recovery, Filtration, Materials separation, Detergents, Water analysis, Abstracts

IDENTIFIERS: *Oil water separators, Oil pollution control, Bilge water , Ballast water, NTISNTIS

NTIS/PS-75/710/4ST NTIS Prices: PC$25.00/MF$25.00

Deepwater Port Development in North Carolina: The Legal Context

North Carolina Univ., Chapel Hill. School of Law.*National Oceanic and Atmospheric Administration, Rockville, Md. Office of Sea Grant.*North Carolina State Dept. of Administration, Raleigh.
AUTHOR: Dawson, Amos C. III
C5032B3 FLD: 13J, 05D, 92D, 47A, 86M GRAI7519
Mar 75 43p
REPT NO: UNC-SG-75-08
GRANT: NOAA-04-3-158-40
MONITOR: NOAA-75061001
Sponsored in part by North Carolina State Dept. of Administration, Raleigh.

ABSTRACT: The report studies existing law which pertains to planning and establishing deep water or off-shore ports. This problem of accomplishing effective and safe use of a vital complex of marine resources arrays the forces for energy development against those of the ecological conservationists. This report examines the several sources of law which bear upon this law of the sea problem. The international commitments of the United States, both customary and conventional, must be taken into account. A second vital source of applicable law is the Federal Government, both from acts of Congress and Federal court decisions. The continuous interaction between federal and state laws, and the need for their coordination, in deep water port development is pointed out by this study. Several existing North Carolina state statutes which apply to deep water ports are discussed in some detail and the involvement of local governmental authorities is also considered.

DESCRIPTORS: *Deepwater terminals, *Law(Jurisprudence), *North Carolina, Seaports, Offshore structures, Marine resources, International law, Legislation, Decisional law, National government, Regulations, State government, Local government, Pollution

IDENTIFIERS: Sea Grant program, *Law of the sea, *Offshore terminals, *Deepwater ports, NTISCOMNOA

COM-75-10952/CST NTIS Prices: PC$3.75/MF$2.25

Petroleum Transportation Systems Study. Chapter V. Refinery Operating Costs

Nathan (Robert R) Associates Inc Washington D C*Institute for Water Resources (Army), Fort Belvoir, Va. (407669)

Final rept.
C5014J1 FLD: 5C, 21D, 13J, 96B, 99B, 47A, 85E, 97G GRAI7519
Apr 75 31p
CONTRACT: DACW31-73-C-0051
MONITOR: IWR-Paper-75-P4
Supplement to DOT Report: 'Economic Aspects of Refinery and Deepwater Port Location in the United States'(PB-236 701 through PB-236 705). See also Chapter 4, AD-A012 808.

ABSTRACT: This part of the study presents the basic analysis of refinery operating costs in the various petroleum refinery districts to be supplied with imported crude petroleum.

DESCRIPTORS: *Petroleum industry, *Marine terminals, *Refineries, *Cost analysis, Systems analysis, Economic models, Costs, Petroleum products, Production engineering, Profits

IDENTIFIERS: Crude oil, Cost models, *Deepwater terminals, Pipeline transportation, Industry productivity, NTISDODA

AD-A012 809/0ST NTIS Prices: PC$3.75/MF$2.25

Petroleum Transportation Systems Study. Chapter IV. Petroleum Demand Forecasts

Nathan (Robert R) Associates Inc Washington D C*Institute for Water Resources (Army), Fort Belvoir, Va. (407669)

Final rept.
C5014I4 FLD: 5C, 21D, 13J, 97B, 96B, 47A, 85B, 97G GRAI7519
Apr 75 117p
CONTRACT: DACW31-73-C-0051
MONITOR: IWR-Paper-75-P3
Supplement to DOT Report: 'Economic Aspects of Refinery and Deepwater Port Location in the United States'(PB-236 701 through PB-236 705). See also AD-A012 807 and AD-A012 809.

ABSTRACT: This part of the study presents the basic analysis and projection of demand for refined products by state.

DESCRIPTORS: *Petroleum industry, *Marine terminals, Systems analysis, Economic models, Forecasting, Petroleum products, Distribution, Fuel consumption, Gasoline, Fuel oil, Lubricants

IDENTIFIERS: Demand forecasting, *Deepwater terminals, Cost models, *Crude oil, Fuel demand, NTISDODA

AD-A012 808/2ST NTIS Prices: PC$5.25/MF$2.25

Petroleum Transportation Systems Study. Chapter III. Port Costs

Nathan (Robert R) Associates Inc Washington D C*Institute for Water Resources (Army), Fort Belvoir, Va. (407669)

Final rept.
C5014I3 FLD: 5C, 21D, 13J, 96B, 47A, 85B, 97G GRAI7519
Apr 75 173p
CONTRACT: DACW31-73-C-0051
MONITOR: IWR-Paper-75-P2
Supplement to DOT Report: 'Economic Aspects of Refinery and Deepwater Port Location in the United States'(PB-236 701 through PB-236 705). See also Chapter 2, AD-A012 806 and Chapter 4, AD-A012 808.

ABSTRACT: This part of the study presents the basic analysis of deepwater port construction and operating costs for crude oil.

DESCRIPTORS: *Petroleum industry, *Marine terminals, *Refineries, *Cost analysis, Systems analysis, Costs, Construction, Marine transportation, Pipelines, Refineries

IDENTIFIERS: Crude oil, Transshipment costs, Cost models, *Deepwater terminals, NTISDODA

AD-A012 807/4ST NTIS Prices: PC$6.25/MF$2.25

Petroleum Transportation Systems Study. Chapter II. Ocean Shipping and Transshipment Costs for Crude Oil

Nathan (Robert R) Associates Inc Washington D C*Institute for Water Resources (Army), Fort Belvoir, Va. (407669)

Final rept.
C5014I2 FLD: 5C, 21D, 13J, 96B, 47A*, 85B*, 97G* GRAI7519
Apr 75 94p
CONTRACT: DACW31-73-C-0051
MONITOR: IWR-Paper-75-P1
Supplement to DOT Report: 'Economic Aspects of Refinery and Deepwater Port Location in the United States'(PB-236 701-PB-236 705).

ABSTRACT: ;Contents: Ocean shipping costs (The cost approach for tankers, Basic assumptions on tanker design and operation, Economic and financial assumptions, Basis for 1973 adjustments of 1970 foreign-flag tanker costs, Basis for 1973 adjustments of 1970 annual U.S. flag costs, Fuel cost adjustments, Cost increments for environmentally protective tanker design, Tug-barge costs); Transshipment costs(Transshipment by pipeline, Transshipment by vessel).

DESCRIPTORS: *Petroleum industry, *Marine terminals, *Marine transportation, Systems analysis, Economic models, Overseas, Barges, Tankers, Distribution, Pipelines, Petroleum products, Cost analysis, United States, Canada, Caribbean Sea

IDENTIFIERS: *Crude oil, *Transshipment costs, Cost models, *Deepwater terminals, Pipeline transportation, Foreign flagships, NTISDODA

AD-A012 806/6ST NTIS Prices: PC$4.75/MF$2.25

The Coastal Plains Deepwater Terminal Study. Volume II. Technical Appendixes

Nathan (Robert R.), Associates, Inc., Washington, D.C.*Coastal Zone Resources Corp., Wilmington, N.C.*Coastal Plains Regional Commission, Washington, D.C. (407 669)
C4964I2 FLD: 13J, 47A, 85B, 86B GRAI7518
Jan 75 320p*
MONITOR: 18
Prepared in cooperation with Coastal Zone Resources Corp., Wilmington, N.C. Sponsored in part by Coastal Plains Regional Commission, Washington, D.C. See also Volume 1, COM-75-10772. Paper copy also available in set of 2 reports as COM-75-10771-SET, PC$18.00.

ABSTRACT: The report examines factors affecting feasibility of locating refineries, petrochemicals and auxiliary deepwater terminals in the Coastal Plains Region of North Carolina, South Carolina and Georgia and identify siting criteria. Analysis of economic and environmental factors is the primary objective of this analysis. Topics discussed in this volume include the following: Institutional and policy considerations; Detailed engineering analysis; Economic impact analysis; Demand analysis; Description of computer cost model.

DESCRIPTORS: *Atlantic coast ports, *Deepwater terminals, Environmental impacts, Coastal zone use, Coastal zone planning, Coastal resource management, Economic analysis, Petroleum industry, Petrochemistry, Economic impacts, Coastal plains, Oil spills, Site surveys, North Carolina, South Carolina, Georgia

IDENTIFIERS: NTISCOMCPC

COM-75-10773/0ST NTIS Prices: PC$9.25/MF$2.25

The Coastal Plains Deepwater Terminal Study. Volume I. Executive Summary Study Report

Nathan (Robert R.), Associates, Inc., Washington, D.C.*Coastal Zone Resources Corp., Wilmington, N.C.*Coastal Plains Regional Commission, Washington, D.C. (407 669)
C4964I1 FLD: 13J, 47A*, 85B*, 86B GRAI7518
Jan 75 344p*
MONITOR: 18
Prepared in cooperation with Coastal Zone Resources Corp., Wilmington, N.C. Sponsored in part by Coastal Plains Regional Commission, Washington, D.C. Executive summary separately inserted. See also Volume 2, COM-75-10773. Paper copy also available in set of 2 reports as COM-75-10771-SET, PC$18.00.

ABSTRACT: The report examines factors affecting feasibility of locating refineries, petrochemicals and auxiliary deepwater terminals in the Coastal Plains Region of North Carolina, South Carolina and Georgia and identify siting criteria. Analysis of economic and environmental factors is the primary objective of this analysis. Analysis includes investment facilities description, economic impact analysis, public revenue and expenditure implications, and environmental analysis.

DESCRIPTORS: *Atlantic coast ports, *Deepwater terminals, Coastal zone use, Coastal zone planning, Coastal resources management, Economic analysis, Petroleum industry, Petrochemistry, Economic impacts, Coastal plains, Oil spills, Site surveys, North Carolina, South Carolina, Georgia, Environmental impacts

IDENTIFIERS: *Deepwater ports, NTISCOMCPC

COM-75-10772/2ST NTIS Prices: PC$9.50/MF$2.25

Port Collection and Separation Facilities for Oily Wastes. Volume VI. Impact of Offshore Terminals on Contiguous Ports

Harris (Frederic R.), Inc., New York.*Maritime Administration, Washington, D.C. (162 700)

Report for 1 Sep 73-31 Jan 75
AUTHOR: Forster, Richard L., Moyer, J. E., Lepeau, M.
C4895G1 FLD: 13B, 13J, 68D*, 47A*, 97, 86L GRAI7517
Mar 75 89p*
CONTRACT: MA-2-36202
MONITOR: MA-GEN-970-75067
See also Volume 5, COM-74-10012.

ABSTRACT: The impact of the energy crisis, embargoes and environmental concerns of transportation of crude oil and petroleum products to potential offshore receiving terminals is ascertained. As the proposed refinery construction programs are directly related to offshore terminal construction, the import of the various refinery construction programs on offshore terminals and the movement of produce by product tankers is also analyzed. The various ports on the three coasts are analyzed with respect to sizes of tankers that may be accommodated and a vessel mix is developed. From this mix and the forecast petroleum demand, tanker movement requirements are estimated. These estimates are used to develop four arrival matrices for 1980 and for 1985--for PAD I and PAD III. Three arrival matrices are developed for PAD V over the same period. From these matrices based on assumed enforcement of the 1973 IMCO Convention, the quantities of oily wastes likely to arrive at given ports on the three seacoasts are estimated.

DESCRIPTORS: *Harbor facilities, *Offshore terminals, *Liquid waste disposal, *Oil pollution, Crude oil, Refineries, Petroleum products, Supertankers, Collection, Forecasting, Waste disposal, Petroleum transportation, Marine transportation, Construction, Pipelines, Surveys, Estimates

IDENTIFIERS: *Oil pollution control, Bilge water, Ballast water, *Deepwater ports, NTISCOMMA

COM-75-10765/6ST NTIS Prices: PC$4.75/MF$2.25

A Review of Oil Handling Problems at Offshore Terminals. Part II. Program for Experimentally Evaluating Advanced Oil Barriers

Ocean Science and Engineering, Inc., Rockville, Md.*National Maritime Research Center-Galveston, Tex.
AUTHOR: Schneider, I. Lewis, Asher, Richard C., Mainville, Charles R.
C4841H3 FLD: 13J, 13B, 47A, 68D, 86L GRAI7516
Aug 74 171p
CONTRACT: MA-6562
PROJECT: NMRC-272-23100
MONITOR: NMRC-272-23100-R1a
See also Part 1 dated Nov 73, COM-74-10212.

ABSTRACT: This report presents the results of a study on the performance and operational requirements for an oil barrier to be used at several possible deep water port sites, Four types of barriers were investigated as follows: (1) pneumatic barrier, (2) skirt barrier, raisable, (3) skirt barrier, fixed flotation, and (4) skirt/pneumatic barrier (hybrid type). An engineering review of the four barrier designs is conducted and a program for their experimental evaluation is developed. The evaluation program provides for three levels of tests over a 3-year period: Containment/removal concept tests, dynamic model and component tests and offshore tests of a prototype barrier.

DESCRIPTORS: *Water pollution, *Marine terminals, Barriers, Offshore structures, Terminal facilities, Tests, Oils

IDENTIFIERS: *Oil pollution containment, *Deepwater ports, Offshore terminals, NTISCOMMA

COM-75-10688/0ST NTIS Prices: PC$6.25/MF$2.25

Concept Analysis: Offshore Breakwater-Oil Storage System

Raymond Technical Facilities Inc New York*Coastal Engineering Research Center, Fort Belvoir, Va. (409269)

Miscellaneous paper
AUTHOR: Peraino, Joseph, Plodowski, Tomasz
C4762J2 FLD: 13B, 13J, 13D, 50B, 47A, 97H GRAI7515
Apr 75 68p
CONTRACT: DACW72-73-C-0005
MONITOR: CERC-MP-4-75

ABSTRACT: The study attempts to arrive at a satisfactory method of providing a prompt and efficient answer to the fast-growing need for deep-draft berthing facilities along the U.S. east coast. The general concept of large hollow precast floating units towed to the site, and sunk into position lends itself particularly to using the hollow interiors as storage space for liquid bulk cargo in large quantities. Since the trend for more economical transportation of petroleum products is by use of large deep-draft carriers, the combination breakwater-oil storage system is a possible solution. Assumptions were made as to probable site conditions, i.e., water depths, sea conditions, bottom conditions, and a preliminary design developed for the units. Various construction procedures were studied and compared from both technical and construction cost aspects.

DESCRIPTORS: *Breakwaters, *Facilities, *Marine terminals, Offshore, Deep water, Ocean waves, Construction, Prefabrication, Costs

IDENTIFIERS: Oil storage systems, Design, *Deepwater ports, NTISDODA

AD-A010 348/1ST NTIS Prices: PC$4.25/MF$2.25

Port Design and Analysis Methodology. Appendix

Massachusetts Inst. of Tech., Cambridge. Sea Grant Project Office.*National Oceanic and Atmospheric Administration, Rockville, Md. Office of Sea Grant. (406 868)
AUTHOR: Frankel, E., Golden, B., Wilmes, P., Orner, R., Chelst, K.
C4504B3 FLD: 13J, 13B, 47A, 50B, 86M USGRDR7511
1 Dec 74 155p*
REPT NO: MITSG-74-31-App
GRANT: NOAA-NG-43-72
MONITOR: NOAA-75011403-App
Index No. 74-331-Nto. See also COM-75-10264.

