

SOAH DOCKET NO. 582-20-1895
TCEQ DOCKET NO. 2019-1156-IWD

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| IN THE MATTER OF THE | § | BEFORE THE STATE OFFICE |
| APPLICATION OF PORT OF | § | |
| CORPUS CHRISTI AUTHORITY OF | § | OF |
| NUECES COUNTY FOR TPDES | § | |
| PERMIT NO. WQ0005253000 | § | ADMINISTRATIVE HEARINGS |

PAC'S PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW

I. PROPOSED FINDINGS OF FACT

A. Whether the Proposed Discharge will Adversely Impact: the Marine Environment, Aquatic Life, and Wildlife, Including Birds and Endangered or Threatened Species, Spawning Eggs, or Larval Migration.

1. The proposed discharge will not comply with the requirements of the Texas Surface Water Quality Standards (TSWQS) and the permit will not be protective of aquatic life.
2. Early life stages of some fin and shellfish are very sensitive to high salinity levels and change in salinity levels because the fish can sink or swell as they lose their ability to retain their needed water balance when exposed to such conditions. (PAC-5, at 12:9-17; Tr. Vol. 3, at 39:13-17, 53:22-5:19; PAC-4, at 12:24-25).
3. The proposed discharge will result in loss of life and significant adverse effects on early life stages of fin and shellfish, including their larvae, in the effluent plume in the zone of initial dilution (ZID) and aquatic mixing zone (AMZ). (PAC-1, at 12:1-22; PAC-4, at 7:11-14, 20:5-7; PAC-6, at 13:1-10, 14:21-23; PAC-5, at 12:9-17).
4. The proposed discharge will create adverse toxic effects on aquatic life in the ZID and AMZ. (PAC-1, at 5:2-3; PAC-6, at 8:18-22).
5. The proposed discharge will result in salinity gradients and will not support the current conditions existing levels of aquatic life uses. (PAC-1, at 5:2-3, 7:19, 12:1-22).
6. Early life stages of aquatic species cannot swim around the plume of effluent to avoid being mixed into that plume. (Tr. Vol. 3, at 12:17-24; 21:7; 243:18-244:18; PAC-4, at 12:6-15; PAC-6, at 12:14-18, 14:4-16).

7. While levels of salinity raise and fall, they do so over time, allowing time for acclimation by aquatic species that protects them.
8. Early life stages of aquatic species will be adversely affected by the sudden changes in salinity that will be associated with the proposed discharge. (PAC-4, at 9:14-17).
9. Following the EPA and Texas Guidelines, 37.4 parts per thousand (ppt) is the limit for acute salinity exposure for the most sensitive species. (Tr. Vol. 3, at 49:17-23, 58:13-60:10).
10. The proposed discharge will result in salinity levels at the outfall in the range of 40 to 80 ppt.
11. Due to the design of the diffuser, the mixing of the effluent at the outfall with the receiving waters and the aquatic species in the water will result in levels of salinity well above ambient levels and high enough to kill or stress a number of aquatic species in the effluent plume in the ZID and AMZ. (PAC-1, at 5:2-3; PAC-5, at 11:10-21; PAC-4, at 12:13-25; PAC-6, at 14:4-16; Tr. Vol. 4, at 23:3-21; Tr. Vol. 3, at 264:13-265:3).
12. The change in salinity in the Pass/Channel that will result from the proposed discharge will disrupt the spawning and migration patterns, adversely affecting numbers of species' ability to survive to reach and mature in the nursery area of the Corpus Christi Bay system. (PAC-1, at 7:19, 11:15-19, 12:1-5; Tr. Vol. 2, at 95:5-8; PAC-4, at 20:5-7; Tr. Vol. 3, at 13:18-25).
13. The careful consideration required for evaluating the impacts of a discharge of salinity was not done by the ED or the Port. (PAC-6, at 13:1-10, 21:1-18).
14. The proposed discharge will be into receiving waters classified as Oyster Waters. (Tr. Vol. 5, at 162:6-14; 169:22-170:9).
15. The TSWQS have special limits for levels of copper in Oyster Waters due to the sensitivity of oysters to copper. (30 TAC § 307.7(b)(3)(B)).
16. High levels of copper were found in the source water used by the Port for salinity and temperature data. (PAC-3, at 18:8-13).
17. Despite a request from Texas Parks and Wildlife Department (TPWD) to do so, the ED did not require the Port to provide any data on copper or any other the constituents of the source water, other than salinity. (PAC-8, at 89-90).
18. The Port has chosen perhaps the most ecologically sensitive aquatic area on the Texas coast for its proposed discharge of concentrated brine. (PAC-1, at 3:14-15; 6:6-8; 16:2-16; Tr. Vol. 3, at 75:5-7).

