

Engineering Procedure

SAEP-339

29 December 2004

Marine Dredging and Landfilling Approval and Permitting

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Saudi Aramco DeskTop Standards

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1 Scope

This procedure establishes guidelines, limitations and responsibilities necessary to obtain the required permit from the Ministry of Agriculture (MA) (formerly Ministry of Agriculture and Water (MAW)) in accordance with Royal Decree M/9 dated 27 Rabi' I 1408 (18 November 1987) for all dredging and landfilling activities in the marine environment within Saudi Arabian territorial waters.

2 Applicable Documents

Saudi Aramco Engineering Procedure

[SAEP-13](#)

Project Environmental Assessments

Saudi Aramco Engineering Standards

[SAES-A-111](#)

Borrow Pit Requirements

[SAES-A-114](#)

Excavation and Backfill

Government Regulations

Royal Decree M/9

*Regulations for Fishing, Exploitation, and
Protection of Marine Life in Saudi Territorial
Waters*

Royal Commission Environmental Regulations/Jubail

Royal Commission Environmental Protection Manual/Yanbu

3 Instructions

- 3.1 Complete Dredging/Landfilling Permit Approval Request and Completion Certification Form (pages 6 and 7) and Permit Request Package 90 days prior to planned dredging/landfilling operation whenever landfilling and/or dredging is planned below the HAT (Highest Astronomical Tide) contour. Refer to Appendix A, B or C, as applicable.
- 3.2 Consult with Environmental Engineering Division (EED) to assess when sediment plume modeling and/or monitoring are required to determine potential impact.
- 3.3 Include mitigation and control measures to minimize impacts on or near sensitive marine habitats, such as coral reefs, (e.g., special construction techniques, combining dredge and fill projects, managed dewatering, use of silt screens, disposal of spoil into deep water, etc.) with Request Package for Dredging/Landfilling Permit.

- 3.4 No dredging or landfilling will be permitted if it will directly impact on mangrove habitats.
- 3.5 The source fill for any landfilling activity shall come from onshore and comply with [SAES-A-114](#), Excavation and Backfill and [SAES-A-111](#), Borrow Pit Requirements. Dredge spoil may only be used as a source for fill in cases where a nearby dredging project designed to meet another objective is justified and approved on its own merits.
- 3.6 Include details outlined in Appendix C to request dredging and landfilling permits in the Royal Commission Jubail and Yanbu areas.

4 Responsibilities

4.1 Facilities Planning Department (FPD)

- 4.1.1 Consult with EED regarding possible alternatives to planned dredging/landfilling activities for potential projects during DBSP stage per [SAEP-13](#).
- 4.1.2 In consultation with EED, include dredging/landfilling impacts as part of the Environmental Impact Statement (EIS) in DBSP.
- 4.1.3 Ensure adequate notification to PMT where significant additional funding and/or time will be required to assess impacts of proposed dredging or landfilling activities as part of the Environmental Impact Assessment (EIA) to be conducted at the Project Proposal stage.

4.2 Project Management or Facility Operating Department

For new facilities, the Project Management, and for existing facilities the Manager of the Facility is required to:

- 4.2.1 Address all potential safety concerns regarding impacts to marine facilities and subsea pipelines from dredging or landfilling activities by contacting Superintendent NA Marine Operations Division for the Arabian Gulf or Superintendent Marine Operations Division, Western Region for the Red Sea.
 - 4.2.2 Complete Dredging/Landfilling Permit Approval Request and Completion Certification Form including Permit Request Package and submit signed Approval Request at least 90 days prior to construction activity.
 - 4.2.3 Conduct or subcontract EIA, including required field survey work, if necessary, to obtain permit.
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- 4.2.4 Comply with issued permit conditions/limitations. Confer with EED/EPD prior to any deviations from the permit conditions.
- 4.2.5 Send signed Completion Certification on Dredging/Landfilling per permit approval conditions to General Supervisor, Environmental Engineering Division/EPD with copy to Coordinator, Environmental Coordination Division (ECOD)/EPD within 30 days after construction work is complete.
- 4.3 Environmental Protection Department (EPD)
 - 4.3.1 Environmental Engineering Division (EED)
 - 4.3.1.1 Assist Project Management/Facilities Operating Department, as needed, to complete Dredging/Landfilling Permit Approval Request and Completion Certification Form and Permit Request Package.
 - 4.3.1.2 Review and Concur Dredging/Landfilling Permit Approval Request and Completion Certification Form; review detailed Permit Request Package. Transmit to ECOD within ten working days of receipt.
 - 4.3.1.3 Follow up on work completed per permit approval conditions and maintain completion certification records.
 - 4.3.2 Environmental Coordination Division (ECOD)
 - 4.3.2.1 Develop formal Company Permit Approval Request based on Permit Request Package received from EED and transmit to local Fisheries Research Center, Ministry of Agriculture (MA) within ten working days of receipt.
 - 4.3.2.2 Coordinate with Royal Commission Jubail/Yanbu when permit is required within their jurisdiction.
 - 4.3.2.3 Follow-up Permit approval status, with MA, Royal Commission Jubail/Yanbu, as applicable.
 - 4.3.2.4 Notify proponent and EED in writing by signing Dredging/Landfilling Permit Approval Request and Completion Certification Form when Permit has been approved/conditionally approved/not approved, at least thirty days prior to planned construction date.