ABSTRACT: Contents: User's manual for linear approximation algorithm; The Ford-Bellman-Moor shortest path algorithm; Method of golden search; Program listings; Seaport simulation (Tanker terminal); Sample run of seaport simulation; Port simulation program details; Approximate fixed charge transportation algorithm.

DESCRIPTORS: *Seaports, *Design criteria, Harbors, Marine terminals, Harbor facilities, Facilities management, Cost analysis, Computerized simulation, Computer programs, User needs

IDENTIFIERS: *Multiple purpose ports, *Multiports, NTISCOMNOA

COM-75-10345/7ST NTIS Prices: PC$6.25/MF$2.25

Port Design and Analysis Methodology

Massachusetts Inst. of Tech., Cambridge. Sea Grant Project Office.*National Oceanic and Atmospheric Administration, Rockville, Md. Office of Sea Grant. (406 868)
AUTHOR: Frankel, E., Golden, B., Wilmes, P., Orner, R., Chelst, K.
C4503J4 FLD: 13J, 13B, 47A*, 50B*, 86M USGRDR7511
1 Dec 74 340p*
REPT NO: MITSG-74-31
GRANT: NOAA-NG-43-72
MONITOR: NOAA-75011403
Index No. 74-331-Nto. See also Appendix, COM-75-10345.

ABSTRACT: This report presents techniques for planning and analysis of single purpose ports, multipurpose ports, multiport systems, and multiple purpose multiport systems. It presents novel approaches to multicommodity network flow analysis, port simulation and various methods of use in port system modeling.

DESCRIPTORS: *Seaports, *Design criteria, Harbors, Marine terminals, Harbor facilities, Facilities management, Cost analysis, Computerized simulation

IDENTIFIERS: *Multiple purpose ports, *Multiports, NTISCOMNOA

COM-75-10264/OST NTIS Prices: PC$9.50/MF$2.25

Laws Relating to Navigation

Mississippi-Alabama Sea Grant Consortium, Ocean Springs, Miss.*Mississippi Univ., University. Law Center.*National Oceanic and Atmospheric Administration, Rockville, Md. Office of Sea Grant.

Preliminary draft.
C4444A1 FLD: 05D, 17G, 13B, 92D, 48B, 86M USGRDR7510
1973 95p
REPT NO: MASGP-74-036
MONITOR: NOAA-75021807
Prepared by Mississippi Univ., University. Law Center.

ABSTRACT: The volume is one of ten representing a compilation of Mississippi laws which most significantly affect the use and development of the state's marine and coastal zones. Administrative control of riverine, coastal, and air navigation on state, county, and municipal levels is addressed in this volume. Areas of jurisdiction in navigation matters extend to channels, ports, harbors, and landings. Extensive legal citations are presented.

DESCRIPTORS: *Law(Jurisprudence), *Navigation, *Coasts, *Mississippi, Administrative law, Government, Air navigation, Surface navigation, Marine terminals, Harbors, Airports, Regulations

IDENTIFIERS: Sea Grant program, NTISCOMNOA

COM-75-10322/6ST NTIS Prices: PC$4.75/MF$2.25

Louisiana Superport Studies. Report No. 4. Technical Appendices to Recommendations for the Environmental Protection Plan

Louisiana State Univ., Baton Rouge. Center for Wetland Resources.*National Oceanic and Atmospheric Administration, Rockville, Md. Office of Sea Grant.*Louisiana Offshore Terminal Authority, New Orleans. (408 059)
C4443K2 FLD: 05C, 13B, 96A, 68D, 86M USGRDR7510
Nov 74 231p
REPT NO: LSU-SG-74-04
MONITOR: NOAA-75020305
Sponsored in part by National Oceanic and Atmospheric Administration, Rockville, Md. Office of Sea Grant, and Louisiana Offshore Terminal Authority, New Orleans.

ABSTRACT: The technical appendices contain the following studies: Gulf of Mexico Commodity Flow Data for 1970; Critique of H.J. Kaiser/Gulf South Research Report--The Economic Impact of a Louisiana Offshore Oil Port; Expected Spillage from Vessels and Pipelines in Region of Proposed Superport; A Preliminary Technique for Assessing Environmental Costs for Louisiana Superport Development; and Drift Predictions for Selected Sites Off Southeastern Coast of Louisiana.

DESCRIPTORS: *Economic analysis, *Oil spills, *Shore protection, Tanker ships, Seaports, Petroleum transportation, Water pollution, Beaches, Environmental impacts, Cost analysis, Petroleum pipelines, Supertankers, Coasts, Louisiana, Mexico Gulf

IDENTIFIERS: Sea Grant program, *Deepwater ports, NTISCOMNOA

COM-75-10314/3ST NTIS Prices: PC$7.50/MF$2.25

Commerce Today. Volume V, Number 11

Department of Commerce, Washington, D.C.
C4442F4 FLD: 05C, 96, 86A USGRDR7510
3 Mar 75 44p
MONITOR: 18
Paper copy available from GPO.

ABSTRACT: ;Contents: Some 'Non-Budget' federal expenditures have significant impact on U.S. economy; Deepwater ports could cut import costs, relieve congested U.S. sealanes; 'Welcome-plus' to foreign buyers visiting United States can help swell this nation's export totals; Jobs, salary, credit, legal status all in focus of international women's 'year'; Energy management digest; Domestic business report; International commerce report.

DESCRIPTORS: *Commerce, *Reviews, Federal expenditures, Deepwater terminals, Ports, Export development, Foreign business, Foreign assistance, Employment, Females, Energy conservation, Research

IDENTIFIERS: Foreign buyers, NTISCOMSEC

COM-74-50944-11/ST NTIS Prices: PC-GPO/MF$2.25-NTIS

The Delaware Estuary System, Environmental Impacts and Socio-Economic Effects. Biological Condition of the Deepwater Portion of Lower Delaware Bay

Delaware Univ., Newark. Coll. of Marine Studies.*National Science Foundation, Washington, D.C.*Academy of Natural Sciences of Philadelphia, Pa.*Rutgers--The State Univ., New Brunswick, N.J. (407 178)

Final rept. (Partial)
AUTHOR: Maurer, Don
C4394G3 FLD: 13B, 08A, 06F, 47D, 57H, 68D USGRDR7509
May 74 95p
GRANT: NSF-GI-33369
MONITOR: NSF/RA/E-74-018
See also PB-239 671, and PB-239 669. Prepared in cooperation with Academy of Natural Sciences of Philadelphia, Pa., and Rutgers--The State Univ., New Brunswick, N.J.

ABSTRACT: The purpose of this report is to briefly describe the biological condition of the deepwater portion of lower Delaware Bay. To accomplish this, it was necessary to examine many scientific sources, thus providing a review of research in the marine biology of the area. Deep water as used in this report refers to subtidal portions of the Delaware Bay region. Lower Delaware Bay refers to the area from the Chesapeake-Delaware Canal to the mouth of the bay and adjacent coastal waters. The main emphasis is placed on the area from Woodland Beach to the mouth of the bay. The report is divided into three main sections: Description of the biology of the area, description of man's activities on the biology of the area, and problems for future research.

DESCRIPTORS: *Aquatic biology, *Delaware Bay, Deep water terminals, Industrial wastes, Sewage, Dredging, Spoil, Waste disposal, Marine fishes, Thermal pollution, Refineries, Plankton, Shellfish, Invertebrates

IDENTIFIERS: Salt marshes, NTISNSFRA

PB-239 670/3ST NTIS Prices: PC$4.75/MF$2.25

The Delaware Estuary System, Environmental Impacts and Socio-Economic Effects. Impacts of a Deepwater Terminal. Volume I. Environmental Problems Associated with a Deepwater Port in the Delaware Bay Area

Delaware Univ., Newark. Coll. of Marine Studies.*National Science Foundation, Washington, D.C.*Academy of Natural Sciences of Philadelphia, Pa.*Rutgers--The State Univ., New Brunswick, N.J. (407 178)
AUTHOR: Maurer, Don
C4394G2 FLD: 13B, 08A, 06F, 47D, 57H, 68D USGRDR7509
May 74 208p
GRANT: NSF-GI-33369
MONITOR: NSF/RA/E-74-017
See also PB-239 670, and PB-239 671. Prepared in cooperation with Academy of Natural Sciences of Philadelphia, Pa., and Rutgers--The State Univ., New Brunswick, N.J.

ABSTRACT: The report draws largely from published materials to review the environmental problems associated with a deepwater port in the Delaware Bay area. The general description includes site locations and proposed facilities, geological setting, physical environment, and biological environment. The effect of construction and maintenance is concerned with a proposed 20-mile site, 8-mile site, Cape May site, and Big Stone Beach site, and the impact on Phytoplankton, Zooplankton, Finfish, and Benthos. The effect of oil spills is concerned with fate of oil spill, environmental effects of dry bulk commodities, and secondary effects. References are cited.

DESCRIPTORS: *Environmental impacts, *Deepwater terminals, *Delaware Bay, Water quality, Aquatic biology, Bathymetry, Trace elements, Metals, Tanker ships, Marine fishes, Salinity, Water chemistry, Benthos, Construction, Oil spills

IDENTIFIERS: Oil spills, NTISNSFRA

PB-239 669/5ST NTIS Prices: PC$7.25/MF$2.25

Current Record Analysis and Tidal Computations for Port Valdez, Alaska

Alaska Univ., College. Inst. of Marine Science.*National Oceanic and Atmospheric Administration, Rockville, Md. Office of Sea Grant. (405 785)
AUTHOR: Mungall, J. C. H.
C4374G3 FLD: 08C, 08J, 47B, 86M USGRDR7509
Nov 73 78p
REPT NO: IMS-R73-5, Sea Grant-73-6
GRANT: NOAA-04-3-158-41
MONITOR: NOAA-75012401

ABSTRACT: The fjord of Port Valdez is the innermost of several bodies of water that lie between the Gulf of Alaska and the town of Valdez. The dimensions of the fjord are about 3 miles by 12 miles, with the major axis lying East-West. The entrance, Valdez Narrows, is less than one mile wide. The major current constituent at the entrance is that associated with the M2 tide. By the tidal model the computed current amplitude for the entrance was 11 cm/sec. The drift currents encountered during the two series of observations were considerable, with maximum values of around 5 cm/sec. The chief results of the numerical tidal model study are clearly shown. No phase change occurred in the M2 constituent over the region, and no change in the amplitude of the M2 constituent was found. These results were expected due to the standing wave nature of the tides. The tidal current prediction charts allow one to predict currents for any point at any time.

DESCRIPTORS: *Ocean currents, *Ocean tides, *Oceanographic data, Bathymetry, Inlets(Waterways), Fjords, Mathematical models, Predictions, Alaska Gulf, Marine terminals

IDENTIFIERS: Valdez(Alaska), Sea Grant program, NTISCOMNOA

COM-75-10219/4ST NTIS Prices: PC$4.75/MF$2.25

Identification of Costs to States to Perform Certain Marine Environmental Protection Functions

Naval Postgraduate School Monterey Calif (251450)

Master's thesis
AUTHOR: Smith, Rodney Ellwood
C4191J2 FLD: 13B, 68D USGRDR7507
Dec 74 174p
MONITOR: 18

ABSTRACT: This study addresses the U.S. Coast Guard's role in marine environmental protection and costs to states of assuming two Coast Guard marine environmental protection functions, oil spill investigation and cleanup. U.S. Coast Guard data for eight West Coast port areas have been used to perform regression and other analyses to relate pollution sources and causes to the number of oil spills occurring in an area. The number of spills then are linked to costs of investigation and cleanup within that area. Other considerations relating to state assumption of marine environmental protection functions are outlined. A grant-in-aid program may be established by the Coast Guard to induce state participation. A possible fund allocation formula is presented. It is based on maintaining the present level of cost-effectiveness for the program.

DESCRIPTORS: *Coast Guard, *Environmental protection, *Oil spills, Grants, Coastal regions, Marine terminals, Regression analysis, Sources, Oil pollution, Cost effectiveness, Removal, Theses

IDENTIFIERS: Government policies, *Water pollution abatement, *Grants in aid, NTISDODN

AD/A-004 242/4ST NTIS Prices: PC$6.25/MF$2.25

Fishery Law (A Bibliography with Abstracts)

National Technical Information Service, Springfield, Va.

Rept. for 1964-Oct 74
AUTHOR: Brown, Robena J.
C4162G1 FLD: 06C, 05D, 98F*, 92E, 86W USGRDR7506
Jan 75 131p*
MONITOR: 18

ABSTRACT: The 126 cited reports cover national and international laws on fisheries, fishing grounds, fisheries' pollution, and endangered species.

DESCRIPTORS: *Fisheries, *Bibliographies, *Marine resources, *International law, Fishing grounds, Territorial seas, Law(Jurisprudence), Marine fishes, Shellfish, Coasts, Mineral deposits, Oil recovery, Marine terminals, Insurance, Claims, Seals(Mammals), Water pollution, International relations

IDENTIFIERS: *Law of the sea, Fishing vessels, Superports, NTISNTIS

NTIS/PS-75/111/5ST NTIS Prices: PC$25.00/MF$25.00

Louisiana Superport Studies. Report 3. Recommendations for the Environmental Protection Plan

Louisiana State Univ., Baton Rouge. Center for Wetlands Resources.*National Oceanic and Atmospheric Administration, Rockville, Md. Office of Sea Grant.*Louisiana Deep Draft Harbor and Terminal Authority, New Orleans. (408 059)

Final rept.
AUTHOR: Stone, James H., Robbins, J. Michael, Johnson, David B., Pope, Robert M., Gosselink, James G.
C4153I1 FLD: 13B, 50B, 68D, 86M USGRDR7506
31 Oct 73 547p
MONITOR: NOAA-74120903

ABSTRACT: The report provides data and recommendations for use in the design of an Environmental Protection Plan in considering Louisiana superport development. Information is given on the environment, site selection, guidelines for design, construction and operation of superports and related activities. Attention is called to authority funding and compensatory projects and the legal requirements of governmental agencies. It is suggested that the major environmental stresses that may result from superport development are (1) oil or other material spills, (2) construction and operational damages, and (3) ancillary development. Regional planning based on preliminary estimates of this ratio, must begin now or the gradual environmental deterioration of coastal Louisiana will be a high probability.

DESCRIPTORS: *Seaports, *Deepwater terminals, *Environmental impacts, *Louisiana, Environmental issues, Legislation, Oil spills, Construction, Ocean environments, Ecology, Littoral zone, Coastal zone management

IDENTIFIERS: Sea Grant program, *Superports, Ecosystems, NTISCOMNOA

COM-75-10060/2ST NTIS Prices: PC$12.50/MF$2.25

Submarine Tanker Concepts and Problems

Merchant Marine Academy, Kings Point, N.Y.*National Maritime Research Center-Kings Point, N.Y.