19. The report by the TPWD and General Land Office (GLO) on state preferences for locations of discharges from desalination made clear the basis for state policy to protect Aransas Pass and other passes along the coast and to create incentives for locating such discharges in the Gulf. (PAC-7, at 7, 12, 13).
20. The permit has the potential to have devastating and far-reaching consequences to the marine environment and aquatic life, both in the immediate area and beyond. (PAC-5, at 7:18-20).

B. Whether the Proposed Discharge will Adversely Impact the Health of the Requesters and Their Families, Including Whether Fish and Other Seafood will be Safe for Human Consumption.

21. The Port failed to provide the characteristics of the effluent that may affect human health.
 - a. The Application failed to provide information about the effluent as required by 30 TAC § 305.45(a)(8)(B)(ii), which requires the physical, chemical, and radiological properties of the defined waste ...; the characteristics of the waste... ; the chemical, physical, thermal, organic, bacteriological, or radiological properties or characteristics, as applicable, **described in enough detail to allow evaluation of the water and environmental quality considerations involved;** ...(emphasis added)
 - b. The Application identified only one chemical, NaOCL, that may be used and discharged in the effluent. (S-APP 337).
 - c. The Application identified other uses for chemicals, including chemical coagulation that may be used and discharged in the effluent but did not identify the chemical(s), type(s) of chemical, or characteristics of the chemical(s) that may be used. (S-APP 336).
 - d. In its June 2020 agreement with the Port, the University of Texas, Marine Science Institute agreed to complete a report by January 2021 on such chemicals, types of chemicals or chemical characteristics (PAC-11, at 8), showing that the Port could have provided such information in its Application when first raised by TPWD in 2018. (PAC-11, at 8).
22. The Port submitted no evidence to support a finding that the proposed discharge will not adversely impact requesters and their families.
23. The Port submitted no evidence to support a finding that seafood will be safe for human consumption.

C. Whether the Proposed Discharge will Adversely Impact Recreational Activities, Commercial Fishing, or Fisheries in Corpus Christi Bay and the Pass/Channel.

All findings adopted for Issue A also apply here, along with the following additional findings:

24. The Aransas Pass tidal inlet is the most important multi-species, spawning site for the most economically valuable sportfishes in the region. (Tr. Vol. 2, at 78:8-10).
25. The productivity of local populations of sportfishes (red drum, spotted seatrout, sheepshead, black drum and southern flounder) are directly linked to, and dependent upon, the reproductive activity that occurs at this inlet. (PAC-1, at 7:6-7; Tr. Vol. 2, at 59:13-60:21).
26. The fisheries in the Corpus Christi Bay, Aransas Pass tidal inlet, and the Texas Gulf of Mexico support a multi-billion dollar commercial fishing industry (e.g., finfish, crab, and shrimp). (PAC-6, at 23:11-18).
27. Aransas Pass and other tidal inlets in the area have been designated as essential fish habitat, or EFH, due to their disproportional productivity of many fish species there. (PAC-1, at 6:6-8, 8:12-24).
28. The Aransas Pass is the only tidal inlet in the region, making it the main source of productivity (e.g. for spawning, migrating, feeding) and connectivity with the Gulf of Mexico for all the fish and invertebrate populations in this entire region. (PAC-6, at 10:8-18).
29. The draft permit will disrupt fish reproduction in the area to such a degree that it will likely result in significantly diminished fish populations in and around Corpus Christi Bay. (PAC-1, at 5:6-8).
30. The adverse effects to fish populations will cause significant damage to both commercial and recreational fishing industries, with commensurate economic devastation. (PAC-5, at 6:11-12, 12:23-13:2; PAC-6, at 23:11-18).
31. The predominant fish stocked by TPWD is Red Drum with 18 million red drum releases over a very short period of time. (Tr. Vol. 3, at 114:18-115:4).
32. The proposed discharge would negate much of the benefit of fish-stocking efforts of TPWD, which spends approximately \$3.7 million annually on fish stocking along the Texas coast. (Tr. Vol. 3, at 114:18-121:6).