- 4.3.2.5 Coordinate activities (meetings/field visits, clarification, etc.), as required, between MA, Royal Commission Jubail/Yanbu, EED, and proponent when necessary to facilitate permit approval.
- 4.3.2.6 Maintain records of dredging and landfilling requests and permits issued.

5 Definitions

The following definitions apply to this procedure.

Dredging: The removal or movement, for any purpose, of shoreline (below HAT) or subsea sediment, rocks, boulders, coral, etc.

Deep Water: For the purpose of dredge spoil disposal, is seawater greater than 10 meters deep (relative to Lowest Astronomical Tide), and farther than 5 km from an offshore island, coral reef, or other sensitive marine habitat including embayments and conservation areas.

Environmental Impact Assessment (EIA): Report that describes the existing environmental conditions followed by a description of the expected environmental impacts that will occur during construction and operation of the project. Provides an evaluation of project alternatives that might reduce environmental impacts. Required for all new projects and responsibility of Project Management Team (PMT) per [SAEP-13](#).

Environmental Impact Statement (EIS): A statement that briefly describes the potential impacts that a project might have on the environment and considers project alternatives that would better protect the environment. Required for all new projects and BI-1900 projects per [SAEP-13](#). Responsibility of FPD.

HAT: Highest Astronomical Tide or the highest water level that can be predicted to occur under average meteorological conditions and under any combination of astronomical conditions at a specific location.

Landfilling: The deposit, for any purpose, of sediment, sand, rocks, or boulders along the shoreline or into the marine environment at or below the HAT contour.

Sensitive Marine Habitat: Both shoreline and offshore sensitive habitat areas including: conservation areas, wetlands, shoals, littoral zones, mangrove habitats, coral reefs, bays lagoons, and offshore islands.

Revision Summary

29 December, 2004

Revised the "Next Planned Update". Reaffirmed the contents of the document and reissued with editorial changes.

Dredging/Landfilling Permit Approval Request and Completion Certification Form

Complete Dredging/Landfilling Permit Approval Request and Completion Certification Form and relevant attachments 90 days prior to planned dredging/landfilling operation whenever landfilling and/or dredging is planned below HAT (Highest Astronomical Tide) contour. Submit form to: General Supervisor, Environmental Engineering Division, Environmental Protection Department, Dhahran.

Project/Operation Title _____

[] Dredging [] Landfilling

Submit with this form the Permit Request Package. Include bathymetric map(s) showing activity location, UTM coordinates, HAT (or suitable reference), locations of existing structures, dimensions of proposed dredge and/or fill, and spacing of any proposed structures. See Appendix A for a sample outline of required information. Other supplemental information may be required and should be provided upon request.

Type of Operation: New/Maintenance (select one)

Justification for project _____

Project Location _____

Timing/duration _____

Dimensions of dredged/filled area

Length (m) _____ Width (m) _____ Depth (m) _____

Volume of fill or dredging proposed (cubic meters) _____

Bottom type of area to be dredged or source of fill material _____

(Analytical results for selected hydrocarbons and heavy metals must also be submitted)

Location of proposed dredge spoil disposal (as applicable) _____

Proposed method of dredging/landfilling and mitigation measures proposed

**Dredging/Landfilling Permit Approval
Request and Completion Certification Form (Continued)**

APPROVAL REQUEST (as applicable)

Project Manager's Signature

Date

Facility Manager's Signature

Date

CONCURRENCE:

General Supervisor
Environmental Engineering Division
Environmental Protection Department

Date

APPROVAL:

Per additional conditions, if applicable, required by MA permit.

||

Coordinator
Environmental Coordination Division
Environmental Protection Department

Date

CERTIFIED COMPLETION (as applicable per section 4.2.5):

I certify that the work was completed per permit approval conditions.