Kings Point scholar series rept. (Final)
AUTHOR: Moloney, Patrick
C4084H2 FLD: 13J, 47A*, 85C*, 86L USGRDR7505
Oct 74 195p*
PROJECT: NMRC-274-03-05-000
MONITOR: NMRC-KP-129

ABSTRACT: The National energy crisis of the U.S. can be responded to and diminished by the use of the large deposits of oil in the Arctic. This study discusses the use of nuclear powered submarine tankers for the transportation of oil from the Arctic regions. The advantages and disadvantages of the submarine tankers as compared with the conventional methods of transportation such as surface tankers, tug-barges and oil pipe lines are discussed in detail.

DESCRIPTORS: *Tanker ships, *Submarines, Supertankers, Nuclear powered ships, Arctic regions, Merchant ships, Personnel development, Comparison

IDENTIFIERS: *Submarine tankers, *Oil transportation, NTISCOMMA

COM-75-10009/9ST NTIS Prices: PC$7.00/MF$2.25

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T99	Contact NTIS for Price Quote

Management of a Seaport

National Maritime Research Center-Kings Point, N.Y.*Maritime Administration, Washington, D.C.

Final rept.
AUTHOR: Schwimmer, Martin J., Amundsen, Paul A.
C3981D2 FLD: 13J, 05A, 47A*, 70B*, 86L USGRDR7503
1973 612p*
REPT NO: NMRC-KP-114
MONITOR: MA-RD-900-75025

ABSTRACT: Despite the numerous advances made in the field of management science and the many texts written about how to manage a business enterprise, the management of a seaport has remained a field of neglected academic study. This book was written to overcome that neglect. It is designed to be a comprehensive introduction to the various facets of seaport administration; to give the reader a clear understanding of how these facets -- often studied as separate subjects during one's academic career -- interweave to make a cohesive whole and contribute to the successful management of a modern seaport.

DESCRIPTORS: *Seaports, *Facilities management, Deepwater ports, Marine terminals, Management planning, Services, Marketing, Supertankers

IDENTIFIERS: *Seaport management, NTISCOMMA

COM-74-11786/2ST NTIS Price: PC$15.25/MF$2.25

Offshore Structures - A Bibliography with Abstracts

National Technical Information Service, Springfield, Va.

Rept. for 1964-Oct 74
AUTHOR: Habercom, Guy E. Jr
C3922L2 FLD: 13B, 13J, 50B*, 47A, 86W USGRDR7502
Dec 74 82p*
MONITOR: 18

ABSTRACT: This bibliography contains 66 selected abstracts of research reports retrieved using the NTIS on-line search system--NTISearch. The reports relate to the feasibility, design, construction, ocean environments, and environmental impact of offshore structures.

DESCRIPTORS: *Offshore structures, *Bibliographies, Site surveys, Ocean environments, Urban planning, Marine terminals, Environmental surveys, Nuclear power plants

IDENTIFIERS: *Floating cities, *Offshore airports, NTISNTIS

NTIS/PS-74/123 NTIS Prices: PC$20.00/MF$20.00

The Harris Floating Breakwater

Imperial Coll. of Science and Technology, London (England).*National Oceanic and Atmospheric Administration, Rockville, Md.*Harris and Sutherland, London (England) and Taylor Woodrow Internatal Ltd., London (England). (176 350)
AUTHOR: Harris, Alan J., Thomas, J. M.
C3861G1 FLD: 13B, 13M, 86M USGRDR7501
1974 21p
MONITOR: NOAA-74092704-12
Prepared in cooperation with Harris and Sutherland, London (England) and Taylor Woodrow International Ltd., London (England).
Included in Proceedings of Floating Breakwaters Conference Held at Newport, R.I., 23-25 Apr 74, p213-232, COM-74-11637.

ABSTRACT: A basic feature of the Harris Breakwater (and the difference between it and the Bombardon) is that it presents a thin horizontal barrier to wave motion and causes dissipation of wave energy without creating major stresses in the structure and moorings. Extensive tests were carried out in the Solent on a one-tenth scale model. The test confirmed earlier opinion, and because test readings co-related the structural characteristics and natural sea-state conditions, basic design formulas were established and the calculations checked against actual results. The application of the Harris Breakwater has been extended from marinas to the protection of moorings for deep sea freighters and, combined with the S.B.M., for super-tankers. (Modified author abstract)

DESCRIPTORS: *Breakwaters, Coastal engineering, Supertankers, Marinas, Harbors, Deep water, Moorings, Ports, Hydraulic models

IDENTIFIERS: *Floating breakwaters, Harris breakwaters, NTISCOMNOA

COM-74-11637-12/ST NTIS Prices: (Order as COM-74-11637)

Economic Aspects of Refinery and Deep-Water Port Location in the United States. Volume V, Appendices K-N

Office of the Assistant Secretary for Policy, Plans and International Affairs (DOT), Washington, D.C.

Final research rept.
AUTHOR: Schumaier, C. P., Gezen, A., Kendrick, M.
C3802D4 FLD: 5C, 14A, 48A, 96B, 85E, 47A, 97G USGRDR7426
May 74 313p
MONITOR: 18
Paper copy also available in set of 5 reports as PB-236 700-SET, $40.00.

ABSTRACT: The transportation costs of petroleum products from refineries to markets have a more significant effect on the least cost location of deep-water ports than the economies created at the ocean leg of through movement by supertankers. In response to growing interest in energy supply problems, the Department of Transportation developed a model to study the impact of inland transportation costs of petroleum products on the least cost location of deep-water ports. The heuristic DOT model includes transportation costs (1) from ten crude sources to eighteen refining centers in the U.S., and (2) from these refining centers to 484 markets in the U.S. Other versions of the model which include 13 refining districts, 406 markets, 5 crude oil sources, existing product pipeline networks, refinery operating costs, and multiple deep-water port alternatives have also been built.

DESCRIPTORS: *Petroleum industry, *Deepwater terminals, *Refineries, *Economic factors, Supertankers, Pipeline transportation, Marine terminals, Site surveys, Econometrics, Economic models, Petroleum products Benefit cost analysis

IDENTIFIERS: *Deepwater ports, NTISDOTOS

PB-236 05/0SL NTIS Prices: PC$9.25/MF$2.25

Economic Aspects of Refinery and Deep-Water Port Location in the United States. Volume IV, H-J

Office of the Assistant Secretary for Policy, Plans and International Affairs (DOT), Washington, D.C.

Final research rept.
AUTHOR: Schumaier, C. P., Gezen, A., Kendrick, M.
C3802D3 FLD: 5C, 14A, 96B, 85E, 47A, 97G USGRDR7426
May 74 415p*
MONITOR: 18
Paper copy also available in set of 5 reports as PB-236 700-SET, PC$40.00.

ABSTRACT: The transportation costs of petroleum products from refineries to markets have a more significant effect on the least cost location of deep-water ports than the economies created at the ocean leg of through movement by supertankers. In response to growing interest in energy supply problems, the Department of Transportation developed a model to study the impact of inland transportation costs of petroleum products on the least cost location of deep-water ports. Volume IV contains cost data in tabular form.

DESCRIPTORS: *Petroleum industry, *Deepwater terminals, *Refineries, *Economic factors, Supertankers, Pipeline transportation, Marine terminals, Site surveys, Econometrics, Economic models, Petroleum products, Benefit cost analysis

IDENTIFIERS: *Deepwater ports, NTISDOTOS

PB-236 704/3SL NTIS Prices: PC$10.50/MF$2.25

Economic Aspects of Refinery and Deep-Water Port Location in the United States. Volume III, D-G

Office of the Assistant Secretary for Policy, Plans and International Affairs (DOT), Washington, D.C.

Final research rept.
AUTHOR: Schumaier, C. P., Gezen, A., Kendrick, M.
C3802D2 FLD: 5C, 14A, 96B, 85E, 47A, 97G USGRDR7426
May 74 239p*
MONITOR: 18
Paper copy also available in set of 5 reports as PB-236 700-SET, PC$40.00.

ABSTRACT: In response to growing interest in energy supply problems, the Department of Transportation developed a model to study the impact of inland transportation costs of petroleum products on the least cost location of deep-water ports. Interim results indicate that markets determine where the refineries should be; refinery locations ditate where deep-water ports should be; and deep-water port locations are only partially influenced by the overseas crude oil sources and supertanker economies. The model does not endorse any deep-water port site; it only serves as a tool to aid the decision makers by showing the cost differences between the optimum and suboptimum choices. The model is flexible enough to test alternative scenarios of refinery and deep-water port location.

DESCRIPTORS: *Petroleum industry, *Deepwater terminals, *Refineries, *Economic factors, Supertankers, Pipeline transportation, Marine terminals, Site surveys, Econometrics, Economic models, Petroleum products, Benefit cost analysis

IDENTIFIERS: *Deepwater ports, NTISDOTOS

PB-236 703/5SL NTIS Prices: PC$7.50/MF$2.25

Economic Aspects of Refinery and Deep-Water Port Location in the United States. Volume II, Appendices A-C

Office of the Assistant Secretary for Policy, Plans and International Affairs (DOT), Washington, D.C.

Final research rept.
AUTHOR: Schumaier, C. P., Gezen, A., Kendrick, M.
C3802D1 FLD: 5C, 14A USGRDR7426
May 74 268p*
MONITOR: 18
Paper copy also available in set of 5 reports as PB-236 700-SET, PC$40.00.

ABSTRACT: In response to growing interest in energy supply problems, the Department of Transportation developed a model to study the impact of inland transportation costs of petroleum products on the least cost location of deep-water ports. Interim results indicate that markets determine where the refineries should be; refinery locations dictate where deep-water ports should be; and deep-water port locations are only partially influenced by the overseas crude oil sources and supertanker economies.

DESCRIPTORS: *Petroleum industry, *Deepwater terminals, *Refineries, *Economic factors, Supertankers, Pipeline transportation, Marine terminals, Site surveys, Econometrics, Economic models, Petroleum products, Benefit cost analysis

IDENTIFIERS: *Deepwater ports, NTISDOTOS

PB-236 702/7SL NTIS Prices: PC$8.50/MF$2.25

Economic Aspects of Refinery and Deep-Water Port Location in the United States. Volume I. Report

Office of the Assistant Secretary for Policy, Plans and International Affairs (DOT), Washington, D.C.

Final research rept.
AUTHOR: Schumaier, C. P., Gezen, A., Kendrick, M.
C3802C4 FLD: 5C, 14A USGRDR7426
May 74 344p*
MONITOR: 18
Paper copy also available in set of 5 reports as PB-236 700-SET, PC$40.00.

ABSTRACT: The transportation costs of petroleum products from refineries to markets have a more significant effect on the least cost location of deep-water ports than the economies created at the ocean leg of through movement by supertankers. In response to growing interest in energy supply problems, the Department of Transportation developed a model to study the impact of inland transportation costs of petroleum products on the least cost location of deep-water ports. The heuristic DOT model includes transportation costs (1) from ten crude sources to eighteen refining centers in the U.S., and (2) from these refining centers to 484 markets in the U.S. Other versions of the model which include 13 refining districts, 406 markets, 5 crude oil sources, existing product pipeline networks, refinery operating costs, and multiple deep-water port alternatives have also been built.

DESCRIPTORS: *Petroleum industry, *Deepwater terminals, *Refineries, *Economic factors, Supertankers, Pipeline transportation, Marine terminals, Site surveys, Econometrics, Economic models, Petroleum products, Benefit cost analysis

IDENTIFIERS: *Deepwater ports, NTISDOTOS

PB-236 701/9SL NTIS Prices: PC$9.50/MF$2.25

Report to the Congress on Ocean Dumping and Other Man-Induced Changes to Ocean Ecosystems October 1972 through December 1973. Public Law 92-532, Title II

National Oceanic and Atmospheric Administration, Washington, D.C.

Annual rept. no. 1.
C3344D1 FLD: 13B, 6F, 68D, 57H, 47, 86M USGRDR7420
Mar 74 108p
REPT NO: NOAA-74060509
MONITOR: 18
Ppaer copy available from GPO $1.45.

ABSTRACT: The report presents a perception of the problem of ocean dumping as well as an overview of the more complex, longer-term problems of man's effects on the world's oceans. In addition to summaries of reports on ocean pollution by dumping, information is given on the effects of the development of offshore terminals, offshore powerplants, and oil and gas development. Information is given also on the effects of overfishing, and on efforts to increase understanding of the marine environment.

DESCRIPTORS: *Ocean waste disposal, *Water pollution, Ecology, Legislation, Oil pollution, Construction, Spoil, Industrial wastes, Offshore terminals, Mining, Oil wells, Continental shelves, Fishing, Sewage disposal, Offshore drilling, Mineral deposits, Natural gas, Electric power plants

IDENTIFIERS: Ecosystems, NTISCOMNOA

COM-74-50632/0 NTIS Prices: PC-GPO/MF$2.25-NTIS

An Investigation: U. S. Import Dependence for Mineral Resources, 'Super' Bulk Carriers, and Deepwater Port Development

Naval Postgraduate School Monterey Calif (251450)

Master's thesis
AUTHOR: Gifford, Corydon Rouse
C3194A1 FLD: 13J, 47A*, 48B, 96C USGRDR7418
Jun 74 111p*
MONITOR: 18

ABSTRACT: The thesis examines the increasing dependence of the United States on foreign sources of major fuel and non-fuel mineral resources which appear to have potential requirements for deepwater ports and terminals. Major oceanborne bulk commodity import projections for crude petroleum, iron ore, bauxite, and alumina are presented. Principal bulk commodity ports are identified and major commodity movements are discussed. Past and possible future trends in the construction of large ocean bulk carriers are reviewed. Construction and transportation economies available via 'super' bulk carriers are examined with emphasis on 'super' tankers. The primary consequences of a failure to provide United States facilities to accommodate 'super' bulk carriers are identified and recent events in U.S. development of deepwater ports are presented. The major conclusion is that the United States, if it is to maintain its status as a leading economic power, should utilize the technological efficiency provided by 'super' bulk carriers. (Author)

DESCRIPTORS: *Cargo ships, *Harbors, Natural resources, Marine transportation, Economics, Bulk materials, Technology, Theses

IDENTIFIERS: *Supertankers, *Deepwater ports, *Offshore terminals, NTISDODN

AD-781 860/2 NTIS Prices: PC$4.50/MF$1.45

A Survey of the Economic and Environmental Aspects of an Onshore Deepwater Port at Galveston, Texas. Part I. Potential Economic Effects

Texas A and M Univ., College Station. (347 350)
AUTHOR: Bragg, Daniel M.
C3073H2 FLD: 5C, 13B, 13J, 21D, 47A, 97H, 68, 96, 86M USGRDR7416
Apr 74 58p
REPT NO: TAMU-SG-74-213
GRANT: NOAA-043-158-18
MONITOR: NOAA-74050701
Report on Sea Grant Program. See also Part 2, COM-74-11031.

ABSTRACT: In summarizing the study, the author indicates that it cannot be shown absolutely that an offshore terminal would have a cost advantage over a terminal located onshore. For this reason, cost in itself cannot be the sole determining factor in deciding the feasibility of the onshore deepwater terminal at Galveston. The economic impact of an onshore deepwater terminal at Galveston will be somewhat greater, throughout the region, than will the impact from an offshore oil terminal. In addition to the impact which could result from growth in oil refining, and supporting industry, the onshore port will have an impact of additional jobs and expenditures resulting from the operation of the port. Such things as tug hire, stevedoring, line handling and similar, port-related activities, will be of a greater magnitude than they would be at an offshore terminal.

