

STATEMENT OF BASIS/TECHNICAL SUMMARY AND
EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

DESCRIPTION OF APPLICATION

Applicant: Port of Corpus Christi Authority of Nueces County; Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0005253000 (EPA I.D. No. TX0138347)

Regulated Activity: Industrial wastewater permit

Type of Application: New permit

Request: New permit

Authority: Federal Clean Water Act (CWA) §402; Texas Water Code (TWC) §26.027; 30 Texas Administrative Code (TAC) Chapter 305, Subchapters C-F, and Chapters 307 and 319; commission policies; and Environmental Protection Agency (EPA) guidelines

EXECUTIVE DIRECTOR RECOMMENDATION

The executive director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The draft permit will expire at midnight, five years from the date of permit issuance according to the requirements of 30 TAC §305.127(1)(C)(i).

REASON FOR PROJECT PROPOSED

The applicant has applied to the Texas Commission on Environmental Quality (TCEQ) for a new permit.

PROJECT DESCRIPTION AND LOCATION

The applicant currently proposes to operate Harbor Island Property - Former FINA Tank Farm, a seawater desalination facility.

Seawater will be pumped to the plant from the Gulf of Mexico, through coarse screens that will keep large material from entering the pretreatment processes. The screen will reject captured solids as industrial solid waste into a dumpster and will be sent off-site for disposal. Sodium hypochlorite (NaOCl) will be added as needed to clear marine growth from the screens. The water will enter a rapid mixing unit where flocculant is added. It will then flow into the main clarifier tank, where suspended solids will settle. The settled solids will be removed periodically as underflow to the Sludge Thickener (ST). The clarifier effluent will flow to the Settled Water Clearwell (SWC), where NaOCl may be added as needed for the oxidation of manganese and partial disinfection.

From the SWC, the water will pass into the strainer, where solids and debris will be removed as necessary to protect the Ultrafiltration (UF) membranes. The strainers will be backwashed to the ST. NaOCl may be added as needed to the strainers. Particles exceeding a diameter greater than 0.001 µm will then be removed by passing the water under high pressure through the UF membranes. This process will be semi-continuous, with some UF units in forward flow and others in backwash or cleaning mode. Backwash flows will be sent to the UF Reject Tank and then stored for processing in the ST. UF permeate will be sent to a Clearwell, where NaOCl will be added, if needed.

From the Clearwell, water will be pumped through cartridge filters, the last unit to protect the desalination reverse osmosis (RO) skids. The RO units will remove particles larger than 0.1 nm. Pumps taking water from the Clearwell will apply high pressure to force the seawater through the RO

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membranes, leaving the total dissolved solids (TDS) behind. The process will be semi-continuous, with some units in forward mode and others in reject or cleaning mode. RO permeate will be passed through a calcite filter to add alkalinity and reduce corrosivity of the product water. The water will then be chlorinated and placed into one of two permeate storage tanks for distribution as potable water. The RO reject will be discharged to a brine tank and then pumped to Outfall 001.

Solids and sludge from the clarifiers, strainers, and UF reject tank will be passed into a mix tank where coagulant may be added as needed to increase the diameter of the solids and then routed into the ST. A flocculant may be added to the center of the well of the thickener to enhance solids separation. The supernate overflow will pass over the thickener weirs to the outfall stormwater tank. Underflow from the thickener will be pumped into a belt filter press (BFP) for dewatering. Solids generated during the water treatment process will be taken off site via truck for disposal. BFP filtrate will be routed to an outfall storage tank where it will commingle with thickener supernate prior to discharge via Outfall 001.

This permit does not authorize the discharge of domestic wastewater. All domestic wastewater must be disposed of in an approved manner, such as routing to an approved on-site septic tank and drainfield system or to an authorized third party for treatment and disposal.

The facility will be located adjacent to State Highway 361 just northeast of the Ferry Landing, Nueces County, Texas 78336.

Discharge Route and Designated Uses

The effluent will be discharged via pipe directly to Corpus Christi Bay in Segment No. 2481 of the Bays and Estuaries. The designated uses for Segment No. 2481 are primary contact recreation, exceptional aquatic life use, and oyster waters. The effluent limits in the draft permit will maintain and protect the existing instream uses. All determinations are preliminary and subject to additional review and revisions.