D. Whether the Application, and Representations Contained therein, are Complete and Accurate.

33. The Port failed to provide a technical report in the Application pursuant to 30 TAC § 305.45(a)(8) prepared by either by a Texas licensed professional engineer, a Texas licensed professional geoscientist, or by a qualified person who is competent and experienced in the field to which the application relates and thoroughly familiar with the operation or project for which the application is made.

34. No one with the required license or expertise was identified in the Application or otherwise in the record as preparing the technical report.
35. No witness sponsored the Application or verified any of the facts in the Application.
36. No one with the Port or the consultant that prepared the Application testified at the hearing to support the opinions and facts provided in the Application.
37. The Port failed to provide accurate information in the Application pursuant to 30 TAC § 305.45 and .48 on the conditions in the receiving waters at the location of the outfall.
38. The Application provides general information on conditions in the Pass/Channel, i.e. the receiving waters. (S-APP 377), but failed to provide accurate information on the conditions in receiving waters needed for modeling and evaluation of impacts on water quality and the marine habitat as required by 30 TAC § 305.45(a)(8)(A) requiring information on the “systems used for or in connection with the disposal of waste, ...”
39. The Application states the depth of the water at the outfall is 63 feet (S-APP 357), but the evidence shows it to be about 90 feet. (PAC-3 BW-4; PAC-3 BW-5).
40. The Application states the bottom of the ship channel slopes away from the outfall (S-APP 353), but the evidence shows it to rise up from a hole that is approximately 90 feet deep dropping from the 63 foot surrounding level. (PAC-3 BW-5).
41. The Port failed to provide accurate information in the Application on the conditions used in the modeling and the Port’s interpretation of its modeling.
42. The Port admitted that its interpretation of its modeling with the CORMIX model that was provided in the Application is incorrect. (PAC-21, at 10).
43. The Port admitted that its statement in its Application (S-APP 377) that the sources of water quality data for determining the density of the effluent is not correct. (PAC-21, at 6:6-7).
44. The Port failed to provide any information on its plans of phasing in operations that would alter the discharge rates in its Application.
45. The Port failed to provide information in its Application on its proposed pattern of discharge pursuant to 30 TAC § 305.45(a)(8)(B)(i).
46. The Application identifies only the average daily and maximum daily discharge rate of 95.6 and 110 mgd. (S-APP 259).
47. The Application did not reveal the Port’s plans to operate at production rates that would reduce discharge rates below the average daily discharge rate.

48. The Application shows that lower production levels will reduce discharge rates, which can reduce the rate of dilution of the effluent below worst-case scenarios for the 95.6 mgd daily average discharge rate. (S-APP 361-2, Table 7).
49. The Application failed to provide information the effluent as required by 30 TAC § 305.45(a)(8)(B)(ii) which requires that the application include information on the chemicals or characteristics of the chemicals that can be expected to be in the discharge “described in enough detail to allow evaluation of the water and environmental quality considerations involved; ...”
50. The Application identified only one chemical, NaOCL, that may be used and discharged in the effluent. (S-APP 337).
51. The Application identified other uses for chemicals, including chemical coagulation, that may be used and discharged in the effluent but did not identify the chemical(s), type(s) of chemical(s), or characteristics of the chemical(s) that may be used. (S-APP 336).
52. In its June 2020 agreement with the Port, the University of Texas, Marine Science Institute agreed to complete a report by January 2021 on such chemicals, types of chemicals or chemical characteristics (PAC-11, at 8), showing that the Port could have provided such information in its Application when first raised by TPWD in 2018. (PAC-11, at 8).
53. The Port failed to provide the required data on the conditions at the outfall in its Application.
54. The Application does not include information on the conditions in the receiving waters at the location of the outfall, as required by 30 TAC § 305.47 (a)(8)(A) & (C), including the existence of an eddy which was identified by the Port by at least May, 2019. (PAC-23).
55. The Application does not include information on the velocities of the water in the Pass/Channel, which resulted in a proposed permit condition.
56. The Application includes inconsistent information on the location of the outfall.
57. The Application inaccurately indicates the Port will be the owner and operator of the facility, but the evidence demonstrates the Port will never own or operate the facility.

E. Whether the Applicant Substantially Complied with Applicable Public Notice Requirements.

58. The location of the outfall determines the owners of properties that are required to be identified in the Application as affected landowners. (S-APP 231-240; ED-SG-7, at 31).
59. In the Application, the Port provided latitude and longitude figures as well as drawings and figures for the location of the outfall. (S-APP 217, 232, 246, 258, 343, 357, 386).