DESCRIPTORS: *Seaports, *Economic impact, *Fuel oil, *Marine transportation, Surveys, Petroleum industry, Petroleum refining, Employment, Environmental surveys, Texas

IDENTIFIERS: Galveston(Texas), *Onshore deepwater ports, Offshore terminals, *Deepwater terminals, NTISNOAA

COM-74-11030/5 NTIS Prices: PC$6.00/MF$1.45

A Survey of the Economic and Environmental Aspects of an Onshore Deepwater Port at Galveston, Texas. Part II. Environmental Considerations

Texas A and M Univ., College Station. (347 350)
AUTHOR: Hann, Roy W. Jr, James, Wesley P.
C3073H3 FLD: 13B, 13J, 21D, 68, 47A, 97H, 86M USGRDR7416
Apr 74 42p
REPT NO: TAMU-SG-74-214
GRANT: NOAA-043-158-18
MONITOR: NOAA-74050702
Report on Sea Grant Program. See also Part 1, COM-74-11030.

ABSTRACT: The report outlines environmental aspects associated with the proposed deep draft channel from a terminus near Pelican Island to the 100 foot depth contour some 57 miles offshore in the Gulf of Mexico. The report presents some of the major environmental factors which would be affected by the project and outlines ways that the impact on the environmental components could and should be evaluated. Such environmental modifications can have both environmental costs in the form of environmental degradation or environmental benefits in the form of environmental enhancement. The project also has the potential for environmental pollution from accidental oil spills, dredge spoil disposal and other project activities, which must be considered as environmental degradation and cost.

DESCRIPTORS: *Seaports, *Environmental surveys, *Fuel oil, *Marine transportation, Surveys, Petroleum industry, Water pollution, Spoils, Dredging, Water quality, Economics, Texas

IDENTIFIERS: Oil pollution, Galveston(Texas), Offshore terminals, *Deepwater terminals, *Onshore deepwater ports, Offshore terminals, NTISNOAA

COM-74-11031/3 NTIS Prices: PC$5.50/MF$1.45

Law of the Sea: The Emerging Regime of the Oceans

Rhode Island Univ., Kingston. Law of the Sea Inst. (403 063)
AUTHOR: Gamble, John King Jr, Pontecorvo, Giulio
C2773H4 FID: 5D, 8J, 13B, 92D*, 47*, 68D, 86M USGRDR7412
1974 390p*
REPT NO: ISBN-0-88410-006-5
MONITOR: NOAA-74040405
Proceedings of Annual Conference of the Sea Institute, (8th), Kingston, R.I., 18-21 Jun 73. Library of Congress Catalog No. 73-18229.

ABSTRACT: Subjects encompassed include: Block thinking about the oceans; assessment of the extension of state jurisdiction in terms of the living resources of the sea; how will the future deep seabed regime be organized; technological dependence of developing countries--a survey of issues and lines of action; technology transfer and the oceans; planning workshops on the development of university marine programs; the transfer of technology and role of the Indian Ocean fishery survey and development program; islands--normal and special circumstances; semienclosed seas; superports; artificial islands in the North Sea; merchant ships; marine insurance industry; offshore petroleum; and pollution. The last chapter contains an address by Senator Edmund Muskie.

DESCRIPTORS: *Meetings, *Law(Jurisprudence), *Oceans, International law, Natural resources, Water resources, International relations, Fisheries, Mineral deposits, Pollution, Territorial seas, Conservation, Indian ocean, Merchant ships, Oil recovery

IDENTIFIERS: *Law of the sea, Sea Grant program, Technology transfer, Superports, NOAA

COM-74-10846/5 NTIS Prices: PC$7.25/MF$1.45

Ocean Utilization and Coastal Zone Development

Massachusetts Inst. of Tech., Cambridge. Sea Grant Project Office. (406 868)

Completion rept. Jul 71-Jun 73
AUTHOR: Poling, Nancy
C2694E4 FLD: 13B, 8J, 47, 86M USGRDR7411
30 Jun 73 41p
REPT NO: MITSG-74-5
CONTRACT: NOAA-2-35150
MONITOR: NOAA-74030601
Index no. 74-005-Zarj.

ABSTRACT: The Coherent Area Project for 1971-1972 involved eighteen projects, both interdisciplinary and highly specialized, and an expanding program of education and training in ocean utilization and coastal zone management. Brief summaries are given on research activities in the following: ocean transportation, future of Atlantic ports, estuary modeling, utilization of squid for processed food products, ocean commerce and the future of the oceanic canal, sea environment in Massachusetts Bay and adjacent waters, underwater welding, coastal zone and offshore resources management, offshore petroleum and New England, environmental impact of a superport in the Machias Bay area, interdisciplinary systems design subject, ocean engineering student summer laboratory, public education and training short courses, marine resources information center, symposia on Sea Grant projects and marine resource related topics; Sea Grant related reports and information and support to other institutions.

DESCRIPTORS: *Oceanographic data, *Coastal zone management, *Marine resources, Education, Transportation, Ports, Estuaries, Squids, Food processing, Seafood, Commerce, Canals, Ocean environments, Massachusetts Bay, Crude oil, Superports, Ocean engineering, New England, Machias Bay

IDENTIFIERS: Sea Grant program, NOAA

COM-74-10696/4 NTIS Prices: PC$5.25/MF$1.45

Port and Harbor Development System. Phase 2 - Planning Summary

Texas A and M Univ., College Station. Architecture Research Center.
AUTHOR: Stogsdill, Russell L., Willingham, Mike
C253203 FLD: 13M, 50B, 47A, 86M USGRDR7409
Oct 72 43p
REPT NO: TAMU-SG-72-209
MONITOR: NOAA-73100202

ABSTRACT: The report is a planning summary relating to the port and harbor development system as considered by the Architecture Research Center, Texas A and M Univ. The solutions presented are not offered as panacea but rather to indicate a basic philosophy of planning representing an appropriate environmental character and general direction for growth with sufficient built-in flexibility to accommodate changing concepts as they occur. Concepts set forth concern offshore construction - mobile platforms, floating platforms, and artificial islands; site selection with consideration of meteorological factors; and various types of terminals to meet industrial needs.

DESCRIPTORS: *Offshore structures, *Harbor facilities, Marine terminals, Harbors, Site surveys, Floating docks, Construction, Design criteria

IDENTIFIERS: Sea Grant program, NOAA

COM-74-10467/0 NTIS Prices: PC$3.25/MF$1.45

State of the Art Review of Oil Containment Barriers for Use at Offshore Terminals

Ocean Science and Engineering, Inc., Rockville, Md.
AUTHOR: Mainville, Charles R.
C2293H1 FLD: 13J, 13B, 47A, 68D, 86L USGRDR7406
Nov 73 89p
CONTRACT: MA-6562
PROJECT: NMRC-272-23100
MONITOR: NMRC-272-23100-R1

ABSTRACT: A review of information on oil barriers suitable for use offshore has been conducted. The technical literature, data from manufacturers and interviews with cognizant personnel at research, test and evaluation agencies, all through June, 1973 have been reviewed. Environmental conditions under which oil containment barriers at offshore oil terminals will be expected to operate effectively have been determined. The problem of oil containment has been studied and a body of performance expectations--conditions under which it is realistically expected that barriers will operate satisfactorily--has been developed. Commercially available barriers have been evaluated and barriers representing four distinct types of oil containment systems selected for a detailed analysis of the problems associated with each type. It is concluded that there is no commercially available oil containment barrier system which can by itself prevent the spread of oil under offshore conditions. Recommendations for further study to maximize the effectiveness of oil containment barriers at offshore terminals have been formulated. (Modified author abstract)

DESCRIPTORS: *Water pollution, *Oils, Barriers, Offshore structures, Terminal facilities, Oil tankers

IDENTIFIERS: *Oil pollution containment, MA

COM-74-10212/0 NTIS Prices: PC$6.50/MF$1.45

Proposed Prince William Sound Vessel Traffic System to and From Valdez, Alaska

Coast Guard District (17th), Juneau, Alaska.

Draft environmental impact statement.
C2144L3 FLD: 13B, 68H USGRDR7404
28 Dec 73 41p
MONITOR: FLR-73-2031

ABSTRACT: The system is designed to lessen the probability of tanker casualties with resulting spills of crude oil in Prince William Sound when the Valdez crude oil loading terminal becomes operational. Adverse effects on the environment will be limited to short-term disturbances during construction, destruction of vegetation for structure foundations, aesthetics, disturbance of wildlife during periodic maintenance, and degradation brought about by the influx of an additional 45 Coast Guard personnel and their dependents.

DESCRIPTORS: *Environmental impact statements, *Tanker ships, *Alaska, Prince William Sound, Crude oil, Water pollution, Regulations, Marine terminals

IDENTIFIERS: Valdez(Alaska), Oil pollution, EIS

EIS-AK-73-2031-D NTIS Prices: PC$4.25

Japan: A Survey of Ports, Deep Water Terminals, and Vessels

Institute for Water Resources (Army) Alexandria Va (405728)

Final rept.
AUTHOR: Yep, Walter
C2135B1 FLD: 13J, 47A* USGRDR7404
May 73 274p*
REPT NO: IWR-Center Paper-73-1
MONITOR: 18

ABSTRACT: The report contains the author's observations of Japan's maritime industry with emphasis on port and ship facilities. The main body of the report contains information on important Japanese ports and port facilities for iron ore, crude and container ships. Appendix A provides factual information on tanker berths and terminal facilities. (Author)

DESCRIPTORS: *Harbors, *Marine terminals, *Japan, Marine transportation, Marine engineering, Tankers, Cargo ships, Merchant vessels, Requirements

IDENTIFIERS: A

AD-771 600/4 NTIS Prices: PC$6.25/MF$1.45

Studies on the Future of Atlantic Ports

Massachusetts Inst. of Tech., Cambridge. Sea Grant Project Office. (
406 868)
AUTHOR: Frankel, Ernst
C1874H4 FLD: 13J, 13B, 86M, 47A, 60E USGRDR7324
10 Jul 73 348p
REPT NO: MITSG-72-18
CONTRACT: NOAA-2-35150
GRANT: NSF-GB-88
MONITOR: NOAA-73100503
Index No. 72-318-Nte Report on A Review of the Status and Analysis of Characteristics.

ABSTRACT: The study is an attempt to review the capacity of ports on the U.S. Atlantic Coast, the past, present and projected future demand imposed upon them and their resulting ability to meet their future requirements. The changing functions of ports are discussed as they affect port operations themselves as well as the port interface with various modes of transportation. The facilities in the subject ports are analyzed including their past and current use, and an attempt made to derive a measure of port capacity. To analyze the competitive effects among ports serving the same region or regional parts, multiport models were developed. The use and structure of multipurpose ports and multiport models is discussed, with particular reference to the analysis of the U.S. Atlantic seaboard. Future needs are estimated by projecting demand and forecasting type and form of commodity movements as well as trends in transportation technology. The report concludes with the requirements for charge in the physical form and use of U.S. Atlantic Ports to meet such future demands. (Modified author abstract)

DESCRIPTORS: (*Marine terminals, Atlantic seacoast), Seaports, Harbor facilities, Water transportation, Supply afloat, Cargo transportation, Capacity, Economic analysis

IDENTIFIERS: Sea Grant program, NOAA

COM-73-11834/1 NTIS Prices: PC$7.25/MF$1.45

Potential Onshore Effects of Deepwater Oil Terminal Related Industrial Development

Little (Arthur D.), Inc., Cambridge, Mass.
C1814A3 FLD: 13B USGRDR7323
Sep 73 853p-in 4v
CONTRACT: EQC-220
MONITOR: 18
Set Includes PB-224 018 thru PB-224 021.

IDENTIFIERS: CFQ

PB-224 017-SET NTIS Prices: PC$18.00

Potential Onshore Effects of Deepwater Oil Terminal-Related Industrial Development. Volume I. Part One. Executive Summary

Little (Arthur D.), Inc., Cambridge, Mass. (208 850)

Final rept.
C1814A4 FLD: 5C, 13B, 91J*, 68* USGRDR7323
Sep 73 68*
CONTRACT: EQC-220
MONITOR: 18
Paper copy also available from NTIS $18.00/set of 4 reports as PB-224 017-SET.

ABSTRACT: The onshore, or secondary, effects of deepwater terminal development on each of five areas selected as terminal locations. The five locations are Machias, Maine; the vicinity of Sany Hook, New Jersey; the Delaware Bay (New Jersey); Grand Isle, Louisiana; and Freeport, Texas. The relative impacts of a terminal in each area affect the relative suitability of each area as a terminal site. Relative impacts include the additional industrial development, production employment, air and water pollution, land use, population changes, etc., resulting from terminal development. For each of the five sites studied, an economic and environmental profile as of 1970 was developed for the terminal area itself and the larger land region surrounding the terminal area. Projections were made of the economic growth of each terminal area and associated region for the years 1985 and 2000 to establish a base or reference line against which the impact of a deepwater facility might be assessed.

DESCRIPTORS: (*Marine terminals, *Tanker ships), (*Pollution, Marine terminals), (*Economic analysis, Marine terminals), Impact, Economic factors, Economic development, Water pollution, Coasts, Land use, Environmental surveys, Forecasting, Refineries, Population growth, Oils, Crude oil, Air pollution

IDENTIFIERS: *Deepwater ports, *Supertankers, Deepwater terminals, CEQ

PB-224 018/2 NTIS Prices: PC$3.50/MF$1.45

Potential Onshore Effects of Deepwater Oil Terminal-Related Industrial Development. Volume II. Part Two. Mid-Atlantic Region. Part Three. Maine

Little (Arthur D.), Inc., Cambridge, Mass. (208 850)

Final rept.
C1814B1 FLD: 5C, 13B, 91J, 68 USGRDR7323
Sep 73 253p
CONTRACT: EOC-220
MONITOR: 18
Paper copy also available from NTIS $18.00/set of 4 reports as PB-224 017-SET.

ABSTRACT: This report considers the economic and environmental consequences of establishing a deepwater terminal in two general locations: near Cape May in Southern New Jersey, and near Sandy Hook in Northern New Jersey. Because two 'sets' of impacts were to be examined, two geographic definitions of the Mid-Atlantic were used, one to reflect the broader, more diffuse economic impact of industrial activities relating to deepwater oil terminal operations, and the second to recognize the more localized environmental impact of such operations. The economic definition includes all of New Jersey, Pennsylvania and Delaware, since it is these three states which would be most likely to experience the major part of economic expansion directly or indirectly associated with crude oil importation and processing. The environmental definition includes a limited portion of the same three states - essentially a 'belt' of land approximately 20-40 miles wide, beginning in Middlesex County, New Jersey, in the north, following the Delaware River from Trenton, New Jersey to Wilmington, Delaware, and ending in Cape May County, New Jersey. Given a continuation of historical industrial development patterns, and the present foreclosure of Delaware to deepwater terminal activity, the above-defined belt is the one most likely to experience the greatest environmental impact.