Antidegradation Review

In accordance with 30 TAC § 307.5 and TCEQ's *Procedures to Implement the Texas Surface Water Quality Standards* (June 2010), an antidegradation review of the receiving waters was performed. A Tier 1 antidegradation review has preliminarily determined that existing water quality uses will not be impaired by this permit action. Numerical and narrative criteria to protect existing uses will be maintained. A Tier 2 review has preliminarily determined that no significant degradation of water quality is expected in Corpus Christi Bay, which has been identified as having exceptional aquatic life use. Existing uses will be maintained and protected. The preliminary determination can be reexamined and may be modified if new information is received.

Endangered Species Review

A priority watershed of critical concern has been identified in Segment No. 2481 in Nueces County. The piping plover, *Charadrius melodus* Ord, a threatened aquatic-dependent species, has been determined to occur in the watershed of Segment No. 2481; however, the facility is not a petroleum facility and its discharge is not expected to have an effect on the piping plover. To make this determination for TPDES permits, TCEQ and the U.S. Environmental Protection Agency (EPA) only considered aquatic or aquatic-dependent species occurring in watersheds of critical concern or high priority as listed in Appendix A of the United States Fish and Wildlife Service's biological opinion on the State of Texas assumption of the TPDES (September 14, 1998; October 21, 1988 update). The determination is subject to reevaluation due to subsequent updates or amendments to the biological opinion. The permit does not require EPA review with respect to the presence of endangered or threatened species.

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Impaired Water Bodies

Segment No. 2481 is currently listed on the state's inventory of impaired and threatened waters, the 2014 CWA §303(d) list, for some of the segment's recreational beaches. The listing is specifically for elevated bacteria levels at Cole Park (AU 2481CB_03), Ropes Park (AU 2481CB_04), and Poenisch Park (AU 2481CB_06).

This permit will not authorize the discharge of any domestic wastewater, and the facility has no other potential sources of bacteria from the proposed processes. The proposed discharge from this facility is not expected to cause or contribute to the listed impairment for bacteria.

Completed Total Maximum Daily Loads (TMDLs)

One finalized TMDL Project is available for Segment No. 2481: *Two Total Maximum Daily Loads for Indicator Bacteria at Corpus Christi Bay Beaches, Cole Park and Ropes Park: Segment 2481CB - Assessment Units 2181CB_03 and 2481CB_04* (Project No. 97). This proposed discharge is located outside the scope of the TMDL project.

Dissolved Oxygen

Due to the low levels of oxygen-demanding constituents expected from this type of discharge, no significant dissolved oxygen depletion is anticipated in the receiving waters as a result of this discharge.

Diffuser Analysis

Outfall 001 will consist of a submerged multi-port diffuser, located approximately 300 feet from the shoreline.

An initial mixing analysis was conducted of the proposed discharge via Outfall 001 into the Corpus Christi Bay was conducted using the CORMIX Version 11 GTD modeling system. Based on this initial mixing analysis, the following critical effluent percentages were recommended:

Chronic Aquatic Life Effluent %: 1.34

Acute Aquatic Life Effluent %: 18.4

Human Health Effluent %: 1.2

An additional mixing analysis was conducted of the proposed discharge via Outfall 001 into the Corpus Christi Bay using the CORMIX Version 11.0 GTD (Version 11.0.1.0) modeling software. Additional details of this analysis are included in the report titled, *Mixing Analysis for the Port of Corpus Christi Authority of Nueces County*, dated August 10, 2021. Based on the updated mixing analysis, the final critical effluent percentages are:

Chronic Aquatic Life Effluent %: 8.9

Acute Aquatic Life Effluent %: 14.6

Human Health Effluent %: 5.4

SUMMARY OF EFFLUENT DATA

Self-reporting data is not available because the facility has not been constructed.

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REASONABLE POTENTIAL (RP) DETERMINATION

A reasonable potential determination was performed in accordance with 40 CFR § 122.44(d)(1)(ii) to determine whether the discharge will reasonably be expected to cause or contribute to an exceedance of a state water quality standard or criterion within that standard. Each test species is evaluated separately. The RP determination is based on representative data from the previous three years of chronic WET testing. This determination was performed in accordance with the methodology outlined in the TCEQ letter to the EPA dated December 28, 2015 and approved by the EPA in a letter dated December 28, 2015.

With no WET testing history, and therefore zero failures, a determination of no RP was made. WET limits are not required and both test species may be eligible for the testing frequency reduction after one year of quarterly testing.

DRAFT PERMIT CONDITIONS

The draft permit authorizes the discharge of water treatment wastes at a daily average flow not to exceed 95.6 million gallons per day (MGD) via Outfall 001.