Project Manager's Signature

Date

Facility Manager's Signature

Date

Appendix A – Sample Table of Contents Dredging/Landfilling Permit Request Package

- 1 Introduction
 - 1.1 Background and Project Justification/Description
 - 1.2 Proposed Dredging/Landfilling Plan
- 2 Existing Environment
 - 2.1 General Description
 - 2.2 Biotopes/Habitat Description
 - 2.3 Oceanographic and Meteorological Conditions
 - 2.4 Bathymetry
- 3 Dredging/Landfilling
 - 3.1 Environmental Considerations in Design
 - 3.2 Detailed Amount of Dredging/Landfilling
 - 3.3 Dredging/Landfilling Elevation Survey
 - 3.4 Dredging Disposal Plan
 - 3.5 Dredging/Landfilling Work Schedule
- 4 Marine Environmental Impacts
 - 4.1 Short-term Impacts
 - 4.2 Long-term Impacts
- 5 Mitigation Measures
 - 5.1 Alternatives to Minimize Dredging/Landfilling
 - 5.2 Use of Silt Screens/Controlled Dewatering/Other Containment Methods
 - 5.3 Disposal of Clean Spoils Offshore to Deep Water
- 6 Attachments
 - 6.1 Arabian Gulf or Red Sea Site Map
 - 6.2 Bathymetric Chart/Dredge and Spoils Disposal Site Map
 - 6.3 Detailed Dredge Site Bathymetric Map
 - 6.4 Landfill Contour Map
 - 6.5 Biotope Map with Proposed Spoils Disposal Sites

Appendix B – Excerpts from Royal Decree No. M/9

Relevant Excerpts from Royal Decree No. M/9, The Regulations for Fishing, Exploitation and Protection of Marine Life in Saudi Territorial Waters

"Protection of Marine Life

Article 6: No one may cut trees or other plants growing on the Saudi coasts or islands, or remove from them any fill or bird or turtle eggs or other organic material or make any coastal fills, without the prior approval of the Ministry of Agriculture to be issued in coordination with the National Commission for the Protection and Development of Wildlife."

"Rules of Implementation for the Regulations for Fishing, Exploiting and Protecting Live Water Resources in the Territorial Waters of Saudi Arabia.

Article 64: The cutting of grass or trees growing on the shores or islands of the Kingdom or the moving of soil or any organic substances beneficial to marine life is permitted only after obtaining the approval of the Ministry of Agriculture.

Article 65: Burying, filling, or dredging may be done only after obtaining the approval of the Ministry, irrespective of whether they are done for governmental or private agencies."

Appendix C – Royal Commission Jubail and Yanbu Dredging/Landfilling Requirements

Excerpt from Royal Commission, Jubail and Yanbu/Jubail Environmental Regulations

A.11 Dredging Operations Assessment Criteria

If the owners and operators of a facility must perform dredging to support construction of the facility such operations must conform to the following criteria:

- a) Provide a description of the proposed dredging and dredged material disposal activities, methodology, scale and duration.
- b) An assessment of the impact of dredging must include seasonal factors such as weather and marine life behavior (spawning and migration) which could influence the preferred timing of the dredging activity.
- c) An assessment of the effects of physical variables must include currents, wave action, and stratification/circulation on the distribution of the sediments during the proposed dredging or dredged material disposal activities.
- d) An assessment of the potential affects of dredging operations must include the effects on coastal erosion, water circulation, depth, current pattern, water fluctuation and water temperature.
- e) An analysis of the chemical and physical characteristics of the dredged material including potential sources of contamination present in the sediments.
- f) An evaluation of the effect of the proposed dredging and dredged material disposal activities on marine life.
- g) Details of the use of surface impoundments to retain and settle dredged materials.

Appendix C – continued

Excerpt from Royal Commission Jubail and Yanbu/Yanbu Environmental Protection Manual, Volume III (Part B) Consolidated Permit Program.

Paraphrased from Form No. PA-18

If the owners and operators of a facility must perform dredging to support construction of the facility such operations must address/provide the following:

- a) Project or facility name;
- b) Status (pre-construction, construction, operation, renewal, modification);
- c) Description of proposed project including: map indicating proposed development, and including area proposed for access causeways, dredging, reef removal, filling and spoil disposal, purpose, intended use;
- d) Bathymetric chart including line drawing of the proposed project showing relationship to existing shoreline, existing structures, locations and dimensions of dredge and/or fill areas, and the dimensions and spacing of any proposed structures;
- e) Proposed dredging activities, i.e., channel, docking facility;
- f) Dimensions including length, width, depth of dredged area, cubic meters of fill, type of material to be removed;
- g) Proposed method of dredging and any anti-pollution techniques proposed;
- h) Location of proposed spoil disposal site;
- i) Containment of excavated material at the disposal site;
- j) Details of any proposed construction of structures (bulkheads, piers, etc.) include dimensions and type(s) of construction materials;
- k) Schedule of proposed work;
- l) Details of any planned use of explosives;
- m) Details of any future maintenance operations that will be required.