DESCRIPTORS: (*Marine terminals, *Tanker ships), (*Pollution, Marine terminals), (*Economic analysis, Marine terminals), Cape May, Sandy Hook, New Jersey, Impact, Economic factors, Economic development, Water pollution, Air pollution, Forecasting, Refineries, Population growth, Land use, Coasts, Maine, Machias Bay, Oils, Crude oil

IDENTIFIERS: *Deepwater ports, Deepwater terminals, *Supertankers, CEQ

PB-224 019/0 NTIS Prices: PC$6.25/MF$1.45

Potential Onshore Effects of Deepwater Oil Terminal-Related Industrial Development. Volume III. Part Four. Gulf Coast Region

Little (Arthur D.), Inc., Cambridge, Mass. (208 850)

Final rept.
C1814B2 FLD: 5C, 13B, 91J, 68 USGRDR7323
Sep 73 261p
CONTRACT: EQC-220
MONITOR: 18
Paper copy also available from NTIS $18.00/set of 4 reports as PB-224 017-SET.

ABSTRACT: Two potential deepwater terminal sites were assumed for the purposes of this study, one off Grand Isle, Louisiana, and the other off Freeport, Texas. The terminal locations assumed for this study represent the reality of what is occurring in Louisiana and Texas in regard to deepwater terminal development; these locations are under active consideration. The impact analysis on the Gulf Coast was evaluated on the basis of three major options: (1) no deepwater terminal anywhere along the Gulf Coast; (2) a deepwater terminal off Lafourche, Louisiana; and (3) a deepwater terminal off Freeport, Texas. These three major alternatives result in different state allocations of projected refinery capacity and associated development along the Gulf Coast.

DESCRIPTORS: (*Marine terminals, *Tanker ships), (*Pollution, Marine terminals), (*Economic analysis, Marine terminals), Grand Isle, Louisiana, Impact, Economic factors, Economic development, Water pollution, Air pollution, Forecasting, Refineries, Mississippi River, Population growth, Land use, Coasts, Houston Ship Channel, Oils, Crude oil, Mexico Gulf, Texas

IDENTIFIERS: Freeport(Texas), *Deepwater ports, Deepwater terminals, *Supertankers, CEQ

PB-224 020/8 NTIS Prices: PC$6.25/MF$1.45

Potential Onshore Effects of Deepwater Oil Terminal-Related Industrial Development. Volume IV. Part Five. Appendices

Little (Arthur D.), Inc., Cambridge, Mass. (208 850)

Final rept.
C1814B3 FLD: 5C, 13F, 91J, 68 USGRDR7323
Sep 73 271p
CONTRACT: EQC-220
MONITOR: 18
Paper copy also available from NTIS $18.00/set of 4 reports as PB-224 017-SET.

ABSTRACT: The Appendices contain information and data pertinent to each area study. The Appendices are as follows: I. The Petrochemical Industry; II. United States Crude Oil Imports and Refining; III. Economic Methodology; IV. Environmental Methodology.

DESCRIPTORS: (*Marine terminals, *Tanker ships), (*Pollution, Marine terminals), (*Economic analysis, Marine terminals), Petroleum industry, Petroleum refining, Methodology, Data, Refineries

IDENTIFIERS: *Deepwater ports, Deepwater terminals, *Supertankers, CEQ

PB-224 021/6 NTIS Prices: PC$6.25/MF$1.45

Institutional Implications of U. S. Deepwater Port Development for Crude Oil Imports

Nathan (Robert R) Associates Inc Washington D C (407669)

Final rept.
AUTHOR: Brant, Marvin R., Gladieux, Bernard L., Knight, H. Gary, Ulin, Jeremy C., Brown, Robert E.
C1593H4 FLD: 5A, 47A, 70F* USGRDR7321
Jun 73 184p*
CONTRACT: DACW31-73-C-0016
MONITOR: TWR-73-4

ABSTRACT: The report provides an overall appraisal of the institutional problems associated with the planning, construction, and operation of deep draft port facilities in the U. S. and adjacent waters for the reception and transshipment of imported crude petroleum. It defines the public interest in such ports, the characteristics which distinguish such ports from conventional ports, problems of legal jurisdiction at international, federal, state, and local levels, the political setting, problems of finance, ownership, and economics, and regulation of deepwater ports and related land-side developments. It makes recommendations for legislation and organization. (Modified author abstract)

DESCRIPTORS: (*Harbors, Control), (*Petroleum, Shipping(Marine)), Deep water, Commerce, Management planning, Construction, Problem solving, Operation, Public opinion, Law, Economics

IDENTIFIERS: *International trade, *Imports, *Deep water ports, Deep draft facilities, A

AD-766 285/1 NTIS Prices: PC$5.25/MF$1.45

Environmental Aspects of a Supertanker Port on the Texas Gulf Coast

Texas A and M Univ., College Station. (347 350)
AUTHOR: James, Wesley P., Hann, Roy W. Jr, Basco, David R., Bragg, Daniel M., Osoba, Joseph S.
C1401L1 FLD: 6F, 8A, 8J, 13B, 68D*, 60E, 57H, 78A, 78H, 86M
USGRDR7318
Dec 72 463p*
REPT NO: TAMU-SG-73-201
MONITOR: NOAA-73052204
Report on Sea Grant Program.

ABSTRACT: The study conducts an evaluation of the environmental impact of a deep-sea port off the Texas coast. Considered are both the non-spill impact of construction and operation of the port and the potential oil spill impact on the coastal environment. The scope was limited to two terminal locations, three designs of port facilities, and three sizes of oil spills. The study also considered the environmental impact of not constructing the port but expanding the present methods to meet the oil impact needs of the area. The major physical, biological and cultural features of the Texas Coastal Zone that might be impacted by the supertanker activity were inventoried. Models were developed to predict where oil from potential offshore oil spills would go and which environmental features would be affected. (Modified author abstract)

DESCRIPTORS: (*Texas, Marine terminals), (*Tanker ships, *Marine terminals), (*Mexico Gulf, *Environmental surveys), Site surveys, Marine geology, Coasts, Hydrography, Seaports, Water pollution, Marine biology, Inventories, Economic analysis, Ocean environments, Construction, Maintenance, Littoral zone, Oils, Recreation, Swamps, Wildlife, Estuaries, Dredging

IDENTIFIERS: Supertankers, Deepwater ports, Oil pollution, Coastal zone management, Sea Grant program, Oil spreading process, Water pollution effects(Animals), Water pollution effects(Plants), Salt marshes, Oil spills, Oil pollution control, NOAA

COM-73-11101 NTIS Prices: PC$10.60/MF$1.45

Possible Effects of Construction and Operation of a Supertanker Terminal on the Marine Environment in New York Bight

State Univ. of New York, Stony Brook. Marine Sciences Research Center. (406 652)

Final rept.
AUTHOR: McHugh, J. L., Ginter, J. J., Knapp, W. E., Tsao, A. L., Greenfield, M. D.
C1265F3 FLD: 13B, 13J, 60B, 68D USGRDR7316
15 Nov 72 223p
MONITOR: 18

ABSTRACT: An evaluation is given of the environmental impact of construction and operation of a supertanker terminal in the New York Bight area, considering the effects of dredging and spoil disposition, vessel movements, chronic low-level oily discharges, and accidental spills. Three possible sites are studied; several construction alternatives are included.

DESCRIPTORS: (*New York Bight, Harbor facilities), (*Harbor facilities, *Environmental surveys), (*Tanker ships, Harbor facilities), Offshore structures, Marine terminals, Harbor structures, Water pollution, Site surveys, Recreational facilities, New York, Oils, Construction, Raritan Bay, Ocean currents, Water chemistry, Atlantic Ocean

IDENTIFIERS: *Supertankers, Offshore terminals, Oil pollution, *Deepwater terminals, CEQ

PB-219 649/1 NTIS Prices: PC$3.00/MF$0.95

Deepwater Ports. To Accompany Legislation to Authorize the Secretary of the Interior to Regulate the Construction and Operation of Deepwater Port Facilities

Department of the Interior, Washington, D.C. Office of Economic Analysis.

Draft environmental impact statement.
C1255K1 FLD: 13B, 68H USGRDR7316
Jul 73 630p
MONITOR: DES-73-37

ABSTRACT: The action involves a bill to amend the Outer Continental Shelf Lands Act and to authorize the Secretary of the Interior to regulate the construction and operation of deepwater port facilities. The proposed legislation would allow the Secretary to license the construction and operation of deepwater port facilities when the level of imports of petroleum or other bulk commodities warrants the existence of such facilities. All ship traffic poses a potential pollution risk. The risk is related to ship density in congested areas as well as total tonnage of commodities being moved. Crude oil and petroleum products together comprise the single most visible and possibly the most dangerous pollutant. The effect of transporting future increased petroleum imports, via Very Large Cargo Carriers (VLCC's), through deepwater port facilities located on the Outer Continental Shelf is examined. Environmental impacts and adverse environmental effects are discussed.

DESCRIPTORS: (*Environmental impact statements, *Seaports), (*Legislation, Seaports), Government, Regulations, Operations, Construction, Licenses, Continental shelves, International trade, Crude oil, Water pollution

IDENTIFIERS: EIS

EIS-AA-73-1147-D NTIS Prices: PC$33.50

Environmental Aspects of a Supertanker Port on the Texas Gulf Coast

Texas A and M Univ., College Station. (347 350)

Final rept.
AUTHOR: James, Wesley P., Hann, Roy W. Jr, Basco, David R., Osoba, Joseph S., Dameron, Jake
C1023J1 FLD: 8A, 6F, 13B, 68D*, 78A, 57H, 60E USGRDR7313
Dec 72 452p*
MONITOR: 18
Report on Sea Grant Program.

ABSTRACT: The study is an evaluation of the environmental impact of a deep-sea port off the Texas coast. Both the non-spill impact of construction and operation of the port and the potential oil spill impact on the coastal environment are considered. The scope is limited to two terminal locations, three designs of port facilities, and three sizes of oil spills. Also considered is the environmental impact of not constructing the port but expanding the present methods to meet the oil import needs of the area. The major physical, biological and cultural features of the Texas Coastal Zone that might be impacted by the supertanker activity were inventoried. Models were developed to predict where oil from potential offshore oil spills would go and which environmental features would be affected. (Author Modified Abstract)

DESCRIPTORS: (*Marine terminals, *Environmental surveys), (*Texas, Marine terminals), (*Water pollution, Oils), Coasts, Wildlife, Estuaries, Hydrography, Marine biology, Economic factors, Hydrocarbons, Beaches, Construction, Impact, Inventories, Recommendations, Ecology, Site surveys, Texas, Mexico Gulf

IDENTIFIERS: *Deepwater ports, Supertankers, Sea Grant Program, *Oil pollution, Oil spills, Oil spreading process, Water pollution effects(Animals), Water pollution effects(Plants), Oil pollution control, CEQ

PB-220 051/7 NTIS Prices: PC$10.60/MF$0.95

Environmental Vulnerability of the Delaware Bay Area to Supertanker Accommodation. Volume I. Summary

Delaware Univ., Newark. Coll. of Marine Studies. (407 178)

Final rept. on Sea Grant Project
AUTHOR: Maurer, Don, Wang, Hsiang
C0872R1 FLD: 6F, 8A, 8G, 8J, 13B, 68D*, 60E, 57H, 64F, 78A, 78H
USGRDR7312
Feb 73 88p*
MONITOR: 18
See also Volume 2, PB-219 802.
Paper copy also available from NTIS $29.70/set of 4 reports as PB-219 800-SET.

ABSTRACT: The report evaluates the environmental impact of construction and operation of a supertanker terminal at three sites, one inside Delaware Bay off Cape May and the other two 8 and 20 miles off Cape Henlopen. It summarizes biological, geological, meteorological, and oceanographical data detailed in the other 3 volumes of the set.

DESCRIPTORS: (*Delaware Bay, *Environmental surveys), (*Marine terminals, Delaware Bay), (*Water pollution, *Estuaries), Tanker ships, Marine biology, Marine geology, Ecology, Algae, Phytoplankton, Ocean environments, Marine fishes, Invertebrates, Benthos, Coasts, Climate, Construction, Maintenance, Littoral zone, Recommendations, Dredging

IDENTIFIERS: Sea Grant Program, *Deepwater ports, Supertankers, *Oil pollution, Oil spills, *Water pollution effects(Animals), *Water pollution effects(Plants), CEQ

PB-219 801/8 NTIS Prices: PC$4.85/MF$0.95

Environmental Vulnerability of the Delaware Bay Area to Supertanker Accommodation. Volume II. Biology

Delaware Univ., Newark. Coll. of Marine Studies. (407 178)

Final rept. on Sea Grant Project
AUTHOR: Maurer, Don, Wang, Hsiang
C0872B2 FLD: 6F, 8A, 13B, 68D*, 57H, 78A, 60E USGRDR7312
Feb 73 360p*
MONITOR: 18
See also Volume 1, PB-219 801 and Volume 3, PB-219 803.
Paper copy also available from NTIS $29.70/set of 4 reports as PB-219 800-SET.

ABSTRACT: The report evaluates the environmental impact of construction and operation of a supertanker terminal at three sites, one inside Delaware Bay off Cape May and the other two 8 and 20 miles off Cape Henlopen. Volume II details the biology of the area and estimates the effects of oil spills on the biota.

DESCRIPTORS: (*Delaware Bay, Environmental surveys), (*Marine terminals, Delaware Bay), (*Water pollution, *Estuaries), Tanker ships, Marine biology, Ecology, Algae, Phytoplankton, Ocean environments, Marine fishes, Invertebrates, Benthos, Coasts, Climate, Construction, Maintenance, Littoral zone, Recommendations, Swamps

IDENTIFIERS: Sea Grant Program, *Deepwater ports, Supertankers, *Oil pollution, Oil spills, Water pollution effects(Animals), Water pollution effects(Plants), Salt marshes, CEQ

PB-219 802/6 NTIS Prices: PC$9.00/MF$0.95

Environmental Vulnerability of the Delaware Bay Area to Supertanker Accommodations. Volume III. Chemistry, Engineering, Geology and Physical Oceanography

Delaware Univ., Newark. Coll. of Marine Studies. (407 178)

Final rept. on Sea Grant Project
AUTHOR: Maurer, Don, Wang, Shiang
C0872B3 FLD: 8G, 8J, 13B, 68D*, 64F, 78H, 60E USGRDR7312
Feb 73 329p*
MONITOR: 18
See also Volume 2, PB-219 802 and Volume 4, PB-219 804.
Paper copy also available from NTIS $29.70/set of 4 reports as PB-219 800-SET.

ABSTRACT: The report evaluates the environmental impact of construction and operation of a supertanker terminal at three sites, one inside Delaware Bay off Cape May and the other two 8 and 20 miles off Cape Henlopen. Volume III details the chemistry, engineering, geology, and physical oceanography of the area and project.

DESCRIPTORS: (*Delaware Bay, Environmental surveys), (*Marine terminals, Delaware Bay), (*Water pollution, *Estuaries), Marine geology, Ocean environments, Ocean bottom, Littoral zone, Coasts, Geomorphology, Sediments, Mineralogy, Sediment transport, Clays, Sand, Wind(Meteorology), Tides, Ocean currents, Climate, Chemical composition, Site surveys, Weathering, Dispersing, Mathematical models

IDENTIFIERS: CEO

PB-219 803/4 NTIS Prices: PC$9.00/MF$0.95

Environmental Vulnerability of the Delaware Bay Area to Supertanker Accommodations. Volume IV. Biology Appendix

Delaware Univ., Newark. Coll. of Marine Studies. (407178)

Final rept. on Sea Grant Project
AUTHOR: Maurer, Don, Wang, Hsiang
C0872B4 FLD: 6F, 8A, 13B, 68D*, 57H, 78A USGRDR7312
Feb 73 417p*
MONITOR: 18
See also Volume 3, PB-219 803.
Paper copy also available from NTIS $29.70/set of 4 reports as PB-219 800-SET.

