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

APPLICATION OF THE PORT OF	**§**	**BEFORE THE STATE OFFICE**
CORPUS CHRISTI AUTHORITY OF	**§**	
NUECES COUNTY FOR TEXAS	**§**	
POLLUTANT DISCHARGE	**§**	**OF**
ELIMINATION SYSTEM (TPDES)	**§**	
PERMIT NO. WQ0005253000	**§**	**ADMINISTRATIVE HEARINGS**

PORT ARANSAS CONSERVANCY'S RESPONSE
TO OBJECTIONS AND MOTIONS TO STRIKE

TO THE HONORABLE ADMINISTRATIVE LAW JUDGES:

COMES, NOW, Port Aransas Conservancy (PAC) and files this response to the objections and motions to strike filed by the Port of Corpus Christi Authority of Nueces County (Port) and the Executive Director (ED) of the Texas Commission on Environmental Quality to the prefiled testimony and exhibits of PAC. In support hereof, PAC shows the following:

I. SUMMARY

The Port continues its scorched earth policy in this case, engaging in behavior designed to harass the protesting parties for exercising their lawful rights of participation in this proceeding. The Port has objected to every expert and nearly every exhibit offered by PAC, including even the Curriculum Vitae (CV) of PAC's expert witnesses. In one of the Port's objections, it has moved from the ridiculous to the sublime. Specifically, the Port objects that PAC-46R-SH-1 should not be admitted because it "has not been shown to be reliable." At the same time, the Port included this very document on its own list of materials relied on by its own expert, Dr. Lance Fontenot. (See Appendix 2 to Exhibit AP-LF-1R). Thus the Port has objected to the admissibility of the very basis of its own expert's testimony! This is just one example demonstrating the absurd nature of many of the Port's objections.

Further, the bulk of the Port's objections rest on the assumption that the Port's witnesses' opinions are more persuasive than PAC's experts. Namely, the basis for the Port to argue that PAC's experts' opinions are conclusory or unsupported is because the Port's witnesses testify differently. This is not an objection, but merely an argument to the credibility and persuasiveness of the witnesses.

In addition to its objections, the Port has filed a nearly **100-page motion to exclude PAC's experts**. This is not surprising, since the Port knows that the testimony of those experts—who are the foremost experts on the water body in issue—demonstrates that the Port's application on remand continues to be completely deficient in protecting the environment. Thus, the Port hopes to keep such evidence out of the record because its inclusion in the record reveals how terrible the Port's application truly is. The Port's actions stand in stark contrast to PAC's actions. PAC intentionally chose not to object to any of the Port's or the ED's prefiled evidence. Although the Port's evidence is lacking and unsupported in many respects, PAC believes that the best decision on such serious issues comes from consideration of a full and complete record. Certainly the Commissioners would expect nothing less.

Showing that the ED has completely lost its neutrality and objectivity in this case, the ED joins in, even objecting to communications from the United States Environmental Protection Agency (EPA) that **EPA itself instructed the TCEQ to include in the record before the ALJs**. It appears both the ED and the Port are doing everything possible to avoid a genuine and thorough review of the Port's application in this case. However, the issues in this case are too serious to let the Port's gamesmanship, and the ED's complicity, impede a thorough and meaningful review of the evidence. As set out in detail below, the objections and motions to strike are without merit and should be overruled and denied.

The witnesses in issue all have sufficient basis for testifying to the matters in dispute, and the documents in issue are admissible under the Texas Rules of Evidence. To the extent the Administrative Law Judges (ALJs) disagree, then PAC reserves the right to establish any necessary predicate prior to offering the evidence at hearing because the use of prefiled testimony may not be used to deny a party any meaningful substantive right. Under Tex. Gov't Code § 2001.085 and 30 Tex. Admin. Code § 80.127(c), prefiling may be used so long as "the interests of the parties will not be substantially prejudiced." Thus, while the prefiling of testimony and exhibits may be used as a tool for efficiency, it cannot deprive a party of any substantive or procedural rights. If a document or piece of testimony is offered into evidence at the hearing and a party objects based on authentication, lack of predicate, or other lack of foundation, the sponsoring party has the opportunity to establish the foundational predicate prior to admission. So, while prefiling both evidence and objections makes the process more efficient, the sponsoring party does not lose the right to establish any necessary evidentiary predicate for the evidence prior to even offering the evidence into the record.

Therefore, if the ALJs determine that an additional predicate is necessary before evidence may be admitted, then PAC must be given the opportunity to offer any necessary predicate for admissibility. To deny PAC this opportunity would be to substantially prejudice PAC's rights through the use of prefiling, which is not permissible under the Administrative Procedure Act, TCEQ rules, or under principles of due process. Thus, the use of prefiling may not deprive PAC of the rights it would otherwise have at hearing if the testimony were presented live. With that in mind, PAC now turns to the specific objections.

II. RESPONSE TO OBJECTIONS AND MOTIONS TO STRIKE

A. Evidence Related to Kristin Nielsen's Red Drum Analyses

Both the Port and the ED object to the analyses performed by Dr. Kristin Nielsen of the impact of salinity on red drum and any testimony referencing or relying upon her analyses. In support of their objection, the ED and the Port cite to Texas Water Code §5.134, which provides:

> The commission may accept environmental testing laboratory data and analysis for use in commission decisions regarding any matter under the commission's jurisdiction relating to permits or other authorizations, compliance matters, enforcement actions, or corrective actions only if the data and analysis is prepared by an environmental testing laboratory accredited by the commission under Subchapter R or an environmental testing laboratory described in Subsection (b) or (e).