Effluent limitations are established in the draft permit as follows:

Outfall	Pollutant	Daily Average		Daily Maximum	
		mg/L	lbs/day	mg/L	lbs/day
001	Flow	95.6 MGD		110 MGD	
	Total Suspended Solids	Report	Report	Report	Report
	Total Dissolved Solids	Report	Report	Report	Report
	Chloride	Report	Report	Report	Report
	Sulfate	Report	Report	Report	Report
	pH (Standard Units, SU)	6.0 SU, min		9.0 SU	

Outfall Location

Outfall	Latitude	Longitude
001	27.844412 N	97.063602 W

Technology-Based Effluent Limitations

Regulations in Title 40 of the Code of Federal Regulations (40 CFR) require that technology-based limitations be placed in wastewater discharge permits based on federal effluent limitations guidelines (ELGs), where applicable, or on best professional judgment (BPJ) in the absence of guidelines.

The discharge of water treatment wastes resulting from desalination processes is not subject to any ELGs. Monitoring and reporting requirements for total suspended solids have been included in the draft permit at Outfall 001 based upon BPJ due to the potential for suspended solids to be present in the discharge.

Water Quality-Based Effluent Limitations

Calculations of water quality-based effluent limitations for the protection of aquatic life and human health are presented in Appendix A. Aquatic life criteria established in Table 1 and human health criteria established in Table 2 of 30 TAC Chapter 307 are incorporated into the calculations, as are recommendations in the Water Quality Assessment Team's memorandums dated June 10, 2020 and August 10, 2021 and the most stringent calculations were incorporated into Appendix A. TCEQ practice for determining significant potential is to compare the reported analytical data from the

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facility against percentages of the calculated daily average water quality-based effluent limitation. Permit limitations are required when analytical data reported in the application exceeds 85 percent of the calculated daily average water quality-based effluent limitation. Monitoring and reporting is required when analytical data reported in the application exceeds 70 percent of the calculated daily average water quality-based effluent limitation.

No analytical data was submitted with the application because the facility has not been constructed. Other Requirement No. 8 has been added to the draft permit requiring sampling and analysis of the effluent upon commencement of discharge. Based on a review of the data, the permit may be reopened to add limitations or monitoring requirements, if needed.

Total Dissolved Solids (TDS), Chloride, and Sulfate Screening

Segment No. 2481, which will receive the proposed discharge from this facility, does not have criteria established for TDS, chloride, or sulfate in 30 TAC Chapter 307; therefore, no screening was performed for TDS, chloride, or sulfate in the effluent. However, the applicant performed extensive analyses and modeling to conclude that the discharge would not impact salinity gradients in the surrounding waters and that survival, growth, and reproduction of aquatic life would not be significantly impacted. Furthermore, the permit includes acute and chronic biomonitoring testing requirements to further monitor for possible effects of the discharge on sensitive aquatic life. In addition, monitoring and reporting requirements for TDS, chloride, and sulfate have been included in the draft permit at Outfall 001 based on the presence of water treatment wastes in the proposed discharge.

pH Screening

The draft permit includes pH limits of 6.0 – 9.0 SU at Outfall 001, which will discharge directly into Corpus Christi Bay, Segment No. 2481. A pH screening was performed to ensure that the proposed pH limits would not cause a violation of the pH criteria in Corpus Christi Bay of 6.5 – 9.0 SU (see Appendix B). The proposed effluent limits of 6.0 – 9.0 SU are adequate to ensure that the discharge will not violate the pH criteria in Corpus Christi Bay and have been placed in the draft permit at Outfall 001.

Whole Effluent Toxicity Testing (Biomonitoring)

Biomonitoring requirements are included in the draft permit at Outfall 001.

We recommend saltwater chronic and 24-hour acute testing. For both tests, we recommend the mysid shrimp (*Mysidopsis bahia*) and the inland silverside (*Menidia beryllina*) as test species. For chronic testing, we recommend a testing frequency of once per quarter both test species. We recommend a dilution series of 4%, 5%, 7%, 9% and 12%, with a critical dilution of 9%. The critical dilution is in accordance with the "Aquatic Life Criteria" section of the "Water Quality Based Effluent Limitations/Conditions" section.

For 24-hour acute testing, we recommend we recommend the same test species and a testing frequency of once per six months for both test species.

This is a new facility that has not yet been constructed. Therefore, there is no WET testing history to review. WET testing will be required within 90 days of initial discharge from the facility.

SUMMARY OF CHANGES FROM APPLICATION

No changes were made from the application.

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SUMMARY OF CHANGES FROM EXISTING PERMIT

N/A – New Permit.