60. The locations identified in the Application were not consistent. (PAC-3, at 13:17-14:31; Tr. Vol. 2, at 245:11-23).

F. Whether the Draft Permit is Consistent with the Texas Coastal Management Program's Goals and Policies.

61. The consistency determination was based on a one-page threshold review sheet that asks whether the discharge is subject to EPA's Categorical Effluent Standards, not whether this unique, first of its kind, discharge is consistent with the states' policies to protect the coastal waters.
62. The evaluation was not done based on TSWQS which provides that the absence of numerical criteria must not preclude evaluations and regulatory actions based on estuarine salinity, and careful consideration must be given to all activities that may detrimentally affect salinity gradients.
63. The consistency determination was based on the original draft permit, before the percentage at the ZID was raised from 1.95 to 18.4 percent (Tab C ED-056). There was no new memo or determination of consistency after the permit was changed. (Tab F ED-0077).
64. The revised draft permit does not reflect the actual conditions at the outfall, and no reevaluation of consistency has been performed using the correct figures for the percentages of the effluent remaining at the boundaries of the mixing zone, about 70% at the ZID, 30% at the acute mixing zone. (PAC-23).

G. Whether the Modeling Complies with Applicable Regulations to Ensure the Draft Permit is Protective of Water Quality, Utilizing Accurate Inputs.

65. The CORMIX model cannot provide reliable predictions of mixing due to the conditions at the proposed location of the outfall. (PAC-2, at 14:18-20; PAC-3, at 10:25-26).
66. The critical representations of fact on conditions at the outfall, including depth and slope of the Pass/Channel and the existence of an eddy were either not provided or were not accurate. (PAC-2, at 9:18-29; PAC-3, at 15:1-20; Tr. Vol. 6, at 83:10-85:13).
67. The CORMIX model cannot be used to predict the extent of mixing needed for evaluation of the impacts of the effluent due to the actual conditions at the outfall. (PAC-2, at 14-15; PAC-3, at 10:25-31).
68. If the CORMIX model could be used, TCEQ did not correctly interpret the results from the CORMIX modeling for purposes of the development of the initial draft permit and the Port did not correctly interpret the results in presenting its modeling results and the mixing conditions in its Application (Tr. Vol. 6, at 36:21-24; PAC-21, at 10).

69. The ED incorrectly interpreted the predictions from the CORMIX model for the initial draft permit and reported that the percentage of effluent at the boundary of the ZID would be 1.95%. (Tr. Vol. 6, at 36:21-24).
70. The reinterpretation of the modeling by the ED for the revised draft permit reported that the percentage of effluent at the ZID boundary would be 18.4%. (Tr. Vol. 6, at 42:14-18; ED-SG-1, at 8:29-9:3).
71. The modeling by the Port reported in the Application was also not properly interpreted, and, as a result much of the technical reports in the Application, including pages S-APP 338-9 and 361-367 are not accurate. (PAC-21, at 9-10).
72. If the CORMIX model could be used, TCEQ and the Port did not use accurate inputs for its modeling. (Tr. Vol. 6, at 36:21-24; PAC-21, at 9-10).
73. The CORMIX modeling is used to determine the worst-case scenario and to provide conservative conditions in the draft permit. (Tr. Vol. 6, at 35:8-12).
74. The CORMIX model is used determine the extent of mixing in the three mixing zones. (Tab F ED-0058; ED-KC-3).
75. The errors and omissions in the Application misled the ED into recommending a draft permit based on representations that do not reflect the actual conditions. (Tr. Vol. 6, at 29:3-30:6, 74:25-75:5).
76. The following inputs used by the ED for the modeling for the revised draft permit were in error:
 - a. The depth of the Pass/Channel at the outfall, shown as 63 feet in the application (S-APP 357), but is actually about 90 feet (PAC-2, at 14);
 - b. The slope of the Pass/Channel bottom at the outfall, shown as a 45 feet downward slope in the application, (S-APP 353) is about 90 feet (PAC-2, at 14);
 - c. The height of the outfall above the bottom of the Pass/Channel which is shown at 12 feet above the bottom (or 51 feet below the surface (S-APP 358)), but would actually be near 80 feet below the surface (**PAC-23**);
 - d. The velocity of the water flowing through the Pass/Channel at which the worst case scenario would exist was assumed as 0.05 m/s in the application. (S-APP 353), but which is actually higher, in the .25 to 1 m/s range. (PAC-2, at 7:27-29, 16:11-22; Tr. Vol. 2, at 114:10-115:7, 140:10-25, 164:7-166:12).
 - e. The direction of the water flowing through the Pass/Channel which were assumed to be in a straight line parallel with the diffuser in the Application (S-APP 355) but which involve an eddy that will move the water in multiple directions and potentially