The Port and the ED completely misconstrue this provision, and do so in such a way that would result in virtually all expert testimony being excluded from TCEQ proceedings under their reading of the statute. The ED's misconstruction is clear in this statement from the ED's objections: "Because of the importance the Texas Legislature placed on all data used in Commission decisions be from an accredited laboratory . . . ."[1] But, contrary to the ED's assertion, the statute does not apply to "all data used in Commission decisions." Rather, by its clear language, the statute applies to "environmental testing laboratory data and analysis." The inclusion of "environmental testing laboratory" before data and analysis shows that Tex. Water Code §5.134 is intended to apply only to data or analyses explicitly produced by an "environmental testing laboratory"—unless such laboratory is accredited or otherwise meets the qualifications set out in the statute.

Under 30 Tex. Admin. Code § 25.2(6), an "Environmental testing laboratory" is defined as "A scientific laboratory that performs analyses *to determine the chemical, molecular, or*

[1] ED's Objections at p. ___.

pathogenic components of environmental media for regulatory compliance." (Emphasis added). Thus, to qualify as an environmental testing laboratory, the laboratory must be *determining* the "chemical, molecular, or pathogenic *components* of environmental media." Essentially, a testing laboratory is determining what is in a particular media. The determination of the *impact* of particular environmental constituents is not included within the definition of an environmental testing laboratory. Dr. Nielsen's analyses is not covered by the provision cited by the Port and ED because she did not perform any testing to determine the components of the Port's discharge. Rather, she evaluated the impacts of salinity on aquatic life. Accordingly, Dr. Nielsen is not an "environmental testing laboratory" and her study and analyses would not fall under this statute.

Further, Dr. Nielsen oversaw and conducted her own study, in her role as a researcher, and such data and analyses was not produced by an "environmental testing laboratory." The ED and the Port's position would effectively remove any expert's ability to conduct data analyses if every expert is deemed an environmental testing laboratory simply by virtue of their conducting environmental analyses, including modeling. In fact, if that is the position the Port and ED wish to take, then they have the burden to show that all predictions they offer in this case regarding the components of the effluent discharge are from an accredited laboratory, including demonstrating that all of their experts who offer modeling predictions about the "components" of the effluent are accredited by TCEQ. This is so because determining "the chemical, molecular, or pathogenic components of environmental media for regulatory compliance" is exactly what many of the Port's experts are trying to demonstrate by their modeling, analyses, and testimony. Clearly, the Port and the ED's position is both untenable and inconsistent.

Dr. Nielsen is employed by the University of Texas Marine Science Institute (UTMSI), a governmental research institution, where she works in educational research. The UTMSI website notes the following regarding it:

> Established in 1941, The University of Texas Marine Science Institute is Texas' first permanent marine laboratory. The Institute is part of The University of Texas at Austin, College of Natural Sciences and receives substantial support from the University. This support is supplemented by special item funding from the state's budget. We are proud of our long tradition of marine research, education, and public outreach.
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> The Institute established the first marine science public education program in Texas more than 30 years ago, and strengthening science education remains one of the most important facets of our work. Hundreds of teachers participate in our

workshops, and we host field trips for thousands of students and their teachers yearly.[2]

UTMSI is an arm of the state and the Texas Legislature provides funding for it. UTMSI is not an "environmental testing laboratory" within the meaning of the statute. Given its role as an arm of the state, it is no different than TCEQ. It is simply not credible for the Port and the ED to argue that all test results from UTMSI are not reliable.

Moreover, if the Port and ED were right, then virtually all of the expert testimony in this case (and nearly every environmental water permitting case) would have to be excluded, as virtually all experts rely on past studies, EPA guidance, or industry guidance for their opinions, without a requisite showing that such studies, and the testing underlying them, were performed by an accredited laboratory. Even EPA standards established in existing guidelines would be excluded unless the underlying data relied upon by the EPA in determining such guidelines could be shown to have come from a TCEQ-accredited laboratory. Such clearly is not what the statute envisions. When an expert witness has opinions, and such opinions are based upon either prior studies or their own analyses, those opinions are not governed by Tex. Water Code § 5.134 unless that expert is specifically an "environmental testing laboratory." By its own language, Texas Water Code §5.134 applies only to data and analyses produced by an "environmental testing laboratory." In this case, Dr. Nielsen performed her own studies and analyses as an expert witness, and she is not an "environmental testing laboratory," so her data and opinions are not governed by Tex. Water Code § 5.134. The ED and the Port's objections should be overruled.

B. Testimony of Gregory Stunz, Ph.D.

The Port objects to Dr. Stunz's testimony on the basis that he lacks the requisite expertise to opine on certain matters identified in the objections. The Port also objects to numerous portions of Dr. Stunz's testimony and attached exhibits. All of the Port's objections should be overruled.

Dr. Stunz's 2020 testimony has already been admitted and there is no reason to exclude it now. In 2020 the Port sought, unsuccessfully, to exclude the testimony of Dr. Stunz. He has reaffirmed the truth and accuracy of his 2020 Pre-Filed Direct Testimony and Live Testimony at the Hearing on the Merits, and has adopted both in these proceedings on remand (PAC-52R at 3). The Port has incorporated by reference all of its 2020 objections to Dr. Stunz's testimony and asks the ALJs to now reverse their previous decision and to exclude it. The Port offers no new facts,

[2] *See* https://utmsi.utexas.edu/about/letter-from-director. (As of March 7, 2022).

law, or argument to support this request. For all of the same reasons urged by PAC in 2020, the relief sought by the Port should be denied.