BASIS FOR DRAFT PERMIT

The following items were considered in developing the draft permit:

1. Application received on March 7, 2018, and additional information received on May 9, 2018, June 20, 2018, June 21, 2018, June 29, 2018, June 25, 2021, July 16, 2021, and July 28, 2021.
2. TCEQ Rules, including but not limited to, 30 TAC Chapters 305 and 312.
3. *Texas Surface Water Quality Standards* – 30 TAC §§307.1-307.10, effective March 6, 2014, as approved by EPA Region 6.
4. *Texas Surface Water Quality Standards* – 30 TAC §§307.1-307.10, effective July 22, 2010, as approved by EPA Region 6, for portions of the 2014 standards not approved by EPA Region 6.
5. *Texas Surface Water Quality Standards* – 30 TAC §§307.1-307.10, effective August 17, 2000, and Appendix E, effective February 27, 2002, for portions of the 2010 standards not approved by EPA Region 6.
6. *Procedures to Implement the Texas Surface Water Quality Standards* (IPs), Texas Commission on Environmental Quality, June 2010, as approved by EPA Region 6.
7. *Procedures to Implement the Texas Surface Water Quality Standards*, Texas Commission on Environmental Quality, January 2003, for portions of the 2010 IPs not approved by EPA Region 6.
8. Memos from the Standards Implementation Team and Water Quality Assessment Team of the Water Quality Assessment Section of the TCEQ.
9. *Guidance Document for Establishing Monitoring Frequencies for Domestic and Industrial Wastewater Discharge Permits*, TCEQ Document No. 98-001.000-OWR-WQ, May 1998.
10. EPA Effluent Guidelines: N/A.
11. Consistency with the Coastal Management Plan: The executive director has reviewed this action for consistency with the goals and policies of the Texas Coastal Management Program (CMP) in accordance with the regulations of the General Land Office and has determined that the action is consistent with the applicable CMP goals and policies.
12. Letter dated May 28, 2014, from L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ, to Bill Honker, Director, Water Quality Protection Division, EPA (TCEQ proposed development strategy for pH evaluation procedures).
13. Letter dated June 2, 2014, from William K. Honker, P.E., Director, Water Quality Protection Division, EPA, to L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ (Approval of TCEQ proposed development strategy for pH evaluation procedures).
14. *Two Total Maximum Daily Loads for Indicator Bacteria at Corpus Christi Bay Beaches, Cole Park and Ropes Park: Segment 2481CB - Assessment Units 2181CB_03 and 2481CB_04* (Project No. 97).
15. *Mixing Analysis for the Port of Corpus Christi Authority of Nueces County*, TCEQ, August 2021.

PROCEDURES FOR FINAL DECISION

When an application is declared administratively complete, the chief clerk sends a letter to the applicant advising the applicant to publish the Notice of Receipt of Application and Intent to Obtain Permit in the newspaper. In addition, the chief clerk instructs the applicant to place a copy of the application in a public place for reviewing and copying in the county where the facility is or will be located. This application will be in a public place throughout the comment period. The chief clerk also mails this notice to any interested persons and, if required, to landowners identified in the permit application. This

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notice informs the public about the application and provides that an interested person may file comments on the application or request a contested case hearing or a public meeting.

Once a draft permit is completed, it is sent to the chief clerk, along with the executive director's preliminary decision contained in the technical summary or fact sheet. At that time, the Notice of Application and Preliminary Decision will be mailed to the same people and published in the same newspaper as the prior notice. This notice sets a deadline for making public comments. The applicant must place a copy of the executive director's preliminary decision and draft permit in the public place with the application.

Any interested person may request a public meeting on the application until the deadline for filing public comments. A public meeting is intended for the taking of public comment and is not a contested case hearing.

After the public comment deadline, the executive director prepares a response to all significant public comments on the application or the draft permit raised during the public comment period. The chief clerk then mails the executive director's response to comments and final decision to people who have filed comments, requested a contested case hearing, or requested to be on the mailing list. This notice provides that if a person is not satisfied with the executive director's response and decision, they can request a contested case hearing or file a request to reconsider the executive director's decision within 30 days after the notice is mailed.

The executive director will issue the permit unless a written hearing request or request for reconsideration is filed within 30 days after the executive director's response to comments and final decision is mailed. If a hearing request or request for reconsideration is filed, the executive director will not issue the permit and will forward the application and request to the TCEQ commissioners for their consideration at a scheduled commission meeting. If a contested case hearing is held, it will be a legal proceeding similar to a civil trial in state district court.

