TECHNICAL REPORT 1.0
MARINE SEAWATER DESALINATION FACILITIES

This application form is for an industrial wastewater discharge authorization for marine seawater desalination facilities only, as provided under Title 30 of the Texas Administrative Code, Chapter 318. Your facility may need additional authorizations from the TCEQ Water Quality Division, the TCEQ Waste Permits Division, or the TCEQ Air Permits Division.

The following information is required for **all** renewal, new, and amendment applications.

1. RECEIVING WATER CHARACTERISTICS (Instructions, Page 28)

a. Does the facility propose to discharge waste from desalination of marine seawater into the Gulf of Mexico?

☐ Yes ☐ No

b. If **yes** to **1.a.**, indicate if the proposed discharge will be near-shore or off-shore, and attach documentation of the results of consultation with Texas Parks and Wildlife Department and the General Land Office regarding the outfall location(s):

☐ Near-shore (< 3 miles from the shore); **Attachment:** _____

☐ Off-shore (> 3 miles from the shore); **Attachment:** _____

c. Does the facility propose to discharge treated marine seawater to a natural stream, lake, reservoir, or other impoundment (including wastewater lagoons and ponds) in the State?

☐ Yes ☐ No

If **yes**, complete Worksheets 1.0, 1.1, and 1.2 as required, and include as an **Attachment:** _____

2. FACILITY/SITE INFORMATION (Instructions, Pages 28-29)

a. Describe the type of activity and general nature of your business.

b. SIC Code(s): _____, _____, _____, _____

c. Describe the wastewater-generating processes.

d. Include a facility map (drawn to scale) with the following information as an **Attachment:** _____

- Production areas, maintenance areas, materials-handling areas, and waste-disposal areas
- The location of each unit of the wastewater treatment plant including the location of wastewater collection sumps, impoundments, and outfalls (also include locations of sampling points if significantly different from outfall locations)

e. Is this a new permit application for an existing facility?

☐ Yes ☐ No

If **yes**, provide background discussion below.

f. Is the treatment facility/disposal site located above the 100-year frequency flood level?

☐ Yes ☐ No

List source(s) used to determine 100-year frequency flood plain:

If **no**, provide the elevation of the 100-year frequency flood plain and describe what protective measures are in use or planned to be used to prevent flooding of the treatment facility.

g. For new or amendment permit applications, will any construction operations result in a discharge of fill material into a water in the state?

☐ Yes ☐ No

If **no**, proceed to Item 3.

h. If **yes** to the above question, has the applicant applied for a U.S. Army Corps of Engineers 404 Dredge and Fill permit?

☐ Yes ☐ No

If **yes**, provide the permit number: _____

If **no**, provide the approximate date you anticipate submitting your application to the Corps:

_____

3. TREATMENT SYSTEM (Instructions, Pages 29-30)

a. List any physical, chemical, or biological treatment process that you use for the treatment of wastewater at your facility. Include a description of each treatment process, starting with initial treatment and finishing with the outfall/point of disposal.

b. Include a flow schematic with a water balance showing each treatment unit and all sources of wastewater flow into the treatment plant and to each outfall/point of disposal as an **Attachment:** _____

4. OUTFALL INFORMATION (Instructions, Pages 30-31)

Complete the following tables to describe the location and wastewater discharge or disposal operations for each outfall for discharge operations.