PAC also objects to most of Dr. Stunz's remand Direct Testimony (pages 5-6, 8-13, 15-21, 27-33) under several Rules of Evidence and provides boilerplate explanations repeated verbatim without any specific application of the Rules to the substance of the testimony. The Port has waived any objections by this approach. *Baggett v. State*, 1989 LEXIS Tex. App. 2610 (Tex. App.—Houston [14th Dist.] 1989, no writ) (failure to specify grounds for objection waives any error). The Port also "incorporates by reference" seven pages and 29 footnotes from its so-called Motion to Strike. The Port has not filed anything designated as a "Motion to Strike." PAC assumes that the Port actually intended to cite to its Motion to Exclude Protestants' Expert Witnesses and Testimony and PAC contemporaneously files a separate Response to that Motion. In objecting to Stunz's Direct Testimony, the Port cites to nine Rules of Evidence in different combinations. PAC will respond by grouping the Rules topically.

The Port cites Rule 611 and objects that counsel for PAC improperly leads the witness on direct examination. Specifically, the Port objects to instances when the witness is asked questions that quote directly from (1) the Commission's remand order; or (2) the ALJs' previous Proposal for Decision. The parties' combined witness lists include more than 20 names. The witnesses' combined Direct Testimony and exhibits are thousands of pages. Asking a marine biologist who has already offered significant and material testimony the very question remanded by the Commission – Will the proposed discharge adversely impact the marine environment, aquatic wildlife, and wildlife, including birds and endangered species, spawning eggs, or larval migration – is an efficient and effective way to identify which issues he will offer opinions on. It is not leading, as the question does not suggest the answer. A leading question is one which, by its language, suggests the answer. This is clearly not such a question, nor are the other questions cited by the Port.

Moreover, leading questions are allowed as necessary to develop the witness's testimony. Tex. R. Evid. 611(c). The decision to permit a leading question is within the sound discretion of the trial court. *Ramin' Corp. v. Wills*, No. 09-14-00168-CV, 201 Tex. App. LEXIS 1012, *46 (Tex. App.—Beaumont 2015, no pet.). The trial court has reasonable discretion to control the mode and order of interrogating witnesses in order to: (1) make the interrogation and presentation effective for the ascertainment of the truth; (2) avoid needless consumption of time; and (3) to protect witnesses from harassment or undue embarrassment. *Martinez v. State*, No. 08-05-00116-

CR, 2007 Tex. App. LEXIS 927, *18 (Tex. App.—El Paso 2007, pet. ref'd). To the extent such questions are leading—**and PAC asserts they are not**—they would still be a proper method of questioning to ensure the most efficient presentation of evidence in this case.

The Port also takes issue with Dr. Stunz's qualifications. This is quite astounding given the Port's evidence in this case. In 2020 the Port did not present any evidence from anyone with expertise in marine ecology or marine organisms. On remand the Port attempts to remedy that with an expert, Dr. Lance Fontenot ("Fontenot"), whose dissertation focused on snakes and frogs. During his entire college education, from undergraduate through Ph.D, Dr. Fontenot did no coursework or research related specifically to the Texas estuarine or marine environment. For the last 15 years he has been working as an expert for oil and gas companies. Most of the work he has done in Texas has been for industrial clients in the investigation, assessment, and remediation of contaminated sites. In other words, he is a fixer for clients who have already damaged the environment.

In this case, Dr. Fontenot was retained to perform a "desktop" exercise – perhaps a more sophisticated version of a high school term paper. When asked the following questions, he responded with some version of "I would have to check because I have 150 references to look at." How many species of vertebrates or invertebrates live in or pass through the Corpus Christi Ship Channel? How do eggs and larvae get from the Gulf to the estuary? At what depths do we find post-larval Atlantic Croaker in the Aransas Pass? He does not know, but he could look it up.

The literature on which Dr. Fontenot depends is found in Appendix 2 to his Direct Testimony and includes a paper co-authored by Dr. Greg Stunz, and other papers that themselves rely on work by Stunz: (1) Habitat partitioning and seasonal movement of red drum and spotted seatrout (2017) Moulton, et al., and (2) Osmoregulatory plasticity during hypersaline acclimation in red drum (2021), Martin & Esbaugh. So apparently the Port believes that Dr. Fontenot can rely on Dr. Stunz's research, but the primary source of that information—Dr. Stunz himself—is unqualified to testify. Simply absurd.

The Port relies on *Gharda USA, Inc. v. Control Solutions, Inc*., 464 S.W.3d 338, 349 (Tex. 2015) to argue that Dr. Stunz's testimony is unreliable because it is not based on a probability standard. The *Gharda* case involved expert testimony on the cause of an industrial fire. Several experts testified that a contaminated chemical, manufactured by a vendor at a different location, could have caused the fire. Their testimony should have been excluded because, among other

things, it was not proven that the chemical was actually contaminated and the opinion was founded on the mere possibility of human error in manufacturing the chemical. *Id*. at 350.

In this case, every witness asked the question has testified that marine organisms will encounter elevated salinity from the desalination discharge. The probability of exposure is admittedly 100%. The sole witness with personal, first-hand experience, observing the impact of abrupt salinity changes on red drum larvae – entirely outside a litigation context – is Dr. Stunz.

The Port relies on *Mack Trucks, Inc. v. Tamez*, 206 S.W.3d 572, 579 (Tex. 2006) to argue that Dr. Stunz's testimony suffers from too great an analytical gap. The *Mack Trucks* case involved expert testimony regarding the cause of a tractor trailer fire. An expert was allowed to testify that the fire began with the fuel system and the battery system, despite the fact that he did not (1) inspect the remnants of the fire, (2) perform or review any accident reconstruction analysis, or (3) identify any specific defect that was the alleged source of a leak that initiated the fire. *Id*. at 580. He did no more than set out factors that were consistent with his unsupported opinions. *Id*. at 581.