If the executive director calls a public meeting or the commission grants a contested case hearing as described above, the commission will give notice of the date, time, and place of the meeting or hearing. If a hearing request or request for reconsideration is made, the commission will consider all public comments in making its decision and shall either adopt the executive director's response to public comments or prepare its own response.

For additional information about this application, contact Shannon Gibson at (512) 239-4284.

Shannon Gibson
Shannon Gibson

August 20, 2018 (Revised August 26, 2021)
Date

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Appendix A
Calculated Water Quality-Based Effluent Limits

TEXTOX MENU #5 - BAY OR WIDE TIDAL RIVER

The water quality-based effluent limitations developed below are calculated using:

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Saltwater Aquatic Life

Table 2, 2014 Texas Surface Water Quality Standards for Human Health

"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	Port of Corpus Christi Authority of Nueces County
TPDES Permit No:	WQ0005253000
Outfall No:	001
Prepared by:	Shannon Gibson
Date:	August 23, 2021

DISCHARGE INFORMATION

Receiving Waterbody:	Corpus Christi Bay
Segment No:	2481
TSS (mg/L):	10
Effluent Flow for Aquatic Life (MGD)	95.6
% Effluent for Chronic Aquatic Life (Mixing Zone):	8.9
% Effluent for Acute Aquatic Life (ZID):	14.6
Oyster Waters?	Yes
Effluent Flow for Human Health (MGD):	95.6
% Effluent for Human Health:	5.4

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

<i>Estuarine Metal</i>	<i>Intercept (b)</i>	<i>Slope (m)</i>	<i>Partition Coefficient (Kp)</i>	<i>Dissolved Fraction (Cd/Ct)</i>	<i>Water Effect Ratio (WER)</i>		
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Cadmium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (Total)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (+3)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (+6)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	4.85	-0.72	13489.63	0.88		1.00	Assumed
Lead	6.06	-0.85	162181.01	0.38		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	5.86	-0.74	131825.67	0.43		1.00	Assumed
Zinc	5.36	-0.52	69183.10	0.59		1.00	Assumed

AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>SW</i>		<i>WLAa</i>	<i>WLAc</i>	<i>LTAa</i>	<i>LTAc</i>	<i>Daily Avg. (ug/L)</i>	<i>Daily Max. (ug/L)</i>
	<i>SW Acute Criterion (ug/L)</i>	<i>Chronic Criteria n (ug/L)</i>						
Aldrin	1.3	N/A	7.07	N/A	2.26	N/A	3.32	7.03
Aluminum	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic	149	78	810	5821	259	3551	381	806
Cadmium	40.0	8.75	217	98.3	69.6	60.0	88.2	187
Carbaryl	613	N/A	3332	N/A	1066	N/A	1567	3316
Chlordane	0.09	0.004	0.489	0.045	0.157	0.027	0.040	0.085

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AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	SW		WLAa	WLAc	LTAa	LTAc	Daily Avg. (ug/L)	Daily Max. (ug/L)
	SW Acute Criterion (ug/L)	Chronic Criterio n (ug/L)						
Chlorpyrifos	0.011	0.006	0.060	0.448	0.019	0.273	0.028	0.059
Chromium (+3)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium (+6)	1,090	49.6	5924	557	1896	340	500	1057
Copper	13.5	3.6	83.3	305	26.6	186	39.2	82.9
Copper (oyster waters)	3.6	N/A	45.9	N/A	14.7	N/A	21.6	45.7
Cyanide (free)	5.6	5.6	30.4	418	9.74	255	14.3	30.3
4,4'-DDT	0.13	0.001	0.707	0.011	0.226	0.0069	0.010	0.021
Demeton	N/A	0.1	N/A	1.124	N/A	0.685	1.01	2.13
Diazinon	0.819	0.819	4.45	61.1	1.42	37.3	2.09	4.43
Dicofol	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dieldrin	0.71	0.002	3.86	0.022	1.23	0.014	0.020	0.043
Diuron	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endosulfan I (alpha)	0.034	0.009	0.185	0.672	0.059	0.410	0.087	0.184
Endosulfan II (beta)	0.034	0.009	0.185	0.672	0.059	0.410	0.087	0.184
Endosulfan sulfate	0.034	0.009	0.185	0.672	0.059	0.410	0.087	0.184
Endrin	0.037	0.002	0.201	0.022	0.064	0.014	0.020	0.043
Guthion	N/A	0.01	N/A	0.112	N/A	0.069	0.101	0.213
Heptachlor	0.053	0.004	0.288	0.045	0.092	0.027	0.040	0.085
Hexachlorocyclohexane (Lindane)	0.16	N/A	0.870	N/A	0.278	N/A	0.409	0.865
Lead	133	5.3	1895	156	606	95.24	140	296
Malathion	N/A	0.01	N/A	0.112	N/A	0.069	0.101	0.213
Mercury	2.1	1.1	11	82.1	3.65	50.1	5.37	11
Methoxychlor	N/A	0.03	N/A	0.337	N/A	0.206	0.302	0.639
Mirex	N/A	0.001	N/A	0.011	N/A	0.007	0.010	0.021
Nickel	118	13.1	641	147	205	89.79	132	279
Nonylphenol	7	1.7	38.0	19.1	12.2	11.7	17.1	36.2
Parathion (ethyl)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pentachlorophenol	15.1	9.6	82.1	716	26.3	437	38.6	81.7
Phenanthrene	7.7	4.6	41.8	343	13.4	209	19.7	41.6
Polychlorinated Biphenyls (PCBs)	10	0.03	54.3	0.337	17.4	0.206	0.302	0.639
Selenium	564	136	3065	1528	981	932	1370	2899
Silver	2	N/A	25.2	N/A	8.06	N/A	11.9	25.1
Toxaphene	0.21	0.0002	1.14	0.0022	0.365	0.0014	0.0020	0.0043
Tributyltin (TBT)	0.24	0.0074	1.30	0.083	0.417	0.051	0.075	0.158
2,4,5 Trichlorophenol	259	12	1408	135	450	82.2	121	256
Zinc	92.7	84.2	852	10631	273	6485	401	848