ABSTRACT: The report evaluates the environmental impact of construction and operation of a supertanker terminal at three sites, one inside Delaware Bay off Cape May and the other two 8 and 20 miles off Cape Henlopen. Volume IV contains biological data in tables and figures, and is meant to supplement Volume II.

DESCRIPTORS: (*Delaware Bay, Environmental surveys), (*Marine terminals, Delaware Bay), (*Water pollution, *Estuaries), Marine biology, Marine fishes, Invertebrates, Benthos, Algae, Phytoplankton, Littoral zone, Ecology, Fisheries, Coasts, Tables(Data)

IDENTIFIERS: Sea Grant Program, *Deepwater ports, Supertankers, *Oil pollution, Oil spills, Water pollution effects(Animals), Water pollution effects(Plants), CEA

PB-219 804/2 NTIS Prices: PC$10.60/MF$0.95

Propeller Excitation and Response of 230 000 TDW Tankers

Swedish State Shipbuilding Experimental Tank, Goteborg. (338 000)
AUTHOR: Johnsson, C. A., Soentvedt, T.
C0855L4 FLD: 13J, 20K, 60G USGRDR7312
1972 80p*
MONITOR: 18
Presented at the Symposium on Naval Hydrodynamics (9th), Paris, Aug 72.

ABSTRACT: A comprehensive investigation concerning propulsion, cavitation and vibration has been carried out on two 230,000 TDW tanker ships. In the report the results concerning vibration are reported. Full scale measurements of propeller induced pressure fluctuations at different positions on the stern, static and dynamic thrust and torque in the shaft, as well as vibratory response in different parts of the structure have been carried out.

DESCRIPTORS: (*Ship structural components, Excitation), (*Tanker ships , *Marine propellers), Random vibration, Frequency response, Amplitude , Resonant frequency, Cavitation, Cavitation corrosion, Model tests

IDENTIFIERS: *Supertankers, SWSS

PB-218 810/0 NTIS Prices: PC$4.85/MF$0.95

Port Expansion in the Puget Sound Region: 1970-2000

Washington Univ., Seattle. Div. of Marine Resources. (406 223)
AUTHOR: Borland, Stewart, Oliver, Martha
C076334 FLD: 13M, 5C, 60E, 86M USGRDR7311
Oct 72 86p
REPT NO: WSG-MP-72-1
GRANT: NOAA-NC-1-72
MONITOR: NOAA-73033001

ABSTRACT: The authors derive and present a range of projections of traffic tonnage through Puget Sound Ports up to the Year 2000, broken down by commodity classifications. They discuss the land area requirements of port-related commerce, including the demand for land in industrial parks adjacent to terminal facilities but not necessarily providing direct access to the water. The causes and consequences of circumstances in which port-areas land is in relatively plentiful supply are analyzed and the effects of public subsidization of port districts on their investment patterns are discussed. An attempt is made to clarify existing usage of the term 'super-port'. Finally an effort is made to assess the necessity and desirability of this type of development, with special reference to the Nisqually Delta area and to the Port of Everett's plans for Jetty Island. (Author)

DESCRIPTORS: (*Marine terminals, Harbor facilities), (*Ports, *Puget sound), Cargo transportation, Waterways(Transportation), Economic development, Land use, Classifications, Industries, Commerce, Demand(Economics), International trade

IDENTIFIERS: Sea Grant program, *Super ports, NOAA

COM-73-10618 NTIS Prices: PC$3.00/MF$0.95

Segregated Pallast Tanker Study. Volume I. Text and Summary Data

Henry (J. J.) Co., Inc., New York. (407 157)
C0763C4 FLD: 13J, 60G, 86L USGRDR7311
25 Feb 72 114p
PROJECT: PD-169
MONITOR: MA-RD-900-73023
See also Volume 2, COM-73-10579. Errata sheet inserted.
Availability: Available in microfiche only.

ABSTRACT: The report details the findings in a study to determine the construction costs, in a representative foreign shipbuilding center, of eight versions of a 250,000 ton tanker, two versions of a 120,000 ton tanker and two versions of a 500,000 ton tanker. (Author Modified Abstract)

DESCRIPTORS: (*Tanker ships, Construction costs), Shipbuilding, International trade, Merchant ships

IDENTIFIERS: Supertankers, MA

COM-73-10578 NTIS Prices: MF$0.95

Segregated Ballast Tanker Study. Volume II: Plans

Henry (J. J.) Co., Inc., New York. (407 157)
C0763D1 FLD: 13J, 60G, 86L USGRDR7311
20 Jan 72 135p
PROJECT: PD-169
MONITOR: MA-RD-900-73024
See also Volume 1, COM-73-10578.
Availability: Available in microfiche only.

ABSTRACT: The volume contains: Composite plan of 250,000 DWT, 120,000 DWT and 500,000 DWT tankers; Plans for each tanker with common numerical identifications as follows: general arrangement; midship section and typical transverse web; typical O. T. transverse and longitudinal bulkheads; and typical diagrammatic piping arrangement.

DESCRIPTORS: (*Tanker ships, Drawings), Shipbuilding, Construction costs, International trade, Merchant ships

IDENTIFIERS: Supertankers, MA

COM-73-10579 NTIS Prices: MF$0.95

A Preliminary Assessment of the Environmental Vulnerability of Machias Bay, Maine to Oil Supertankers

Massachusetts Inst. of Tech., Cambridge. Sea Grant Project Office.
(406 868)
AUTHOR: Moore, Stephen F., Dwyer, Robert L., Katz, Authur M.
C0762L4 FLD: 8A, 6F, 68D, 78A, 57H, 86M USGRDR7311
15 Jan 73 171p
REPT NO: MITSG-73-6
CONTRACT: NOAA-2-35150
MONITOR: NOAA-73032003
Index No. 73-306-Cwm. Errata sheet inserted.

ABSTRACT: The object of the report was to determine the environmental vulnerability of Machias Bay, Maine, to a proposed oil supertanker terminal. The study consists of a review and interpretation of the literature. A possible framework is proposed for assessing impacts of environmental changes. Processes considered are transport and dispersion, biological transfers and modifications, and biological effects. Separate consideration is given to a description of existing conditions along the eastern coast of Maine, the composition and characteristics of crude petroleum and petroleum products, the effects of oil on marine organisms, potential spill trajectories and behavior, and finally an assessment is made of the environmental vulnerability.

DESCRIPTORS: (*Machias Bay, *Environmental surveys), (*Maine, *Marine terminals), (*Water pollution, Oils), Ecology, Marine biology, Chemical composition, Hydrocarbons, Coasts, Climate, Geomorphology, Tanker ships

IDENTIFIERS: *Deepwater ports, *Oil pollution, Oil spills, *Water pollution effects(Animals), *Water pollution effects(Plants), Oil spreading process, NOAA

COM-73-10564 NTIS Prices: PC$3.00/MF$0.95

Louisiana Superport Studies. Report no. 2: Preliminary Assessment of the Environmental Impact of a Superport on the Southeastern Coastal Area of Louisiana

Louisiana State Univ., Baton Rouge. Center for Wetlands Resources.
AUTHOR: Stone, James R.
C0702F3 FLD: 6F, 13B, 68D, 57H, 60E, 86M USGRDR7310
1972 364p
REPT NO: LSU-SG-72-05
CONTRACT: NOAA-2-35231
MONITOR: NOAA-73032001
See also Report no. 1, COM-73-10164.

ABSTRACT: The study presents an overall environmental evaluation of a Superport operation at two hypothetical locations on the continental shelf off the southeast coast of Louisiana, establishes within the limits of available data the existing environmental conditions at and around the proposed sites, and predicts (a) the effects of an oil spill at or near the proposed sites and (b) the effects of operations. Only a superficial assessment was made of the effects that a Superport would have on people and their activities. No research was done on the impact of ancillary developments, such as pipelines, tank farms, new refining and/or manufacturing complexes. The latter activities would probably have a more serious and adverse impact on the environment than the port itself.

DESCRIPTORS: (*Louisiana, *Marine terminals), (*Mexico Gulf, Marine terminals), (*Mississippi Delta, *Ecology), Estuaries, Deltas, Geology, Coasts, Oils, Environmental surveys, Seaports, Continental shelves, Climate, Sediments, Geomorphology, Hydrography, Primary biological productivity, Food chains, Predictions, Ocean currents, Fisheries, Swamps, Water pollution, Tables(Data), Impact

IDENTIFIERS: Sea Grant program, *Deep water ports, *Oil pollution, Coastal zone management, *Water pollution effects(Plants), *Water pollution effects(Animals), Oil spills, Salt marshes, NOAA

COM-73-10544 NTIS Prices: PC$6.00/MF$0.95

Inventory and Evaluation of Information on Delaware Bay. Volume I

Delaware Univ., Newark. Coll. of Marine Studies. (407 178)
AUTHOR: Polis, Dennis F.
C0702A3 FLD: 8J, 13B, 78, 86M USGRDR7310
Nov 72 230p
CONTRACT: C-1-35377
MONITOR: NOAA-73030101
Paper copy also available from NTIS $6.50/set of 3 reports as COM-73-10518-SET. See also Volume 2, COM-73-10520.

ABSTRACT: The report is the first of the three volumes presenting an inventory and evaluation of information on Delaware Bay. This volume consists of a descriptive listing of major research projects underway or proposed for existing programs in the Bay. It contains also a list of the research, technical and advisory groups active in the Bay area and a descriptive listing of future plans and proposals. (Author)

DESCRIPTORS: (*Delaware Bay, Research), Inventories, Resources, Marine biology, Spoil, Waste disposal, Shellfish, Hydrography, Salinity, Oysters, Bathymetry, Ports, Deep water, Ocean currents, Ecology, Marine meteorology, Remote sensing

IDENTIFIERS: Deep water ports, Sea Grant program, NOAA

COM-73-10519 NTIS Prices: PC$3.00/MF$0.95

The Economic Impact of a Deepwater Terminal in Texas

Texas Engineering Experiment Station, College Station. Industrial Economics Research Div.
AUTHOR: Bragg, Daniel M., Bradley, James R.
C0702A1 FLD: 5C, 91J, 86M USGRDR7310
Nov 72 64p
REPT NO: TAMU-SG-72-213
CONTRACT: NOAA-2-35213
MONITOR: NOAA-73022710
Sponsored in part by Texas Superport Study Corp., Houston, Texas.

ABSTRACT: The authors present information which leads them to conclude that the primary impact of a Texas deepwater liquid-bulk terminal will be reflected in growth of the oil refining and related industries in the state. This growth will stimulate a spending and re-spending cycle throughout the economy. New jobs anticipated in Texas amount to 72,887 in 1975; 193,789 in 1980. Total impact resulting directly from the deepwater terminal, over and above that resulting from present refinery output is estimated to be $4.417 billion in 1975 and $11.828 billion in 1980. (Author)

DESCRIPTORS: (*Marine terminals, *Texas), (*Petroleum industry, *Economic forecasting), Economic analysis, Petroleum refining, Employment, Crude oil, Coasts

IDENTIFIERS: NOAA

COM-73-10514 NTIS Prices: PC$3.00/MF$0.95

Environmental Guide for the U. S. Gulf Coast

National Climatic Center Asheville N C (407970)
AUTHOR: Brower, W. A., Meserve, J. M., Quayle, R. G.
C0693G4 FLD: 4B, 8F, 55C, 86N USGRDR7310
Nov 72 180p*
MONITOR: NOAA-73020906

ABSTRACT: The report presents detailed environmental profiles for seven potential Gulf Coast Deep Water Port sites: Corpus Christi, Galveston-Freeport, Sabine Pass, Bayou Lafourche, Southwest Pass, Mobile-Pascagoula and Panama City. Each individual area guide provides information: general description of the area, an area map, pressure, extratropical cyclones, tropical cyclones, winds, extreme winds, waves, visibility, temperature (air and sea), precipitation, cloudiness, relative humidity, and land station summaries as well as marine area summaries. (Author)

DESCRIPTORS: (*Seacoast, Marine meteorology), (*Harbors, Deep water), Tropical cyclones, Tables, Maps, Wind, Ocean waves, Visibility, Humidity, Atmospheric temperature, Atmospheric precipitation, Cloud cover, Barometric pressure

IDENTIFIERS: *Deepwater ports, Gulf Coast Region (United States), A

AD-758 455 NTIS Prices: PC$6.00/MF$0.95

Cargo Spill Probability Analysis for the Deep Water Port Project

Woodward-Lundgren and Associates Oakland Calif (390066)

Final rept.
AUTHOR: Nair, Keshavan, Shah, Haresh C., Smith, Wayne S., Shah, Dinesh S.
C0685L3 FLD: 13B, 68D* USGRDR7310
Feb 73 136p*
CONTRACT: DACW61-73-C-0349
MONITOR: 18

ABSTRACT: The study establishes tools by which the probability of liquid cargo spills from tankers and tanker-related loading and unloading facilities could be determined. A probability model for predicting the occurrence of cargo spills was developed and quantified using a Bayesian statistical approach. The probability model considers the size, cause, and location characteristics of cargo spills. A cargo spill was considered to be the entrance of any amount of liquid cargo whether intentional or accidental into the marine environment. (Author Modified Abstract)

DESCRIPTORS: (*Water pollution, Probability), (*Tankers, Water pollution), Harbors, Decision making, Questionnaires, Statistical analysis, Bibliographies

IDENTIFIERS: *Deepwater ports, Supertankers, Bayesian analysis, *Oil spills, *Harbor facilities, *Oil pollution, SD

AD-758 330 NTIS Prices: PC$5.45/MF$0.95

Maritime Administration Tanker Construction Program. Volume I

Maritime Administration, Washington, D.C. (217 600)

Draft environmental impact statement.
C0564E2 FLD: 13B, 68H, 60G, 86L USGRDR7308
1973 525p*
MONITOR: ELR-0392
See also Volume 2, EIS-AA-73-0392-D-2.
Paper copy also available from NTIS $12.50/set of 2 reports as EIS-AA-73-0392-SET.

ABSTRACT: The report is a comprehensive analysis of the impact the construction and utilization of a substantial fleet of oil tankers will have on the marine environment.

DESCRIPTORS: (*Shipbuilding, *Environmental impact statements), (*Tanker ships, *Petroleum transportation), Marine terminals, Offshore structures, Water pollution, Air pollution, Design criteria, Merchant ships

IDENTIFIERS: *Oil spills, Supertankers

EIS-AA-73-0392-D-1 NTIS Prices: PC$10.00

Maritime Administration Tanker Construction Program. Volume II. Appendices to the Draft

Maritime Administration, Washington, D.C. (217 600)

Draft environmental impact statement.
C0564E3 FLD: 13B, 68H, 60G, 86L USGRDR7308
1973 166p*
MONITOR: EIR-0392-D-2
See also Volume 1, EIS-AA-0392-D-1.
Paper copy also available from NTIS $12.50/set of 2 reports as EIS-AA-73-0392-SET.