The Rules of Evidence, and case law such as *Mack Trucks*, are undoubtedly applicable to this case. But the Port persists in a cookie cutter type of application of the law that ignores an important reality. These cases are all civil lawsuits involving liability for a tort. The courts are evaluating the reliability of experts' analysis of the evidence of completed, past events. The burned out truck and dead body are available for inspection and testing. That is the type of work that Dr. Fontenot, for example, has been doing for the last 15 years. But, as he agreed under oath, this case is "more prospective."

Each and every witness has the same Amended Application and draft permit to work with. Each witness has the same CORMIX modeling – based on a schematized ship channel – to inform their opinions. But each brings a different type and degree of knowledge of this complex marine environment and the hundreds (if not thousands) of species that live here. In the first merits hearing, the qualified experts agreed, and the ALJs found, that there will be some death caused by the discharge. One question on remand is whether the amount of death will be "significant."

The deaths have not occurred in the past – this is not a matter of forensics. Predicting the scale of carnage cannot be done with perfect accuracy. But the ability to make reliable estimates is very dependent on a thorough understanding of the actual conditions and actual species that exist in the real world – not just in a computer model or desktop review. Dr. Stunz possesses that understanding and has applied it to this case to offer conservative estimates of expected mortality.

The bases for Stunz's new opinions includes the following:

- B.S. in Biology; M.S. and Ph.D. in Wildlife and Fisheries Science from Texas A&M University;
- Thirty-two years' experience as a research scientist (cumulative total $30 MM+ in research grants);
- More than 60 peer-reviewed published papers; almost 200 abstracts, proceedings and conference publications/presentations
- The Port's Amended Application;
- The Port's prefiled testimony and exhibits;
- The ED's Draft Permit;
- Communications with other testifying witnesses retained by PAC regarding their data and research;
- Exhibit PAC-52R GS-1: Nielsen Estimating Impacts of Hypersalinity on Early Life Stage Red Drum;
- Exhibit PAC-52R GS-2: Marine Life Mortality Estimates
- Exhibit PAC-52R GS-3: Influence of Variable Ultraviolet Radiation and Oil Exposure
- Exhibit PAC-52R GS-4: Seminal Paper Waldichuk 1979
- Exhibit PAC-52R GS-5: Dazed, Confused, and then hungry: Pesticides alter predator-prey interactions of estuarine organisms
- Exhibit PAC-52R GS-6: Bushon Thesis
- Exhibit PAC-52R GS-7: Community Ecology as a framework for predicting contaminant effects
- Exhibit PAC-52R GS-8: First Large-scale ecological impact study of desalination outfall reveals trade-offs in effects of hypersalinity and hydrodynamics
- Exhibit PAC-52R GS-9: Responses of Benthic Infauna to Large-Scale Sediment Disturbance in Corpus Christi Bay, Texas
- Exhibit PAC-52R GS-10: Estuarine Benthos: Long-Term Community Structure Variations, Corpus Christi Bay, Texas
- Exhibit PAC-52R GS-11: The soundscape of the Anthropocene ocean
- Exhibit PAC-64R (deposition of Katie Cunningham);
- Exhibit PAC-65R (Exhibit 29 to deposition of Katie Cunningham);
- Exhibit PAC-66R (June 24, 2021 memo to Sarah Garza from Lial Tischler);
- Exhibit PAC-71R (scientific study regarding salinity tolerances of fish / mangrove red snapper aka "gray snapper");
- Exhibit PAC-73R (UTMSI study of salinity tolerances in larvae of several relevant species – spotted seatrout, red drum, Atlantic croaker – submitted to the Texas Water Development Board).

- APP-RP-10-R: Exhibit offered by Port with Direct Testimony of Randy Palachek;
- Exhibit PAC-67R (Modeling results from Scott Socolofsky);
- Exhibit PAC-68R (list of species commonly found in the Corpus Christi Ship Channel);
- Exhibit PAC-69R (presentation titled Lateral Distribution of Fish and Shrimp Larvae Across the Aransas Pass Tidal Inlet);
- Exhibit PAC-70R (study of salinity patterns in the estuary and predicting areas of vulnerability in the Coastal Bend Region and its impact on various species).

These materials constitute more than sufficient facts or data to satisfy the Rules and to support the opinions of Dr. Stunz. While this case does not fit neatly into the *Daubert-Robinson* factors, Stunz relies primarily on the Administrative Record and peer reviewed research, generally accepted as valid by the relevant scientific community, performed entirely outside of a judicial or regulatory context.

All of the experts in this case are bounded by the exact same limitations, which can be summarized thus – this is the first proposed marine desalination plant in Texas and the desalination plants that do exist elsewhere are not located in tidal inlets. So while much may be known about this locale and the relevant species, much remains unknown or undecided. Many of these unknowns have a direct and material impact on the reliability of the CORMIX modeling that forms the basis of the Port's Amended Application, the ED's Draft Permit, and numerous experts' opinions. Today, after two applications, two draft permits, a final merits hearing, dozens of hours of depositions, and thousands of pages of expert materials, **NO ONE KNOWS**:

- Where the diffuser will be installed in the Corpus Christi Ship Channel. APP-LT-1-R at 2:4-5 (Rebuttal of Lial Tischler);
- The precise bathymetry at the location of the proposed diffuser. APP-LT-1-R at 2:10-11 (Rebuttal of Lial Tischler);
- The depth and location of the barrel to which the risers/ports will be attached. APP-LT-1-R at 2:18-19 (Rebuttal of Lial Tischler);
- Whether the barrel will be buried or sit atop the sloping surface of the channel. APP-LT-1-R at 2:19-20 (Rebuttal of Lial Tischler);
- The attachment and relationship of the risers to the barrel. APP-LT-1-R at 2:21-22 (Rebuttal of Lial Tischler);
- the chemicals that will be used in this plant; and
- whether there is an eddy at the discharge location.