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	Fish Only		WLAh	LTAh	Daily Avg. (ug/L)	Daily Max. (ug/L)
	Criterion (ug/L)					
Acrylonitrile	3.8		70.4	65.4	96.2	204
Aldrin	0.0010		0.019	0.017	0.025	0.054
Anthracene	N/A		N/A	N/A	N/A	N/A
Antimony	1,071		19833	18445	27114	57364
Arsenic	N/A		N/A	N/A	N/A	N/A
Barium	N/A		N/A	N/A	N/A	N/A
Benzene	513		9500	8835	12987	27477
Benzidine	0.0020		0.037	0.034	0.051	0.107
Benzo(a)anthracene	3.28		60.7	56.5	83.0	176
Benzo(a)pyrene	0.33		6.11	5.68	8.35	17.7
Bis(chloromethyl)ether	0.44		8.15	7.58	11.1	23.6

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HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>Fish Only Criterion (ug/L)</i>	<i>WLAh</i>	<i>LTAh</i>	<i>Daily Avg. (ug/L)</i>	<i>Daily Max. (ug/L)</i>
Bis(2-chloroethyl)ether	10.06	186	173	255	539
Bis(2-ethylhexyl)phthalate	41	759	706	1038	2196
Bromodichloromethane (Dichlorobromomethane)	322	5963	5546	8152	17247
Bromoform	2,175	40278	37458	55064	116495
Cadmium	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	30.5	565	525	772	1634
Chlordane	0.0081	0.150	0.140	0.205	0.43
Chlorobenzene	5,201	96315	89573	131672	278571
Chlorodibromomethane (Dibromochloromethane)	239	4426	4116	6051	12801
Chloroform	7,143	132278	123018	180837	382587
Chromium (+6)	502	9296	8646	12709	26888
Chrysene	327	6056	5632	8279	17514
Cresols (Methylphenols)	9,301	172241	160184	235470	498172
Cyanide (free)	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.0059	0.109	0.102	0.149	0.32
4,4'-DDE	0.0040	0.074	0.069	0.101	0.214
4,4'-DDT	0.0040	0.074	0.069	0.101	0.214
2,4'-D	N/A	N/A	N/A	N/A	N/A
Danitol	473	8759	8146	11975	25334
1,2-Dibromoethane	4.24	78.5	73.0	107	227
m-Dichlorobenzene (1,3-Dichlorobenzene)	1,445	26759	24886	36583	77396
o-Dichlorobenzene (1,2-Dichlorobenzene)	4,336	80296	74676	109773	232241
p-Dichlorobenzene (1,4-Dichlorobenzene)	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	0.44	8.15	7.58	11.1	23.6
1,2-Dichloroethane	553	10241	9524	14000	29619
1,1-Dichloroethylene	23,916	442889	411887	605473	1280968
Dichloromethane (Methylene Chloride)	22,222	411519	382712	562587	1190235
1,2-Dichloropropane	226	4185	3892	5722	12105
1,3-Dichloropropene (1,3- Dichloropropylene)	211	3907	3634	5342	11301
Dicofol	0.30	5.56	5.17	7.60	16.1
Dieldrin	0.001	0.019	0.017	0.025	0.054
2,4-Dimethylphenol	571	10574	9834	14456	30583
Di-n-Butyl Phthalate	3,010	55741	51839	76203	161219
Dioxins/Furans (TCDD Equivalents)	7.97E-08	1.48E-06	1.37E-06	2.02E-06	4.27E-06
Endrin	0.20	3.70	3.44	5.06	10.7
Ethylbenzene	7,143	132278	123018	180837	382587
Fluoride	N/A	N/A	N/A	N/A	N/A
Heptachlor	0.0015	0.028	0.026	0.038	0.080
Heptachlor Epoxide	0.00075	0.014	0.013	0.019	0.040
Hexachlorobenzene	0.0045	0.083	0.078	0.114	0.24
Hexachlorobutadiene	274	5074	4719	6937	14676
Hexachlorocyclohexane (alpha)	0.093	1.72	1.60	2.35	4.98
Hexachlorocyclohexane (beta)	0.33	6.11	5.68	8.35	17.7
Hexachlorocyclohexane (gamma) (Lindane)	6.2	115	107	157	332
Hexachlorocyclopentadiene	N/A	N/A	N/A	N/A	N/A
Hexachloroethane	11.51	213	198	291	616
Hexachlorophene	2.90	53.7	49.9	73.4	155
Lead	3.83	186	173	254	538
Mercury	0.0250	0.463	0.431	0.633	1.34
Methoxychlor	1.61	29.8	27.7	40.8	86.2
Methyl Ethyl Ketone	992,000	18370370	17084444	25114133	53132622
Nickel	1,140	21111	19633	28861	61060