Outfall Latitude and Longitude

Outfall No.	Latitude-degrees	Latitude-minutes	Latitude-seconds	Longitude-degrees	Longitude-minutes	Longitude-seconds

Outfall Location Description

Outfall No.	Location Description

Description of Sampling Points (if different from Outfall location)

Outfall No.	Description of Sampling Point

Outfall Flow Information – Permitted and Proposed

Outfall Number	Permitted Daily Avg Flow (MGD)	Permitted Daily Max Flow (MGD)	Proposed Daily Avg Flow (MGD)	Proposed Daily Max Flow (MGD)

Outfall Discharge – Method and Measurement

Outfall Number	Pumped Discharge? Y/N	Gravity Discharge? Y/N	Type of Flow Measurement Device Used

Outfall Discharge – Flow Characteristics

Outfall Number	Intermittent Discharge? Y/N	Seasonal Discharge? Y/N	Continuous Discharge? Y/N	Discharge Duration (hours/ day)	Discharge Duration (days/ month)	Discharge Duration (months/ year)

Include information for additional outfalls as **Attachment:**

Wastestream Contributions

Outfall No. _____

Contributing Wastestreams	Volume (MGD)	% of Total Flow

Outfall No. _____

Contributing Wastestreams	Volume (MGD)	% of Total Flow

Include wastestream contributions for additional outfalls as **Attachment:**

5. STORMWATER MANAGEMENT (Instructions, Page 31)

a. Are there any existing or proposed outfalls which discharge stormwater runoff commingled with other wastestreams?

☐ Yes ☐ No

If **yes**, briefly describe the industrial processes and activities that occur outdoors or in some manner that may result in exposure of the materials to precipitation or runoff in areas where runoff is generated.

b. Do discharges from any of the proposed or existing outfalls consist of stormwater runoff only or stormwater runoff and any of the listed non-stormwater discharges on page 46 of the Instructions?

☐ Yes ☐ No

If **yes**, complete Worksheet 2.0 and include as an **Attachment:** _____

6. IMPROVEMENTS OR COMPLIANCE/ENFORCEMENT REQUIREMENTS (Instructions, Page 32

Is the permittee currently required to meet any implementation schedule for compliance or enforcement?

☐ Yes ☐ No

If **yes**, provide a brief summary of the requirements as **Attachment:** _____

7. DOMESTIC SEWAGE AND SEPTAGE MANAGEMENT AND DISPOSAL (Instructions, Page 32)

a. Please check the appropriate method(s) of domestic sewage treatment/disposal and complete Item 7.b if directed to do so.

☐ Facility is connected to a wastewater treatment plant permitted to receive domestic sewage, or the domestic sewage is transported off-site to a permitted facility for treatment, disposal, or both. COMPLETE ITEM 7.b BELOW.

☐ Domestic sewage is disposed of by an on-site septic tank and drainfield system. COMPLETE ITEM 7.b BELOW.

☐ Domestic sewage is not generated on-site.

☐ Other (e.g., portable toilets):

_____

b. Provide the name and TCEQ, NPDES, or TPDES Permit No. of the waste-disposal facility which receives the domestic sewage/septage. If hauled by motorized vehicle, provide the name and TCEQ Registration No. of the hauler.

Domestic Sewage Plant/Hauler Name

Plant/Hauler Name	Permit/Registration No

8. RADIOACTIVE MATERIALS (Instructions, Page 33)

Are radioactive materials mined, used, stored, or processed at this facility, or do you have any knowledge or reason to believe that radioactive materials may be present in the discharge, including naturally occurring radioactive materials in the source waters or on the facility property?

☐ Yes ☐ No

If **yes**, complete Worksheet 3.0 and include as an **Attachment:** _____

Note: Items 9, 10, and 11 are required only for **existing permitted** facilities.

9. MAJOR AMENDMENT REQUESTS (Instructions, Page 33)

Are you requesting a major amendment of an existing permit?

☐ Yes ☐ No

If **yes**, list each specific request and provide discussion on the scope of any requested permit changes. If necessary, provide supplemental information or additional data that will support the request.

10. MINOR MODIFICATION REQUESTS (Instructions, Page 33)

Are you requesting any minor modifications to the permit? Note: see the instructions for an exclusive list of changes considered as minor modifications.

☐ Yes ☐ No

If **yes**, list and discuss the requested changes.

11. MINOR AMENDMENT REQUESTS (Instructions, Page 33)

Are you requesting any minor amendments to the permit?