If a lack of data on these issues is fatal then there will be no witnesses testifying at the final merits hearing on remand.

The Port relies on *Whirlpool Corp. v. Camacho*, 298 S.W.3d 631 (Tex. 2009) to argue that Dr. Stunz's testimony is conclusory or speculative. The *Whirlpool* case involved expert testimony regarding an alleged defect in a clothes dryer causing a house fire. The expert performed no tests, or calculations, to support the theory that lint escaped a vent, entered the heater box, and then moved into the drum of tumbling clothes, igniting them. *Id*. at 642. The Port's reliance on this case is ironic in that it is (among other things) Dr. Stunz's estimates of mortality that the Port says are irrelevant.

The Port's witnesses focus a great deal of their attention on the following theory of the case: (1) millions of eggs are spawned near the Aransas Pass; (2) many of these millions of eggs and larvae will enter the Lydia Ann and Aransas Channels rather than the Corpus Christi Channel; (3) salinity will not be elevated significantly within the entire Corpus Christi Channel – thus there will be a high percentage and number of living organisms that never encounter elevated salinity. This is the same "adequate zone of passage" theory the Port proffered at the first hearing on the merits, repackaged. Said another way, the Port argues in part that even if 100% of organisms entering the ZID died, a lot of marine life will not enter the ZID and will live.

The Port does not have a witness that actually has first-hand knowledge about the diversity and number of species that live or move through the Corpus Christi Ship Channel, or about the density of living organisms there. For example, Dr. Fontenot selected six "representative species" and read everything he could about them. When asked about those six species, he frequently had to respond in his deposition by saying he could "look that up" in his 150 literature references. When asked about anything other than those six species – he is truly lost because he knows nothing about, and did no research on them. He has completely ignored hundreds (or maybe thousands) of species that are part of the food web for his six so-called "sentinel" species.

A very good example of the testimony the Port wants to exclude as irrelevant is (1) based on the statutory dimensions of the three mixing zones, a calculation of the volume of water within the zones; (2) calculations of the amount of ambient water that will be entrained to dilute the discharge; and (3) calculations of the numbers of organisms that could die from exposure to the discharge, based on their known densities in the Corpus Christi Ship Channel. In a case where the Commissioners remanded for a determination whether there will be "significant" lethality in the ZID – Dr. Stunz offers perhaps the *most relevant* and *most reliable* evidence of all 23 witnesses.

The Port also objects to Dr. Stunz's testimony under the best evidence rule (Rule 1002) and as hearsay (Rules 801 & 802). These objections should be overruled because Rule 703 permits an expert to base an opinion "on facts or data in the case that the expert has been made aware of, reviewed, or personally observed. If experts in the particular field would reasonably rely on those kinds of facts or data in forming an opinion on the subject, they need not be admissible for the opinion to be admitted." Tex. R. Evid. 703.

Rule 703 is not a free pass for experts in all instances. The best evidence rule applies if the purpose of the testimony is to prove the contents of an original writing, recording, or photograph. For example, it was reversible error to allow a party to prove up title to property with nothing more than the oral testimony of an attorney. *Ramsey v. Jones Enter.*, 810 S.W.2d 902, 904 (Tex. App.—Beaumont 1991, writ denied). The court held, "in trespass to try title actions where documents pertaining to title exist, that testimony of an expert witness standing alone, constitutes no evidence of title." *Id*. at 905.

An example of the evidence to which the Port objects is Stunz's recitation of the CORMIX results offered by the Port's experts, Randy Palachek and Lial Tischler. The Port has already offered the original documents into evidence in this case, as part of the Amended Application and/or as part of the witnesses' Direct Testimony. Dr. Stunz does not recite the CORMIX results to *prove* the contents of the Port's own exhibits (or the ED's CORMIX results). He references these numbers (i.e. salinity at the ZID as high as 44.68 ppt) to provide context for his opinions regarding the likely adverse effects on the marine environment and marine organisms.

In this case, none of the expert biologists are expert modelers. In other words, none of the biologists actually performed any SUNTANS modeling or CORMIX modeling. To the extent modeling is relevant to their opinions, all of the biologists, for all parties, must rely on the modeling results produced by other experts. Thus, it was perfectly acceptable for Dr. Stunz to rely on information provided to him by other experts in their respective fields.

Ultimately, it is quite clear that Dr. Stunz is eminently qualified to offer the testimony he has provided and that the Port's objections are without merit. Accordingly, all of the objections to Dr. Stunz's testimony should be overruled and any motion to strike or exclude his testimony be denied.

C. Testimony of Barney Austin, Ph.D.

The Port objects to Dr. Austin's testimony on the basis that he lacks the requisite expertise to opine on certain matters identified in the objections. The Port also objects to numerous portions of Dr. Austin's testimony and attached exhibits. All of the Port's objections should be overruled.

First, Dr. Austin's credentials are sufficient to qualify him to testify on the matters on which he offers testimony. Dr. Austin has a degree in Agricultural Engineering from McGill University, and a Ph.D. in Civil Engineering (Water Resources) from the University of Salford. Following completion of his Ph.D., Dr. Austin worked for the Institute of Hydrology in the United Kingdom for three years, where he was primarily involved in water availability studies, but also supported a study on the viability of desalination plants for small islands in the Pacific Ocean. Later, he worked for Générale des Eaux (which was renamed Vivendi during his tenure, and later Veolia), as Team Leader of the Metering and Special Projects Group, focusing mainly on building statistical models for estimating customer water per capita consumption.