STATEMENT OF BASIS / TECHNICAL SUMMARY AND
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<i>Parameter</i>	<i>Fish Only Criterion (ug/L)</i>	<i>WLAh</i>	<i>LTAh</i>	<i>Daily Avg. (ug/L)</i>	<i>Daily Max. (ug/L)</i>
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	1,853	34315	31913	46912	99249
N-Nitrosodiethylamine	2.1	38.9	36.2	53.2	112
N-Nitroso-di-n-Butylamine	4.2	77.8	72.3	106	225
Pentachlorobenzene	1.0	18.5	17.2	25.3	53.6
Pentachlorophenol	9.1	169	157	230	487
Polychlorinated Biphenyls (PCBs)	6.4E-04	0.012	0.011	0.016	0.034
Pyridine	947	17537	16309	23975	50722
Selenium	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.71	13.1	12.2	18.0	38.0
1,1,2,2-Tetrachloroethane	40	741	689	1013	2142
Tetrachloroethylene	525	9722	9042	13291	28120
Thallium	0.23	4.26	3.96	5.82	12.3
Toluene	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.0053	0.098	0.091	0.134	0.28
2,4,5-TP (Silvex)	21	389	362	532	1125
1,1,1-Trichloroethane	956,663	17715981	16475863	24219518	51239933
1,1,2-Trichloroethane	295	5463	5081	7468	15801
Trichloroethylene	82	1519	1412	2076	4392
2,4,5-Trichlorophenol	2,435	45093	41936	61646	130421
TTHM (Sum of Total Trihalomethanes)	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	24	444	413	608	1285

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS:

<i>Aquatic Life Parameter</i>	<i>70%</i>	<i>85%</i>
Aldrin	2.33	2.82
Aluminum	N/A	N/A
Arsenic	267	324
Cadmium	61.7	74.9
Carbaryl	1097	1332
Chlordane	0.028	0.034
Chlorpyrifos	0.020	0.024
Chromium (+3)	N/A	N/A
Chromium (+6)	350	425
Copper	27.4	33.3
Copper (oyster waters)	15.1	18.4
Cyanide (free)	10.0	12
4,4'-DDT	0.0071	0.0086
Demeton	0.705	0.856
Diazinon	1.47	1.78
Dicofol	N/A	N/A
Dieldrin	0.014	0.017
Diuron	N/A	N/A
Endosulfan (alpha)	0.061	0.074
Endosulfan (beta)	0.061	0.074
Endosulfan sulfate	0.061	0.074
Endrin	0.014	0.017
Guthion	0.071	0.086
Heptachlor	0.028	0.034
Hexachlorocyclohexane (Lindane)	0.286	0.348
Lead	98.0	119
Malathion	0.071	0.086