recirculate effluent in the mixing zones and over the boundaries of the mixing zones at the location of the array. (PAC-3, at 21:17-23:33; PAC-15, at 6:12; Tr. Vol. 6, 22:13-23:12); and

- f. The error in the reporting on the source of the data used to develop densities of the effluent. (PAC-21, at 6:6).
 - g. The Port's plans for phased in production will result in lower flow rates, and the Application shows that at lower flow rates, mixing can be worse than at the flow rate identified in the Application for the discharge. (PAC-2, at 15:25-16:10; PAC-3, at 17:3-12).
- 77. There is no evidence in the record that any of the salinity figures from the Corpus Christi Bay or any salinity or temperature figures from the Lydia Ann Channel are representative of conditions for use as the effluent or ambient water quality.
 - 78. The results of the CORMIX model cannot be used with the TEX TOX model to develop effluent limits for salinity because there are no numerical criteria for salinity.
 - 79. TCEQ and the Port used targets at the boundaries of the mixing zones for conservative and protective salinity levels at 2.5% for the ZID, 1.5 for the AMZ and 1.0 for the human health mixing zone.
 - 80. The CORMIX model shows the percentages at the boundaries of the mixing zones to be over 60% at the ZID, 20% at the AMZ and over 10% at the human health mixing zone.
 - 81. There is no evidence that these levels of salinity that come from the CORMIX model are conservative or protective of water quality or the environment
 - 82. The SUNTANS and other far field models presented by the Port are not relevant to the impacts in the mixing zones and were not done with accurate inputs or assumptions.
 - 83. The SUNTANS modeling was used by the Port in an attempt to evaluate compliance with the TWQS outside of the AMZ. (Tr. Vol. 3, at 149:1-24).
 - 84. The Spreadsheet or salt balance developed by the Port's witnesses average the mixing of the effluent over the entire Ship Channel and does not address the extent of mixing in the ZID or AMZ. (APP-RP-1, at 18:28-19:5).
 - 85. Neither the SUNTANS nor the other far field models provide any information on the extent of mixing in the ZID or AMZ. (APP-JF-13, at 6).
 - 86. The SUNTANS modeling was run with the assumption that concentration of salinity in water in the Pass/Channel would be 1% over ambient conditions at the boundary of the AMZ (APP-JF-13, at 1).

87. The worst case scenario using the CORMIX modeling are predicted not to be 1% over ambient but 10 to 30 times greater than amount at the boundary of the AMZ. (PAC-2, at 16-17, 19).
88. Neither the SUNTANS modeling using the 1% over ambient nor the Spreadsheet support any determination of the extent of mixing in the ZID or AMZ.

H. Whether the Executive Director's Anti-Degradation Review was Accurate.

89. The proposed discharge is to Segment 2481 (Corpus Christi Bay) of the Texas classified surface water segments. (ED-MW-1, at 10:19-21).
90. Segment 2481 has human use of "primary recreation" and aquatic life use of "exceptional" and "oyster water." (30 TAC §307.10(1), Appx. A; ED-MW-1, at 15:31-32).
91. The record contains no credible evidence of the level of dissolved copper that is in intake water and will be concentrated in the effluent discharge and contains no credible evidence of the assimilative capacity for copper of the receiving water. (Tr. Vol. 5, at 232:2-14).
92. Under some or many assumptions regarding flow rates in the receiving water, the entire width of the channel and roughly half its depth is at least 1.2% effluent. (APP-RP-13).
93. TCEQ's antidegradation review of the impacts of the desalination discharge on its receiving water was based primarily on the reviewer's feeling or intuition. (PAC-16, at 34:14-19).
94. The TCEQ's antidegradation reviewer made no effort to determine the condition of the receiving water in 1975. (PAC-16, at 37:6-12).
95. The ability of TCEQ's reviewer's ability to conduct her antidegradation analysis was constrained by "the little time [she has] to review these applications," since "we are not given much time to do these reviews" and she is still learning the implementation of the water quality standards. (PAC-16, at 31:23-24, 32:6; Tr. Vol. 5, at 186:11-15).
96. No demonstration was made that degradation of water quality in the water body receiving the desalination effluent is necessary for important economic or social development.
97. The antidegradation screening for pH at the edge of the mixing zone for the desalination discharge is documented at Appendix B of the Executive Director's Preliminary Determination (Tab F, at ED-0047). However, the documentation reflects numerous arbitrary values were assigned to screening inputs and results. (Tr. Vol. 5, at 238:10-21; PAC-16, at 19:5-16; Tr. Vol. 56, p. 236:24-237:5; Tr. Vol. 5, at 233:19-234:13; Tr. Vol. 5, p. 234:14-21).