In 1999, Dr. Austin joined the Texas Water Development Board (TWDB) where he was initially tasked with supporting the Instream Flow program as a hydrologist, conducting field work and building hydraulic models, but quickly became Team Leader of the Bays and Estuaries program, where he led and participated in field work, and helped conduct studies of the major and minor estuaries along the coast. Dr. Austin was then promoted to Chief of the Surface Water Availability Section, and later became Director of the Surface Water Resources Division, managing some 20 staff and 9 programs, including the Coastal Hydrology, Oil Spill, and Bays and Estuaries programs. During his tenure at TWDB, Dr. Austin led and participated in many field trips to the coast, including a comprehensive synoptic survey of the Nueces Estuary and Corpus Christi Bay. He worked with Dr. Junji Matsumoto on a TxBLEND hydrodynamic model which was used to help develop estimates of freshwater inflow needs to the state's bays and estuaries, fate of chemical spills, and impacts of ship channel deepening and widening in both Corpus Christi Bay and Sabine Lake. While at TWDB, Dr. Austin became familiar with the CORMIX software and encouraged the state to fund the development of code improvements that would allow CORMIX to simulate the discharge of negatively buoyant fluids such as brine from desalination plants.

Dr. Austin left TWDB in 2009 and joined INTERA where he led the surface water division. In this capacity, he had business development responsibilities across the United States and worked on hydrology and hydraulics projects in Florida, California, Oklahoma, and Texas. Some of these

projects were in the coastal zone. In 2014, he started his own company, Aqua Strategies, an engineering and water resources consulting firm with clients in Texas, Oklahoma, and overseas, where he serves as President and Chief Executive Officer. Many of his projects are in the coastal zone, dealing with salinity, dissolved oxygen, and sediment transport or erosion issues.

As is clear from his credentials, Dr. Austin's resume, experience, and expertise is impeccable and the Port's challenges to his ability to opine on the matters in his testimony are without merit. The Port implies that Dr. Austin's testimony is unreliable merely because his testimony relies, in part, upon a 1956 aerial photograph. Contrary to the Port's implication, Dr. Austin's opinions regarding uniformity of flow and the presence of an eddy are premised also upon his analysis of relevant data gathered by the Port itself in 2021 using the same WinRiver software that the Port's own experts utilized.[3] The confirmation of Dr. Austin's opinions by a historical photograph does not render those opinions unreliable.

Dr. Austin's evaluation of a single transect was the result of the Port's limited sampling program that only performed a single transect providing adequate data to perform the necessary analysis. Applicant bears the burden of proof – not Dr. Austin. The limitations imposed upon Dr. Austin's work by the deficient work by the Port does not render Dr. Austin's opinions regarding the implications of that data unreliable, and does not justify excluding his opinions.

Dr. Austin's opinion that an eddy exists in the area is not contrary to his prior deposition testimony (nor his subsequent deposition testimony, during which the Port also ventured into questioning whether Dr. Austin believes in Sasquatch or Unidentified Flying Objects, clearly demonstrating the harassing and insincere nature of the Port's conduct in this case). During his initial deposition, Dr. Austin stated, "I believe there is an eddy that forms occasionally in the general vicinity of that hole near the diffuser."[4] His later analysis confirmed that opinion. Dr. Austin's deposition testimony and direct testimony reflect that he was employing the scientific method in his analysis – based on available information, he had a hypothesis that an eddy occasionally exists in the area, and his test of that hypothesis through an evaluation of the available data using widely-accepted methods confirmed the presence of such an eddy.

The Port's request that the ALJs resolve Dr. Jones' critiques by excluding Dr. Austin's testimony ventures into the role of deciding the correctness of Dr. Austin's opinions at the

[3] Exh. PAC-44R, p. 9.

[4] January 24, 2022 Deposition of Barney Austin, 115:18 – 20.

threshold stage of determining admissibility. The weight and correctness of Dr. Austin's opinions are to be decided at the fact-finding stage, not at the point of determining admissibility.

Accordingly, all of the objections to Dr. Austin's testimony should be overruled and the motion to strike his testimony be denied.

D. Testimony of Bruce Wiland

The Port objects to Bruce Wiland's testimony and exhibits on the basis that he lacks the requisite expertise to opine on certain matters, or that his opinions are conclusory, or that he "may be" relying on someone else's opinion (which opinion the Port views as unreliable) or that an opinion is "irrelevant to the extent it relates to pre-remand information" (whatever that may mean). There is a strange hearsay objection, too. These objections are really just a make-work exercise and should all be overruled.

The Port contends that Mr. Wiland's opinions are unsupported because they allegedly rest on flawed bases. But, the Port's objections are not truly objections but a request for the ALJs to decide whether they agree with the Port's experts or PAC's experts at this stage. Such is not proper. Mr. Wiland provides the foundation for his opinions. The Port just does not like them. So, the Port wants the ALJs to basically accept the Port's witnesses' opinions at this stage as a basis for concluding that PAC's experts' opinions are unsupported. Not only is the Port wrong about whose witnesses are more credible, and have the best expertise, but this stage of the hearing is not where the ALJs make such determinations. The Port's objections are not a proper basis for striking or excluding Mr. Wiland's testimony.

Mr. Wiland was employed by the predecessor agency to TCEQ for a decade where he was "responsible for performing work in water resource analysis and mathematical modeling of water quality." Since then, Mr. Wiland has worked for many years with consulting firms conducting water quality studies and evaluations. His expertise is directly related to the issues he testifies about and he adequately explains and justifies the foundations for his opinions. The Port raised similar objections to his engineering, modeling, wastewater-impacts and permit-evaluation expertise in objections preceding the first hearing on the merits of this case, and the ALJs summarily overruled all of those objections at the November 2020 pre-hearing conference. They should do so again.