☐ Yes ☐ No

If **yes**, list and discuss the requested changes.

TECHNICAL REPORT 2.0
POLLUTANT ANALYSES REQUIREMENTS

Required for all new, renewal, and amendment applications submitted for a permit.

1. LABORATORY ACCREDITATION (Instructions, Page 34)

Effective July 1, 2008, all laboratory tests performed must meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification* with the following general exemptions:

a. The laboratory is an in-house laboratory and is:

   1. periodically inspected by the TCEQ; or
   2. located in another state and is accredited or inspected by that state; or
   3. performing work for another company with a unit located in the same site; or
   4. performing pro bono work for a governmental agency or charitable organization.

b. The laboratory is accredited under federal law.

c. The data are needed for emergency-response activities, and a laboratory accredited under the Texas Laboratory Accreditation Program is not available.

d. The laboratory supplies data for which the TCEQ does not offer accreditation.

The applicant should review *30 TAC Chapter 25* for specific requirements. The following certification statement shall be signed and submitted with every application. See Instructions, Pages 24-25, for a list of designated representatives who may sign the certification.

I, _____, certify that all laboratory tests submitted with this application meet the requirements of 30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.

2. GENERAL TESTING REQUIREMENTS (Instructions, Pages 34-36)

Please read the general testing requirements in the instructions for important information about sampling, test methods, MALs, and averaging sample results.

3. SPECIFIC TESTING REQUIREMENTS (Instructions, Pages 36-37)

Table 1 and Table 2

Completion of Tables 1 and 2 is required for all external outfalls for new, renewal, and amendment applications. (Instructions, Page 36).

Table 1 for Outfall No. _____; Samples are (check one): ☐ **Composites** ☐ **Grabs**

Pollutant	Sample 1 (mg/L)	Sample 2 (mg/L)	Sample 3 (mg/L)	Sample 4 (mg/L)	Average (mg/L)
BOD (5-day)					
CBOD (5-day)					
Chemical oxygen demand					
Total organic carbon					
Dissolved oxygen					
Ammonia nitrogen					
Total suspended solids					
Nitrate nitrogen					
Total organic nitrogen					
Total phosphorus					
Oil and grease					
Total residual chlorine					
Total dissolved solids					
Sulfate					
Chloride					
Fluoride					
Total alkalinity (mg/L as CaCO3)					
Temperature (°F)					
pH (standard units)					

Table 2 for Outfall No._____; Samples are (check one): ☐ **Composites** ☐ **Grabs**

Pollutant	Sample 1 (µg/L)	Sample 2 (µg/L)	Sample 3 (µg/L)	Sample 4 (µg/L)	Average (µg/L)	MAL (µg/L)
Aluminum, total						2.5
Antimony, total						5
Arsenic, total						0.5
Barium, total						3
Beryllium, total						0.5
Cadmium, total						1
Chromium, total						3
Chromium, hexavalent						3
Chromium, trivalent						N/A
Copper, total						2
Cyanide, available						2/10
Lead, total						0.5
Mercury, total						0.005/0.0005
Nickel, total						2
Selenium, total						5
Silver, total						0.5
Thallium, total						0.5
Zinc, total						5.0

TABLE 3

Partial completion of Table 3 is required for all external outfalls. For discharges of stormwater runoff commingled with other wastestreams, complete Table 3 as instructed (Instructions, Page 36).