98. On reflection, the reviewer decided she would run the screening program using higher salinity input values, but she was instructed not to run the pH screening program, again, until after the hearing on the permit was over. (Tr. Vol. 6, at. 97:2-16).
99. The agency's antidegradation analysis was conducted in 2018 and relied on the 2018 critical conditions memo, which, itself, relied on the 2018 CORMIX modeling. That modeling was determined to have had errors and was re-run in 2020. The 2020 modeling supported a 2020 critical conditions memo, and both reported a nearly 10-fold increase in diffuser effluent concentration at the edge of ZID. (Tab F, ED-0050-0051; ED-0069-70).

I. Whether the Draft Permit Includes all Appropriate and Necessary Requirements.

100. The discharge will violate the TSWQS and cause significant harm to marine species.
101. The draft permit is not based on the actual conditions in the receiving waters.
102. The modeling does not provide a basis for establishing valid limits on the constituents in the discharge.
103. The application was not properly reviewed for consistency with the Coastal Management Program.
104. A proper evaluation of the anti-degradation requirements was not completed for the discharge.
105. A proper evaluation of the anti-degradation requirements would determine that the discharge does cause a degradation that is not de minimis.
106. A number of permit conditions required by law are not included in the draft permit, including:
 - a. The identity of the location of the point of discharge of the waste, as required by Tex. Water Code § 26.029(a)(2).
 - b. A description of the effluent, as required by Tex. Water Code § 26.029(a)(2) and 30 TAC §305.45(a)(8)(B)(ii), providing the chemical characteristics or limits on likely chemicals in the effluent because the ED did not require such information. (PAC 8, at 89-91, repeated at 45-46, 67-70, 77-78, 86-87 and 92-93).
107. A number of conditions are vague and not enforceable, including:
 - a. Other Requirement 4 (Tab F ED 0014) does not include limits on the percentage of effluent at the AMZ or the human health mixing zone, despite the proof that there is a need for such limits. (APP-LT-9).

- b. Other Requirement 4 (Tab F ED 0014) does not provide for any method for determining how, how often, or under what conditions compliance with limitations on effluent percentages in the ZID must be demonstrated by the Port.
- c. Other Requirement 4 can only be enforced if the CORMIX model provides reliable results, which it does not for the location of the outfall. (PAC-2, at 14:18-20).
- d. Other Requirement 9 (Tab F ED 0015) is without a reasonable time schedule for completion and is vague and unenforceable as it does not require:
 - 1) a description of the size, direction and strength of an eddy at or near the outfall,
 - 2) any specific methodology to be used for the collection of data or the reporting on the methodology used and raw data collected.

108. Other Requirement 9 would allow postponement of the required evaluation of impacts of the discharge until after a permit in violation of PAC's due process rights.

J. Administrative Record Issues.

- 109. The Port's initial and final Applications in the Administrative Record contained a number of statements of fact and opinions that are not accurate, internally inconsistent and hearsay based on hearsay.
- 110. This problem was timely and properly raised in the Objection to the Admission of the Administrative Record for all Purposes and Motion to Limit the Admission of Certain Documents, filed by Protestants Mary Abell, and other parties.
- 111. Errors in the Application, including the conditions in the receiving waters at the outfall, were not corrected when known to the Port before the Application was entered in the Administrative Record.
- 112. Those facts and opinions in the Application that are not verified by other evidence in the record cannot be referenced as support for any Findings of Fact, except to show what the Application stated.
- 113. The introduction of the Application without any support by an expert or other person allows the Port and the ED the ability to rely on the errors of fact and unsupported opinions in their arguments before the Commission and on appeal to Texas Courts.