The invalidity of the Port's objections are easy to see when reviewed in detail, as shown below.

Lines objected to	Nature of the testimony	Objection raised	Response to objection
5:30-6:16	Overview of his conclusions (1) application is incomplete, (2) modeling is unreliable because of ambiguities and omissions in input data, (3) antidegradation review is inaccurate because it relies on unreliable modeling outputs, *de minimis* level is undefined, changes in salinity gradients are not considered; and (4) the permit lacks appropriate terms, such as in-stream monitoring to ensure boundary limitations are realized.	Lack of expertise; conclusory	The ALJs, at the Nov. 2, 2020, pre-hearing conf., p. 14:16-22, determined Mr. Wiland does have the expertise to offer insights in these four areas. As to the "conclusory" accusation, even this opening summary of his opinions offers some supporting reasoning, and the more expansive testimony, *infra*, explains the conclusions in detail.
10:11-19	Figure 1 in the post-remand application shows bathymetry that is shifted roughly 30' south of the bathymetry reflected in other identified sources.	Conclusory	Mr. Wiland provided exhibits showing this southward deviation, relative to other bathymetries, of Figure 1. The opinion is not legally conclusory, because the trier of fact can understand the logic supporting the opinion.
10:24-11:2	The diffuser barrel sits will be on or in the north downward slope of the hole in the channel floor with discharge ports elevated above the barrel on risers.	Lack of expertise	Given the engineering expertise reflected on Mr. Wiland's resume (PAC-3 BW-1, already in the record) and reflected in his testimony for the first hearing (PAC-3 and live testimony), Mr. Wiland plainly has the expertise to read the Port's applications and related record material and summarize the layout of the discharge equipment.
17:5-15	Mr. Wiland describes an exhibit, PAC-53R BW-4, he prepared. The exhibit shows two cross-sections of the channel, one running N-S and seen from the east and one	Lack of expertise; "may be" relying on unreliable Socolofsky	Mr. Wiland created the exhibit, so he clearly has expertise to explain it, and the exhibit, itself, presents the facts that support Mr. Wiland's opinions about what the exhibit shows.

Lines objected to	Nature of the testimony	Objection raised	Response to objection
	running W-E and seen from the south.	opinion, conclusory	The Port's real complaint, apparently, is that some fact on the exhibit may not be as the Port would testify it to bet. There is no rule of evidence that allows the striking of testimony simply because a party disagrees with it.
17:17-18:10	Mr. Wiland further explains Exh. PAC-53R BW-4.	Lack of expertise; "may be" relying on unreliable Socolofsky opinion; conclusory	This is objection is the same as was the preceding one, and the response to it is the same, as well. Please see the immediately preceding response.
18:15-19:11	Mr. Wiland explains that data input to a model affects the reliability of the model's output and that, therefore, getting correct the location of the diffuser ports and the nearby features of the channel floor is important. He recounts a draft permit provision regarding the bases on which permit terms are decided, and he recounts a couple of practical benefits of knowing precisely the outfall location.	Lack of expertise; "may be" relying on unreliable Socolofsky opinion; conclusory	Mr. Wiland clearly has and the ALJs earlier found that he has the expertise to discuss general modeling principles. He has worked with wastewater management issues his entire 40-year career, so he can be expected to read a draft permit correctly, have a pretty sophisticated understanding of regulatory requirements affecting wastewater permitting, and know some of the practical problems associated with wastewater management. Again, that Mr. Wiland "may be" relying on Dr. Socolofsky's work and the Port disagrees with that work simply does not present a recognized basis on which to strike any testimony.
19:14-20:2	Mr. Wiland explains the bases for his concerns that the input data for the CORMIX modeling may be	Lack of expertise	Mr. Wiland clearly has the expertise to read model input files and to discuss, at least, general modeling

Lines objected to	Nature of the testimony	Objection raised	Response to objection
	untrustworthy. Basically, there are inconsistent model inputs by Dr. Tischler and Ms. Cunningham for the heights of the discharge ports, the distances from the ports to the shore and the average depth of the ship channel.		principles. That is what this testimony is about. Based on his general knowledge of modeling principles, Mr. Wiland has concerns that the use by two modelers of inconsistent input assumptions is a warning flag that other assumptions may vary and that inaccurate inputs might affect outputs.
20:22-21:6	Mr. Wiland explains three exhibits he prepared and that summarize how the proportions of mixing zones, including the ZID, have changed as the proceedings on the Port's application have progressed.	Lack of expertise; conclusory	Mr. Wiland is an engineer with extensive experience with wastewater management and the regulation of wastewater management. He can read model outputs and draw credible conclusions from those outputs. He can read reliably the draft permit terms and administrative guidances germane to wastewater management. He created the exhibits he is explaining in this testimony. The exhibits present the facts that allow the trier of fact to understand why Mr. Wiland can opine that the proportions or boundaries have changed over time and the impact that has on conditions hypothesized at the boundaries. That the Port may disagree with some fact presented in the testimony does not create a legal reason to strike the testimony.
21:10-22-16	Mr. Wiland recounts the provisions of the Water Quality Standards and their Implementation Procedures and a TCEQ modeling	Lack of expertise; conclusory	Mr. Wiland has both the engineering education and 40 years' experience working with models and wastewater management