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Aquatic Life

<i>Parameter</i>	<i>70%</i>	<i>85%</i>
Mercury	3.76	4.56
Methoxychlor	0.212	0.257
Mirex	0.0071	0.0086
Nickel	92.4	112
Nonylphenol	12.0	14.6
Parathion (ethyl)	N/A	N/A
Pentachlorophenol	27.0	32.8
Phenanthrene	13.8	16.7
Polychlorinated Biphenyls (PCBs)	0.212	0.257
Selenium	959	1165
Silver	8.30	10.1
Toxaphene	0.0014	0.0017
Tributyltin (TBT)	0.052	0.063
2,4,5 Trichlorophenol	84.6	103
Zinc	281	341

Human Health

<i>Parameter</i>	<i>70%</i>	<i>85%</i>
Acrylonitrile	67.3	81.8
Aldrin	0.018	0.022
Anthracene	N/A	N/A
Antimony	18980	23047
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	9091	11039
Benzidine	0.035	0.043
Benzo(a)anthracene	58.1	70.6
Benzo(a)pyrene	5.85	7.10
Bis(chloromethyl)ether	7.80	9.47
Bis(2-chloroethyl)ether	178	216
Bis(2-ethylhexyl)phthalate	727	882
Bromodichloromethane (Dichlorobromomethane)	5706	6929
Bromoform	38545	46804
Cadmium	N/A	N/A
Carbon Tetrachloride	541	656
Chlordane	0.144	0.174
Chlorobenzene	92170	111921
Chlorodibromomethane (Dibromochloromethane)	4235	5143
Chloroform	126586	153711
Chromium (+6)	8896	10803
Chrysene	5795	7037
Cresols (Methylphenols)	164829	200150
Cyanide (free)	N/A	N/A
4,4'-DDD	0.105	0.127
4,4'-DDE	0.071	0.086
4,4'-DDT	0.071	0.086
2,4'-D	N/A	N/A
Danitrol	8382	10179
1,2-Dibromoethane	75.1	91.2
m-Dichlorobenzene (1,3-Dichlorobenzene)	25608	31095
o-Dichlorobenzene (1,2-Dichlorobenzene)	76841	93307
p-Dichlorobenzene (1,4-Dichlorobenzene)	N/A	N/A
3,3'-Dichlorobenzidine	7.80	9.47
1,2-Dichloroethane	9800	11900
1,1-Dichloroethylene	423831	514652
Dichloromethane (Methylene Chloride)	393811	478199
1,2-Dichloropropane	4005	4863

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Human Health		
Parameter	70%	85%
1,3-Dichloropropene (1,3- Dichloropropylene)	3739	4541
Dicofof	5.32	6.46
Dieldrin	0.018	0.022
2,4-Dimethylphenol	10119	12287
Di-n-Butyl Phthalate	53342	64773
Dioxins/Furans (TCDD Equivalents)	1.41E-06	1.72E-06
Endrin	3.54	4.30
Ethylbenzene	126586	153711
Fluoride	N/A	N/A
Heptachlor	0.027	0.032
Heptachlor Epoxide	0.013	0.016
Hexachlorobenzene	0.080	0.097
Hexachlorobutadiene	4856	5896
Hexachlorocyclohexane (alpha)	1.65	2.00
Hexachlorocyclohexane (beta)	5.85	7.10
Hexachlorocyclohexane (gamma) (Lindane)	110	133
Hexachlorocyclopentadiene	N/A	N/A
Hexachloroethane	204	248
Hexachlorophene	51.4	62.4
Lead	178	216
Mercury	0.443	0.538
Methoxychlor	28.5	34.6
Methyl Ethyl Ketone	17579893	21347013
Nickel	20203	24532
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	32838	39875
N-Nitrosodiethylamine	37.2	45.2
N-Nitroso-di-n-Butylamine	74.4	90.4
Pentachlorobenzene	17.7	21.5
Pentachlorophenol	161	196
Polychlorinated Biphenyls (PCBs)	0.011	0.014
Pyridine	16782	20379
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	12.6	15.3
1,1,2,2-Tetrachloroethane	709	861
Tetrachloroethylene	9304	11298
Thallium	4.08	4.95
Toluene	N/A	N/A
Toxaphene	0.094	0.114
2,4,5-TP (Silvex)	372	452
1,1,1-Trichloroethane	16953663	20586591
1,1,2-Trichloroethane	5228	6348
Trichloroethylene	1453	1765
2,4,5-Trichlorophenol	43152	52399
TTHM (Sum of Total Trihalomethanes)	N/A	N/A
Vinyl Chloride	425	516