K. Transcript Costs.

- 114. The total amount of transcript costs subject to allocation are \$10,349.57.
- 115. The failure of the Port to file an accurate and complete application required all parties to expend significantly more time and resources.

- a. The Port admitted that the modeling of the Port in the Application, which was the basis of the diffuser design and conclusion that the effluent, would not meet water quality standards and protect the environment.
 - b. At the hearing, the Port finally admitted that a new design and other changes would be required for the CORMIX model to predict that its discharge could meet the revised limit on the percentage of effluent at the ZID, but not the other two mixing zones.
 - c. The Port’s own documents, the bathymetry and emails to TCEQ prove that there are significant errors in its Application.
116. Protestants expended significant resources in:
- a. Obtaining the CORMIX model to allow Protestants to evaluate the modeling by the ED and the Port (PAC-2, at 3:27-31, 4:16-22, 6:14-16);
 - b. Proving that both the ED and Port had incorrectly interpreted the results of their initial modeling (PAC-2, at 6:20-22);
 - c. Running the model multiple times to analyze of the sensitivity of the model for different inputs, including velocity (PAC-2, at 3:27-31);
 - d. Proving that the worst case mixing occurred at velocities in the receiving water greater than what had been assumed by the ED and the Port (PAC-2, at 10:14-25, 12:23-13:5, 16:11-17:12); and
 - e. Presenting four experts with significant knowledge of existence of and the potential impacts on the marine species in the receiving waters (PAC-1, PAC-4, PAC-5, PAC-6).
117. If the draft permit is granted or remanded for further processing, the Port would be the party receiving a greater relative benefit from the transcript and, as such, should bear all costs of the transcript.

II. PROPOSED CONCLUSIONS OF LAW

A. Whether the Proposed Discharge will Adversely Impact: the Marine Environment, Aquatic Life, and Wildlife, Including Birds and Endangered or Threatened Species, Spawning Eggs, or Larval Migration.

- 1. The Port has failed to meet its burden of proof under that its discharge will comply with the requirements of 30 TAC Sections §§ 305.45 & 48 to protect the environment and more specifically Chapter 307: the Texas Water Quality Standards (“TSWQS”) under which the permit must assure that:

- a. The discharge will not cause death in the Zone of Initial Dilution (“ZID”), the area closest to the outfall and diffuser. (30 TAC § 307.8(b)(2)).
- b. “Water in the state must be maintained to preclude adverse toxic effects on aquatic life.” (30 TAC § 307.6(b)(4)).
- c. Although “[n]umerical salinity criteria for Texas estuaries have not been established . . . careful consideration must be given to all activities that may detrimentally affect salinity gradients.” (30 TAC § 307.4(g)(3)).
- d. “Salinity gradients in estuaries must be maintained to support attainable estuarine dependent aquatic life uses.” (30 TAC § 307.4(g)(3)).
- e. “Attainable use” is “[a] use that can be reasonably achieved by a water body in accordance with its physical, biological, and chemical characteristics whether it is currently meeting that use or not.” (30 TAC § 307.3(a)(4)).
- f. Acute and chronic criteria in the TWQS for copper to protecting oysters in oyster waters will be met.

B. Whether the Proposed Discharge will Adversely Impact the Health of the Requesters and Their Families, Including Whether Fish and Other Seafood will be Safe for Human Consumption.

2. The Port has failed to meet its burden of proof, under Section 26.029(4) Tex. Water Code and under 30 TAC § 305.45.

C. Whether the Proposed Discharge will Adversely Impact Recreational Activities, Commercial Fishing, or Fisheries in Corpus Christi Bay and the Pass/Channel.

All conclusions adopted for Issue A also apply here

D. Whether the Application, and Representations Contained therein, are Complete and Accurate.

3. The Port has failed to meet its burden of proof, under Section 26.029(4) Tex. Water Code and under 30 TAC §§ 305.45 and 48 that the Application is complete and accurate.

E. Whether the Applicant Substantially Complied with Applicable Public Notice Requirements.

4. To the extent the location of the outfall remains at the latitude and longitude identified in its Final Application, on page 6 of 80 (S-APP 258), the Port did substantially comply with the applicable Public Notice Requirements under 30 TAC § 305.48(a)(2).

F. Whether the Draft Permit is Consistent with the Texas Coastal Management Program's Goals and Policies.

5. The Port has failed to meet its burden of proof under 30 TAC Chapter 281, Subchapter 2 that the draft permit is consistent with the Texas Coastal Management Program.