ABSTRACT: The report contains an inventory of oil tankers on order or under construction, their design considerations, and the laws and regulations providing for protection of the environment relative to the design and use of such tankers.

DESCRIPTORS: (*Shipbuilding, *Environmental impact statements), (*Tanker ships, *Petroleum transportation), Marine terminals, Offshore structures, Water pollution, Air pollution, Design criteria, Merchant ships

IDENTIFIERS: *Environmental impact statements, *Oil spills, Supertankers

EIS-AA-73-0392-D-2 NTIS Prices: PC$4.85

Louisiana Superport Studies. Report no. 1. Preliminary Recommendations and Data Analysis

Louisiana State Univ., Baton Rouge. Center for Wetlands Resources.
C0402I3 FLD: 13B, 60E, 68D, 86M USGRDR7306
Aug 72 425p*
REPT NO: LSU-SG-72-03
CONTRACT: NOAA-2-35231
MONITOR: NOAA-73010502

ABSTRACT: The legal problems, economic considerations, environmental ramifications, and engineering aspects of constructing a deep water port in the Gulf of Mexico to service supertankers are discussed by various members of the Louisiana State University staff. It is recommended that a deep water port be located off the coast of Louisiana between Bayou La Fourche and Southwest Pass, that a governmental agency be created to deal specifically with the superport problems, and that the port be an oil-receiving terminal, with the potential capability of handling the flow of all types of commodities in the future. (Author)

DESCRIPTORS: (*Louisiana, Marine terminals), (*Tanker ships, *Marine terminals), (*Mexico Gulf, Marine terminals), Site surveys, Law(Jurisprudence), Economic analysis, Water pollution, Terminal facilities, Seaports, Legislation, Coasts, Oils, Environmental surveys

IDENTIFIERS: *Deepwater ports, *Supertankers, Oil pollution, Coastal zone management

COM-73-10164 NTIS Prices: PC$10.60/MF$0.95

Conference Proceedings on LNG (Liquefied Natural Gas) Importation and Terminal Safety Held in Boston, Massachusetts on 13-14 June 1972

National Academy of Sciences Washington D C Committee on Hazardous Materials (407196)
AUTHOR: Fawcett, H. H., Basiliko, Mary L., Jacobs, Regina C.
C0323C3 FLD: 21D, 13B, 13L, 85D, 81D, 97A, 60E, 83C USGRDR7305
Jun 72 299p*
CONTRACT: DOT-OS-00035
PROJECT: CG-733211
MONITOR: 18

ABSTRACT: The purpose of a two-day conference held in Boston in June 1972 was to review the current state of knowledge of LNG safety. The proceedings provide a useful reference for persons concerned with technical aspects of transporting LNG. (Author)

DESCRIPTORS: (*Liquefied gases, *Shipping(Marine)), (*Harbors, Fire safety), (*Fire safety, Liquefied gases), (*Storage tanks, Liquefied gases), Symposia, Accidents, Venting, Handling, Fires, Vapors, Boiling, Explosions, Coast Guard, Tankers, Design, Heat transfer

IDENTIFIERS: *Liquefied natural gas, *Hazardous materials, Terminal facilities, Ship design, Marine terminals, Stratification

AD-754 326 NTIS Prices: PC$3.00/MF$0.95

The Potential Effects of Increasing Oil Tanker Size on Narragansett Bay

Rhode Island Statewide Planning Program, Providence.

Final rept.
C0063C1 FLD: 13J, 8F, 13B, 60E, 68D, 85D USGRDR7301
Jul 72 27p
REPT NO: RISPP-TP-72-24
MONITOR: 18
Sponsored in part by Federal Highway Administration, Providence, R.I.

ABSTRACT: The report outlines the possible ramifications of the growth of the world tanker fleet, both in size and in numbers, and this growth's subsequent effect on Narragansett Bay. It examines both ship-to-ship and ship-to-shore offloading and the possible pollution effects of these techniques. The three main causes of pollution - bilge, pumping, transfer leakage and collisions - are also considered in terms of a future increase in tanker traffic on the Bay. A bibliography of some thirty works is also included. (Author)

DESCRIPTORS: (*Bays(Topographic features), Traffic control), (*Tanker ships, *Petroleum transportation), Environmental surveys, Water transportation, Water traffic, Marine terminals, Water pollution, Harbor facilities, Rhode Island

IDENTIFIERS: Narragansett Bay(Rhode Island)

PB-212 918/7 NTIS Prices: PC$3.00/MF$0.95

Strategic Storage, Superports and Salt Domes: A Synthesis

California Univ., Livermore (Usa). Lawrence Livermore Lab. (9500007)
AUTHOR: Palmieri, T. M.
A6503A1 FLD: 21D, 97A NSA2911
22 Feb 74 26p
CONTRACT: W-7405-eng-48
MONITOR: 18

ABSTRACT: For abstract, see NSA 29 11, number 28809.

DESCRIPTORS: (*Petroleum, *Energy reserves), Cavities, Cost, Energy policy, Environment, Exploration, Geology, Market, Pipelines, Production, Ships, Storage, Trade, Transport

IDENTIFIERS: NTISAEC

UCID-16455 NTIS Prices: PC$3.50/MF$1.45

ABSTRACT:

In the U.S., there is a bill before the Senate that would establish emergency reserves of petroleum to sustain the country for at least 90 days. Storage of such reserves would be costly. If salt domes were leached to provide capacity for storing petroleum for a 90-day requirement, each facility would be about 8 million dollars, pipelines another 5 million, and the cost of the oil unknown. The arrival of large tankers involves the construction of superports to accommodate them. The proposed Texas superport will include a tank farm that will cover 100 acres. The site of the proposed superport in Louisiana is in the middle of a large field of salt domes. The import situation is discussed and recommendations to alleviate the worsening situation are listed.

Offshore Terminal System Concepts. Part 1. Evaluation of Requirements and Capabilities for Determination of the Need for Offshore Terminals .

Soros Associates, Inc., New York.

Final rept.
A5483G1 FLD: 13J, 85D, 60E, 86L USGRDR7224
Sep 72 249p*
CONTRACT: MA-1-35409
MONITOR: MA-RD-900-73002
See also report dated Sep 72, COM-72-11156.

ABSTRACT: The report is Part 1, of a 3 part report covering analysis of U.S. bulk commodity imports and exports, with determination of those for which deepwater transshipment terminals would appear to be justified, analysis of ocean transportation costs and trends in ship size, analysis of characteristics of bulk cargo ports on Atlantic, Gulf and Pacific Coasts, and discussion of need for additional deepwater terminal facilities. (Author)

DESCRIPTORS: (*Marine terminals, *Offshore structures), Supply afloat, Petroleum transportation, Bulk cargo, Commodity management, Market research, Benefit cost analysis, Site surveys, Seaports, Environmental surveys, Merchant ships, Dredging, Design criteria

IDENTIFIERS: *Deepwater terminals, *Offshore terminals, Environmental protection

COM-72-11372 NTIS Prices: PC$6.75/MF$0.95

Offshore Terminal System Concepts. Part 2. Connections Between Deep-Draft Terminals and Existing Facilities by Utilization of Feeder Vessels, Pipelines and/or Shore Facilities Relocation

Soros Associates, Inc., New York.

Final rept.
A5483G2 FLD: 13J, 85D, 60E, 86L USGRDR7224
Sep 72 326p
CONTRACT: MA-1-35409
MONITOR: MA-RD-900-73003
See also Part 1, COM-72-11372, and Part 3, COM-72-11374.

ABSTRACT: The report is Part 2, of a 3 part report which describes significant aspects of shoreline, seabottom, weather, and wave conditions at 17 regions and 33 sites, on all three U.S. coasts, and identifies what are considered to be the most suitable locations in each, discusses environmental and operational considerations for offshore terminals, identifies capital cost and total transportation unit costs for feeder vessel and pipe line systems; and provides data from which the total cost per ton of shipping oil from Persian Gulf to U.S. refineries and markets can be calculated for alternative transshipment terminal locations. The appendix discusses related subjects such as feeder systems, tanker designs, accident prevention. (Author)

DESCRIPTORS: (*Marine terminals, *Offshore structures), Supply afloat, Petroleum transportation, Pipeline transportation, Bulk cargo, Commodity management, Market research, Benefit cost analysis, Site surveys, Seaports, Relocation, Environmental surveys

IDENTIFIERS: *Deepwater terminals, *Offshore terminals, Environmental protection

COM-72-11373 NTIS Prices: PC$9.00/MF$0.95

Offshore Terminal System Concepts. Part 3. Formulation of Advanced Concepts for Offshore Terminals

Soros Associates, Inc., New York.

Final rept.
A5483G3 FLD: 13J, 85D, 60E, 86L USGRDR7224
Sep 72 243p
CONTRACT: MA-1-35409
MONITOR: MA-RD-900-73002
See also Part 2, COM-72-11373.

ABSTRACT: The report is part 3 of a 3 part report, wherein site selection costs, environmental impact, design criteria and economic justification are weighed.

DESCRIPTORS: (*Marine terminals, *Offshore structures), Supply afloat, Petroleum trarsportation, Pipeline transportation, Environmental surveys, Bulk cargo, Commodity management, Benefit cost analysis, Site surveys, Seaports, Design criteria

IDENTIFIERS: *Deepwater terminals, *Offshore terminals, Environmental protection

COM-72-11374 NTIS Prices: PC$6.75/MF$0.95

Identification of Studies Needed to Determine the Feasibility of an Offshore Port

Texas A and M Univ., College Station. (347 350)
AUTHOR: Bragg, Dan M.
A5382D2 FLD: 13J, 60E, 86M USGRDR7223
1972 8p
GRANT: NSF-GH-101
MONITOR: NOAA-72090829
Pub. in Proceedings of Annual Offshore Technology Conference (4th) Houston, Tex., 1-3 May 72, OTC paper no. 1643.

ABSTRACT: A study has been made to determine the specific requirements for establishing the feasibility and economics of an offshore port in the Texas Gulf Region. Consideration is given to ship sizes and existing port capabilities. It is noted that studies are needed in five areas: socio-economic, engineering and environment, legal, site location, and port management.

DESCRIPTORS: (*Seaports, *Offshore structures), (*Marine terminals, Petroleum transportation), Tanker ships, Depth, Constraints, Sites, Mexico Gulf, Texas, Feasibility, Requirements

IDENTIFIERS: Sea Grant program, *Offshore seaports

COM-72-11290 NTIS Prices: Reprint

U. S. Deepwater Port Study. Volume I. Summary and Conclusions

Nathan (Robert R) Associates Inc Washington D C (407669)

Final rept.
AUTHOR: Trisko, Ralph L., Cheney, Philip, de Rover, Jacobus, Ulin, Jeremy C., Ahnert, B.
A5364D4 FLD: 13B, 13J, 60E USGRDR7223
Aug 72 84p*
CONTRACT: DACW31-71-C-0045
MONITOR: IWR-TR-8-Vol-1
See also Volume 2, AD-750 091.

ABSTRACT: The report provides an overall appraisal of deep port needs for the United States by means of identification of the factors critical to U. S. deepwater port decision; development of criteria appropriate to the evaluation of engineering, economic and environmental aspects of deep port needs and policies, analysis of the development options available at this time and the critical issues surrounding each and the identification of critical issues which need further analysis. The study emphasizes port requirements for bulk commodities. (Author)

DESCRIPTORS: (*Harbors, Advanced planning), (*Shipping(Marine), *Merchant vessels), (*Seacoast, United States), Tankers, Cargo ships, Deep water, Water traffic, Civil engineering, Construction, Costs, Commerce, Environment, Site selection

IDENTIFIERS: *Deepwater ports, *Deepwater terminals, *Benefit cost analysis, International trade, Environmental surveys, Offshore unloading, Supertankers

AD-750 090 NTIS Prices: PC$4.85/MF$0.95

U. S. Deepwater Port Study. Volume II. Commodity Studies and Projections

Nathan (Robert R) Associates Inc Washington D C (407669)

Final rept.
AUTHOR: Trisko, Ralph L., Cheney, Philip, de Rover, Jacobus, Ulin, Jeremy C., Ahnert, B.
A5364E1 FLD: 13B, 13J, 63E USGRDR7223
Aug 72 586p*
CONTRACT: DACW31-71-C-0045
MONITOR: IWR-72-8-Vol-2
See also Volume 1, AD-750 090 and Volume 3, AD-750 092.

ABSTRACT: ;Contents: Long-term projections of economic aggregates for the United States, Europe and Japan; Crude petroleum and petroleum products; US iron ore imports; Imports of aluminum raw materials (bauxite and alumina); US coal exports; US exports of grains, soybeans, and meal; US exports of phosphate rock; Analysis of Mainland China's prospective grain import requirements and coking coal export potential.

DESCRIPTORS: (*Harbors, Advanced planning), (*Shipping(Marine), *Merchant vessels), (*Seacoast, United States), Tankers, Cargo ships, Deep water, Water traffic, Civil engineering, Construction, Costs, Commerce, Environment, Site selection

IDENTIFIERS: *Deepwater ports, *Deepwater terminals, *Benefit cost analysis, International trade, Environmental surveys, Offshore unloading, Supertankers

AD-750 091 NTIS Prices: PC$12.50/MF$0.95

U. S. Deepwater Port Study. Volume III. Physical Coast and Port Characteristics, and Selected Deepwater Port Alternatives

Nathan (Robert R) Associates Inc Washington D C (407669)

Final rept.
AUTHOR: Trisko, Ralph L., Cheney, Philip, de Rover, Jacobus, Ulin, Jeremy C., Ahnert, R.
A5364R2 FLD: 13B, 13J, 60E USGRDR7223
Aug 72 528p*
CONTRACT: DACW31-71-C-0045
MONITOR: IWR-72-8-Vol-3
See also Volume 2, AD-750 091 and Volume 4, AD-750 093.

ABSTRACT: ;Contents: Reconnaissance survey of US coastal areas, ports and port facilities; Design criteria, engineering requirements, and cost estimates of deepwater port alternatives selected for detailed analysis.

DESCRIPTORS: (*Harbors, Advanced planning), (*Shipping(Marine), *Merchant vessels), (*Seacoast, United States), Tankers, Cargo ships, Deep water, Water traffic, Civil engineering, Construction, Costs, Commerce, Environment, Site selection

IDENTIFIERS: *Deepwater ports, *Deepwater terminals, *Benefit cost analysis, International trade, Environmental surveys, Offshore unloading, Supertankers

AD-750 092 NTIS Prices: PC$12.50/MF$0.95

U. S. Deepwater Port Study. Volume IV. The Environmental and Ecological Aspects of Deepwater Ports

Nathan (Robert R) Associates Inc Washington D C (407669)

Final rept.
AUTHOR: Trisko, Ralph L., Cheney, Philip, de Rover, Jacobus, Ulin, Jeremy C., Ahnert, B.
A5364E3 FLD: 13B, 13J, 60E USGRDR7223
Aug 72 294p*
CONTRACT: DACW31-71-C-0045
MONITOR: IWR-72-8-Vol-4
See also Volume 3, AD-750 092 and Volume 5, AD-750 094.