Table 3 for Outfall No. _____; Samples are (check one): ☐ Composites ☐ Grabs

Pollutant	Samp. 1 (µg/L)*	Samp. 2 (µg/L)*	Samp. 3 (µg/L)*	Samp. 4 (µg/L)*	Avg. (µg/L)*	MAL (µg/L)*
Acrylonitrile						50
Anthracene						10
Benzene						10
Benzidine						50
Benzo(a)anthracene						5
Benzo(a)pyrene						5
Bis(2-chloroethyl)ether						10
Bis(2-ethylhexyl)phthalate						10
Bromodichloromethane [Dichlorobromomethane]						10
Bromoform						10
Carbon tetrachloride						2
Chlorobenzene						10
Chlorodibromomethane [Dibromochloromethane]						10
Chloroform						10
Chrysene						5
m-Cresol [3-Methylphenol]						10
o-Cresol [2-Methylphenol]						10
p-Cresol [4-Methylphenol]						10
1,2-Dibromoethane						10
m-Dichlorobenzene [1,3-Dichlorobenzene]						10
o-Dichlorobenzene [1,2-Dichlorobenzene]						10
p-Dichlorobenzene [1,4-Dichlorobenzene]						10
3,3'-Dichlorobenzidine						5
1,2-Dichloroethane						10
1,1-Dichloroethene [1,1-Dichloroethylene]						10
Dichloromethane [Methylene chloride]						20
1,2-Dichloropropane						10
1,3-Dichloropropene [1,3-Dichloropropylene]						10
2,4-Dimethylphenol						10
Di-n-Butyl phthalate						10
Ethylbenzene						10

Pollutant	Samp. 1 (µg/L)*	Samp. 2 (µg/L)*	Samp. 3 (µg/L)*	Samp. 4 (µg/L)*	Avg. (µg/L)*	MAL (µg/L)*
Fluoride						500
Hexachlorobenzene						5
Hexachlorobutadiene						10
Hexachlorocyclopentadiene						10
Hexachloroethane						20
Methyl ethyl ketone						50
Nitrobenzene						10
N-Nitrosodiethylamine						20
N-Nitroso-di-n-butylamine						20
Nonylphenol						333
Pentachlorobenzene						20
Pentachlorophenol						5
Phenanthrene						10
Polychlorinated biphenyls (PCBs) (**)						0.2
Pyridine						20
1,2,4,5-Tetrachlorobenzene						20
1,1,2,2-Tetrachloroethane						10
Tetrachloroethene [Tetrachloroethylene]						10
Toluene						10
1,1,1-Trichloroethane						10
1,1,2-Trichloroethane						10
Trichloroethene [Trichloroethylene]						10
2,4,5-Trichlorophenol						50
TTHM (Total trihalomethanes)						10
Vinyl chloride						10

(*) Indicate units if different from µg/L.
(**) Total of PCB-1242, PCB-1254, PCB-1221, PCB-1232, PCB-1248, PCB-1260, and PCB-1016

TABLE 4

Completion of Table 4 **is required** for each external outfall, but **is not required** for internal outfalls. (Instructions, Pages 36-37)

a. Enterococci

Does or will your facility discharge Domestic wastewater?

☐ Yes ☐ No

If **yes**, provide the appropriate testing results in Table 4 below.

Table 4 for Outfall No. _____; Samples are (check one): ☐ Composites ☐ Grabs

Pollutant	Sample 1	Sample 2	Sample 3	Sample 4	Average	MAL
Enterococci (cfu or MPN/100 mL)						N/A

TABLE 5

Completion of Table 5 is required for all external outfalls but is not required for internal outfalls. (Instructions, Page 37)

Table 5 for Outfall No. _____; Samples are (check one): ☐ **Composites** ☐ **Grabs**

Pollutants	Believed Present	Believed Absent	Average Concentration (mg/L)	Maximum Concentration (mg/L)	No. of Samples	MAL (µg/L)*
Bromide						400
Color (PCU)						—
Nitrate-Nitrite (as N)						—
Sulfide (as S)						—
Sulfite (as SO3)						—
Surfactants						—
Boron, total						20
Cobalt, total						0.3
Iron, total						7
Magnesium, total						20
Manganese, total						0.5
Molybdenum, total						1
Tin, total						5
Titanium, total						30

* Indicate units if different from µg/L.