G. Whether the Modeling Complies with Applicable Regulations to Ensure the Draft Permit is Protective of Water Quality, Utilizing Accurate Inputs.

6. The Port has failed to meet its burden of proof, under Section 26.029 Tex. Water Code and under 30 TAC §§ 305.45 & 48 and Chapter 307, to show that the modeling to ensure the draft permit is protective of water quality utilizing accurate inputs.
 - a. Inputs are Not Accurate: The Port failed to meet its burden of proof that the modeling with the CORMIX done by both the TCEQ and the Port, as reflected in its Application, used accurate inputs.
 - b. Noncompliance with TSWQS: The Port failed to meet its burden of proof that the modeling with the CORMIX model by TCEQ or the Port shows that the Port can comply with TWQS of Chapter 307.
 - c. Lack of Relevance of SUNTANS and Spreadsheet Models: The Port failed to meet its burden of proof that the modeling done by the Port with the SUNTANS model or with the spread is relevant to the issues of compliance with TCEQ rules in the mixing zones.

H. Whether the Executive Director's Anti-Degradation Review was Accurate.

7. The Port did not meet its burden of proof under 30 TAC Chapter 307.
8. The impacts of the proposed discharge must be evaluated under the agency's Tier 2 antidegradation policy, as well as under the agency's Tier 1 policy. (30 TAC §§ 307.5(b)(2) and 307.10, Appx. A; ED-MW-3, at 61).
9. The highest water quality sustained since November 28, 1975, defines baseline conditions for determinations of degradation. (30 TAC § 307.5(c)(2)(B)).
10. Under its Tier 2 standards, TCEQ may permit no activity that would degrade water quality by more than a de minimis extent, unless the Commission is shown the degradation is necessary for important economic or social development. (30 TAC § 307.5(b)(2)).
11. The discharge is to oyster waters. (30 TAC § 307.10, Appx. A.) Such discharges must result in dissolved copper concentrations of less than 0.0135 mg/L in the mixing zone and of less than 0.0036 mg/L outside the mixing zone. (30 TAC § 307.6(c)(1), Table 1).
12. There must be no lethality to aquatic organisms that move through a ZID. (30 TAC § 307.6(c)).

13. Careful consideration must be given to all activities that may detrimentally affect salinity gradients. (30 TAC § 307.4(g)(3)).
14. The TWQS do not provide numerical standard for water quality in estuaries, but the absence of numerical criteria must not preclude evaluations and regulatory actions based on estuarine salinity, and careful consideration must be given to all activities that may detrimentally affect salinity gradients. (30 TAC § 307.4(g)(3)).
15. The pH analysis for the receiving water that was undertaken in support of the agency's antidegradation analysis is not credible.
16. A "zone of passage" around the effluent plume for aquatic life is not a valid basis to allow significant impacts on marine species in the mixing zones. (30 TAC § 307.307.8(b)(6)).
17. A preponderance of the credible record evidence does not allow a conclusion that the proposed desalination effluent discharge will neither impair existing aquatic life uses nor degrade baseline 1975 water quality by less than a de minimis extent.
18. The evidence does not allow a conclusion that the dissolved copper concentration in the receiving water for the proposed desalination effluent discharge will remain below either 0.0135 mg/L within the mixing zone or 0.0036 mg/L beyond the mixing zone.

I. Whether the Draft Permit Includes all Appropriate and Necessary Requirements.

19. The Port has failed to meet its burden of proof under Sections 26.027 Tex. Water Code and under 30 TAC §§ 305.45(a) and (c) and 305.48 (a)(4) and under Chapter 307 to assure that the appropriate and necessary requirements are included in the draft permit and that the discharge will comply with all state and federal laws and be protective of water quality and the marine environment.
20. The draft permit does not comply with the requirements for permits in Section 26.029, Tex. Water Code and 30 TAC.

J. Administrative Record Issues.

21. The requirement at TCEQ rule 30 TAC § 80.127(h) that the Application must be admitted into the evidentiary record as part of the Administrative Record at the beginning of the preliminary hearing conflicts with Tex. Gov't Code § 2003.047, Code requiring application of the Texas Rules of Evidence.
22. The failure of the Port to offer testimony to support of the facts and opinions in its Application makes those facts and opinions improper evidentiary, except to show what was in the Port's initial and final Applications.