ABSTRACT: ;Contents: The general nature of the coastal zone; General environmental considerations of deepwater ports; Environmental effects of bulk commodities; Analytical framework for port analysis; Analysis and evaluation of specific alternatives; New York area alternatives; The Delaware Bay alternatives; The Chesapeake Bay alternative; Mississippi River Delta alternatives; Freeport, Texas, alternatives; The Los Angeles/Long Beach alternatives; The San Francisco Bay alternatives; The Puget Sound alternatives.

DESCRIPTORS: (*Harbors, Advanced planning), (*Shipping(Marine), *Merchant vessels), (*Seacoast, United States), Tankers, Cargo ships, Deep water, Water traffic, Civil engineering, Construction, Costs, Commerce, Environment, Site selection

IDENTIFIERS: *Deepwater ports, *Deepwater terminals, *Benefit cost analysis, International trade, Environmental surveys, Offshore unloading, Supertankers

AD-750 093 NTIS Prices: PC$6.75/MF$0.95

U. S. Deepwater Port Study. Volume V. Transport and Benefit-Cost Relationships

Nathan (Robert R) Associates Inc Washington D C (407669)

Final rept.
AUTHOR: Trisko, Ralph L., Cheney, Philip, de Rover, Jacobus, Ulin, Jeremy C., Ahnert, B.
A5364E4 FLD: 13B, 13J, 60E USGRDR7223
Aug 72 552p*
CONTRACT: DACW31-71-C-0045
MONITOR: IWR-72-8-Vol-5
See also Volume 4, AD-750 093.

ABSTRACT: ;Contents: Transport of bulk commodities; Transport benefit-cost relationships for selected investment alternatives; Ocean transport of major bulk commodities in US foreign trade, 1968 and 1969; patterns of geographic linkage and flows through US and foreign ports.

DESCRIPTORS: (*Harbors, Advanced planning), (*Shipping(Marine), *Merchant vessels), (*Seacoast, United States), Tankers, Cargo ships, Deep water, Water traffic, Civil engineering, Construction, Costs, Commerce, Environment, Site selection

IDENTIFIERS: *Deepwater ports, *Deepwater terminals, *Benefit cost analysis, International trade, Environmental surveys, Offshore unloading, Supertankers

AD-750 094 NTIS Prices: PC$12.50/MF$0.95

Offshore Terminal System Concepts. Executive Summary

Soros Associates, Inc., New York.

Final rept.
A5301F2 FLD: 13J, 85D, 60G, 86L USGRDR7222
Sep 72 160p*
CONTRACT: MA-1-35409
MONITOR: MA-RD-730001

ABSTRACT: The report summarizes a 3-part report which analyzes U.S. bulk commodity imports and exports; identifies petroleum as the principal commodity, for which the economy of movement in supersize ships would justify construction of deepwater terminal facilities on the North Atlantic and Gulf Coasts; identifies transportation costs; surveys East, Gulf, and West Coast ports and deepwater sites suitable for deepwater terminal construction; selects five candidate sites and presents a conceptual design for each; compares capital and operating costs as well as total transportation costs of alternative transportation systems; evaluates the benefits and limitations of multi-use terminals; defines specific environmental protection features; and describes requirements for advanced construction methods. (Author)

DESCRIPTORS: (*Marine terminals, *Offshore structures), Supply afloat, Petroleum transportation, Bulk cargo, Commodity management, Market research, Benefit cost analysis, Site surveys, Environmental surveys, Design criteria

IDENTIFIERS: *Deepwater terminals, *Offshore terminals, Environmental protection

COM-72-11156 NTIS Prices: PC$6.00/MF$0.95

Three Dimensional Supertanker Computer Programs

Naval Construction Research Establishment Dunfermline (Scotland) (248200)
A4623K2 FLD: 13J, 9B, 60G, 62B USGRDR7215
Apr 71 101p
REPT NO: NCRE/R.564
MONITOR: NSTIC-30025

ABSTRACT: A FORTRAN computer program is described for the structural analysis of large tankers, using finite element techniques. The program includes specialised analysis procedures developed at NCRE, which represent the three dimensional structure as an assembly of two dimensional substructures, thereby greatly reducing the cost of the calculation. A data generation program reduces the vast amount of data to be prepared and a special built-in loading program calculates the loading of the structure from the internal fluid levels and the external draught. (Author)

DESCRIPTORS: (*Tankers, Design), (*Programming(Computers), Instruction manuals), Structural properties, Mathematical models, Great Britain

IDENTIFIERS: FORTRAN, Computer aided design, Finite element analysis

AD-743 743 NTIS Prices: PC$3.00/MF$0.95

Port and Harbor Development System. Phase 1 - Design Guidelines Work Report

Texas A and M Univ., College Station. Architecture Research Center.
A3883G1 FLD: 13E, 60E, 86M USGRDR7208
Aug 71 145p
REPT NO: TAMU-SG-71-216
GRANT: NSF-GB-101
MONITOR: NOAA-72020203

ABSTRACT: Ports and harbors of the future must be planned and designed to accommodate change. The purpose of the report is to aid those who are involved in and responsible for port and harbor planning and design. An analysis of present harbor design features is described along with a step by step requirement in port design and construction. Important trends in marine and transportation technology are described and suggested are planning and design concepts for ports in different stages of development. A glossary of nautical terms is included. (Author)

DESCRIPTORS: (*Ports, Planning), (*Harbors, Planning), (*Marine transportation, Harbors), Construction, Harbor structures, Harbor facilities, Marine terminals, Project planning, Design criteria, Design standards, Docks, Mooring, Cargo transportation

COM-72-10238 NTIS Prices: PC$3.00/MF$0.95

Marine Transportation Systems of the Trans-Alaskan Pipeline System

Coast Guard, Washington, D.C. (086 450)
A3802C3 FLD: 13B, 13J, 68D, 85D USGRDR7207
15 Dec 71 158p*

ABSTRACT: The study concerns three basic areas: Navigation; Sources of oil pollution and spill probability, and Pollution control. In the navigation section the tanker routes near land are detailed for Valdez and West Coast harbors as are the navigational aids. Next a review is made of past and present world tanker oil pollution sources and probabilities. The types of accidents and amount of oil spillage are given specifically for cases on the West Coast and Alaska. Finally contingency and pollution prevention planning for tankers is described in detail.

DESCRIPTORS: (*Tanker ships, Water pollution), (*Water pollution, Oils), (*Petroleum transportation, Water pollution), (*Marine transportation, Water pollution), Marine terminals, Alaska, California , Oregon, Washington(State), Navigational aids, Sea lanes, Harbors, Regulations, Coast Guard, Oceans, History, Accidents, Recommendations

IDENTIFIERS: *Oil pollution, *Trans Alaska Pipeline

PB-206 592 NTIS Prices: PC$3.00/MF$0.95

Potentials for a Delaware Deepwater Port

Delaware State Planning Office, Dover.
A3713G1 FLD: 13E, 13B, 60E, 53E USGRDR7206
Oct 70 132p
Prepared in cooperation with Gladstone Associates, Washington, D.C.
Sponsored in part by the Department of Housing and Urban Development, Washington, D.C.

ABSTRACT: The purpose of this report is to analyze the market potentials for a deepwater port facility in the lower Delaware Bay. (Author)

DESCRIPTORS: (*Harbors, *Regional planning), Harbor facilities, Tanker ships, Petroleum transportation, POL storage, Shipbuilding, Economic forecasting, Market research, Delaware

IDENTIFIERS: Delaware Bay, *Deepwater ports, Supertankers

PB-206 131 NTIS Prices: PC$3.00/MF$0.95

Work Plan for a Study of the Feasibility of an Offshore Terminal in the Texas Gulf Coast Region

Texas Engineering Experiment Station, College Station. Industrial Economics Research Div.
AUTHOR: Bragg, Dan M., Bradley, James R.
A2783H4 FLD: 13J, 60E, 86M USGRDR7119
Jun 71 38p
REPT NO: TAMU-SG-71-212
GRANT: NSF-GH-101
MONITOR: NOAA-71081301
Report on Sea Grant Program.

ABSTRACT: To justify the expenditure of the large sums of money required to build an offshore port, a study must be made of the economy of Texas' Gulf Coast region to ascertain the impact that the port will have and to determine the dollars-and-cents benefits that will result from the port. A necessary prerequisite to constructing such a port is a study of its physical and economic feasibility. The work plan contained herein describes the individual studies required. Estimated cost of these studies is $460,000, and total time required to do them should not exceed 18 months. (Author)

DESCRIPTORS: (*Marine terminals, *Offshore structures), (*Texas, Marine terminals), Project planning, Study estimates, Marine engineering, Economic analysis, Site surveys, Law(Jurisprudence), Feasibility, Mexico Gulf

COM-71-00876 NTIS Prices: PC$3.00 MF$0.95

Commandant's International Technical Series. Volume I. SQUAT

Coast Guard, Washington, D.C. (086 450)

Final rept.
A2412L4 FLD: 13J, 60G USGRDR7115
1 Jun 71 62p*
REPT NO: USCG-CITS-71-1-1
See also Volume 2, PB-199 979.

ABSTRACT: The report contains 4 papers on squat in shallow waters as follows: from the Federal Republic of Germany, a paper on the results of model tests of a 700,000 deadweight tons tankers; from France, a paper on the results of model tests of a 500,000 deadweight tons twin screw tanker; from Poland, a paper on the results of model tests of 2 ships with large block coefficients, one with bulbous bow; and from the United Kingdom, a paper on the results of model tests of 2 ships, one in the naked hull condition and the other equipped with self-propulsion gear, twin screws, twin rudders, and bulbous bow. (Author)

DESCRIPTORS: (*Tanker ships, *Ship maneuvering), Ship hulls, Design criteria, Ship models, Model tests, Surface navigation, Shallow water, Displacement, Ocean waves, West Germany, France, Poland, Great Britain

IDENTIFIERS: *Supertankers, *Squatting, Squat program

PB-199 978 NTIS Prices: PC$3.00 MF$0.95

Commandant's International Technical Series. Volume II. Maneuvering and Stopping

Coast Guard, Washington, D.C. (086 450)

Final rept.
A2413A1 FLD: 13J, 60G USGRDR7115
1 Jul 71 90p*
REPT NO: USCG-CITS-71-2-2
See also Volume 1, PB-199 978.

ABSTRACT: The report contains 5 papers on research into methods and techniques for improving the maneuverability and stopping ability of supertankers as follows: from Japan, a paper on the results of experiments on a full size ore carrier utilizing underwater parachutes to reduce the stopping distance; from the United Kingdom, 4 papers as follows: the results of model tests using a conventional and a rotating cylinder rudder designed to study the possibility of conducting shallow water experiments to develop shallow water maneuvering characteristics; a paper on the application of rotating cylinders to ship maneuvering; the results of model tests of a tanker fitted with a steerable ducted propeller in both deep and shallow water; and the results of model tests of a tanker with a passive version of the bow duct stopping and maneuvering device. (Author)

DESCRIPTORS: (*Tanker ships, *Ship maneuvering), Ship models, Model tests, Steering gear, Shrouded propellers, Marine rudders, Parachutes, Towed bodies, Stopping, Surface navigation, Shallow water, Japan, Great Britain, Coast Guard research

IDENTIFIERS: *Supertankers

PB-199 979 NTIS Prices: PC$3.00 MF$0.95

Commerce Today. Volume I, Number 16, May 17, 1971

Department of Commerce, Washington, D.C. (108 950)
A2124B1 FLD: 5C, 65 USGRDR7112
17 May 71 68p
Paper copy available from SOD $20.00/year, as C1.58, $0.75/copy as C1.58:1/16.

ABSTRACT: ;Contents: Hurricane watchers to use satellites, computers; U.S. to study feasibility of building offshore ports to handle supertankers; U.S. export community plans widespread observance of World Trade Week; Domestic business report; Science and technology report; International commerce.

DESCRIPTORS: (*Commerce, Reviews), (*Hurricane tracking, *Weather forecasting), (*Tanker ships, Offshore structures), (*International trade, United States), Populations, Financing, Employment, Economic development, National government, Ocean bottom, Meteorological radar, Navigational charts, Tropical diseases, Radio stations, Recording instruments, Agricultural machinery, Poland, East Africa, Latin America, Canada, Colombia, Singapore, Brazil

IDENTIFIERS: Minority owned enterprises, Veterans, Federal business ombudsmen

COM-71-00006-16 NTIS Prices: PC-SOD/MF$0.95-NTIS

Waterfalls, Bathrooms and--Perhaps--Supertanker Explosions

Stanford Research Inst Menlo Park Calif (332500)

Scientific note no. 14
AUTHOR: Pierce, E. T.
A1444F1 FLD: 20C, 80E USGRDR7104
1970 11p
CONTRACT: N00014-71-C-0106
PROJECT: SRI-4454
Availability: Pub. in Proceedings of the Lightning and Static Electricity Conference held at Wright-Patterson AFB, Ohio, on 9-11 Dec 70, p89-96.

ABSTRACT: The electrical effects developed by Lenard splashing near waterfalls under laboratory conditions, and within the closed environments of a bathroom and a cargo tank of an oil supertanker during seawater washing operations, show a consistent phenomenology. Both theory and experimental evidence suggest that electrical conditions in the closed container atmospheres are defined by an equation involving the number density of large carriers (large ions and haze droplets), time, and the electronic charge. The field within the closed container is approximately proportional to the product of the linear container dimension and the space-charge density. Conditions within an oil supertanker cargo tank during the washing operations are considered. It is concluded that the electrification is sufficiently intense for a large-scale spark streamer to have a good change of developing. This chance--and therefore the explosion hazard--becomes larger with an increase in the size of the cargo tank. (Author)

DESCRIPTORS: (*Water, Electrical properties), (*Electrostatic fields, Sprays), (*Space charges, Hazards), Confined environments, Electrostatic generators, Tankers, Cleaning, Sea water, Explosions, Voltage

IDENTIFIERS: Closed container atmospheres, Lenard splashing, Waterfalls, Ballo electrification, Shower bath sprays, Oil supertanker washing

AD-716 307 NTIS Price: REPRINT

STUDY OF MOBILE EMERGENCY PORT FACILITIES

Bechtel Corp., Vernon, Calif. (403 546)
6255J3 FLD: 13J, 15E, 919, 925 USGRDR6915
Jun 69 185p*
CONTRACT: MA-4561

ABSTRACT: The study consists of a review of requirements for port facilities anticipated for future emergencies in various parts of the world and, from this, develops information on which to preplan port facility equipment, with related manpower and planning data. The object was to form a mobile 'port package' tailored to specific operational requirements for unloading essential civilian and military support cargo, including fuel and perishables. The key element of the study has been that the equipment be mobile enough to allow prompt deployment of such a package to any port in the world on short notice. The study is structured in a systematic manner. Background information on natural and accidental disasters and military operations, gathered to define the circumstances that require use of the port package, is summarized in the Appendix. Chapter I is devoted to a definition of a typical mission and an operating situation and then development of port package design criteria. Using these design criteria, Chapter II explores and screens potential design concepts. Three candidate systems are carried over into Chapter III for detailed design and evaluation. With the design concepts firmly established, their application potential are evaluated in Chapter IV. (Author)

DESCRIPTORS: (*Harbors, Mobile), Deployment, Management planning, Cargo, Cargo ships, Armed forces operations, Disasters, Design, Terrain, Hydrology, Climatology, Manpower, Yard craft, Helicopters, Handling, Floats, Personnel, Costs

IDENTIFIERS: *Marine terminals

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