Lines objected to	Nature of the testimony	Objection raised	Response to objection
	standard operating procedure that bear on, however imprecisely, mixing zone proportions.		guidelines, so, there is no credible "lack of expertise" objection to be raised to this testimony. The testimony is not conclusory, because the testimony lays out the facts on which the meagre conclusions stated are based.
22:19-24	Mr. Wiland explains that there is some regulatory guidance as to the area of some mixing zones and that the areas provide some restrictions on the proportions of the mixing zones. He explains some exhibits he created that help to explain the mixing zone dimensions.	Lack of expertise; conclusory	Again, Mr. Wiland has expertise to read and understand the regulatory materials that are used in wastewater management; he has an engineering education and, so, is able to relate areas to the linear elements enclosing the areas. The exhibits referenced in the narrative are testimony, and they present the facts on which the testimony is based.
23:1-26	Mr. Wiland describes how TCEQ has historically related discharge structures and mixing zones for industrial wastewater discharges.	Not relevant, because based on pre-remand facts	How the agency has previously related discharge structures and mixing zones for industrial wastewater discharges has relevance to determining the propriety of the
24:13-18	Mr. Wiland lays out the timeline for the TCEQ's arrival at its present position on mixing zone proportions and notes divergence from one proposed by Dr. Tischler.	Not relevant or helpful to the trier of fact	Making clear the procession of the changes of the mixing zones is clearly useful to the trier of fact; it helps the trier of fact evaluate the reasonableness of the presently-proposed mixing zone proportions.
25:10-11; 14-15; 25:22-26:2; 26:5-12	Mr. Wiland explains three exhibits, which are compilations of model outputs under various input scenarios and how those affect the salinity concentrations at various mixing zone boundaries.	Not relevant or helpful to the trier of fact	These exhibits and his explanation of the exhibits are plainly relevant to the Protestants' argument that different mixing zone proportions – a matter as to which there is disagreement among the parties – make a

Lines objected to	Nature of the testimony	Objection raised	Response to objection
			difference in the salinity concentrations at the boundaries of the mixing zones.
28:5-10; 28:14-23; 28:27-29:11	Dr. Wiland testifies that the antidegradation analysis is inadequate because it relies on modeling outputs that are not reliable, it did not consider worst-case total (ambient + effluent) salinities or salinity gradients, it did not establish what a *de minimis* level is, it did not determine what the assimilative capacity (for salinity or salinity gradients) of the receiving water is.	Conclusory; lack of expertise	There is nothing conclusory about this testimony. Mr. Wiland testifies why he believes the antidegradation analysis was inadequate and he recites his reason for holding that opinion. His educational background and his 40 years' work experience qualify him to offer such an opinion, as the ALJs have already (Nov. 2, 2020) ruled.
29:15-16; 29:18-24; 29:1-8.	Mr. Wiland testifies there are two major deficiencies with the draft permit: absence of in-stream monitoring and absence of adequate discharge limitations in the draft permit. He explains why these are, in his, opinion deficiencies.	Conclusory; lack of expertise	Again, there is nothing conclusory about this testimony. The Port does like the opinions, but the testimony explains why the opinions were reached. Again, Mr. Wiland has the education and work experience to, as the ALJs have found, opine on what an enforceable permit ought to include.
PAC-53R BW-1	This is Mr. Wiland's resume.	Unreliable representation of facts; hearsay and hearsay within hearsay	It is already in the record; it was admitted at the first hearing. Mr. Wiland vouches for the accuracy of the resume, and, while the Port may not believe some fact somewhere in the resume, Mr. Wiland's testimony is that it states true things, and the Port's recourse is to produce persuasive countervailing facts, if any exist. The resume, itself, is not hearsay once, as has happened, here, the proponent of the resume adopts the facts within the

Lines objected to	Nature of the testimony	Objection raised	Response to objection
			resume as true. And, expert witnesses are allowed to rely on "hearsay within hearsay, whatever on earth that may refer to in a resume.
PAC-53R BW-7	This is an exhibit of the various ZID dimensions and diffuser barrel locations that have been offered by witnesses in this docket.	Conclusory and lack of expertise	Nothing about this exhibit is conclusory. The numbers that support the diagrams are in the exhibit. And, Mr. Wiland is an engineer and has worked with industrial wastewater discharge issues (e.g., mixing zones) for the past 40 years; it is ludicrous to claim he lacks expertise to draw and explain some mixing zones sponsored by witnesses in this case.
PAC-53R BW-8	This exhibit is like the one before, but it is for the various aquatic life mixing zones, instead of the ZIDs.	Conclusory and lack of expertise	Please see the preceding response.
PAC-53R BW-9	This exhibit is like the two that precede it. But, this exhibit deals with the human health mixing zones, not the aquatic life mixing zones or the ZIDs.	Conclusory and lack of expertise	Please see the preceding two responses.
PAC-53R BW-10	This is an aerial photo of the discharge location with various mixing zones overlaid.	"irrelevant to the extent it relates to pre-remand information"	The objection is so vague as to not be, legally, an objection. Additionally, the exhibit simply puts in graphical form information Mr. Wiland has explained in his narrative testimony and that is elsewhere in the record, anyway.
PAC-53R BW-11	This exhibit collects TCEQ input data and output results for various scenarios (e.g., different efficiencies of desalination and different ambient flow rates) that are in the record, already.	"irrelevant to the extent it relates to pre-remand information"	Again, this is an objection is so vague as to not be, legally, an objection. Furthermore, the exhibit supports Mr. Wiland's explanation that varying inputs yield, unsurprisingly, varying outputs.

Lines objected to	Nature of the testimony	Objection raised	Response to objection
PAC-53R BW-13	This exhibit is like BW-11, but this one shows data used by the Port in its scenario modeling.	"irrelevant to the extent it relates to pre-remand information"	Please see the preceding response.
PAC-53R BW-16	This exhibit is like BW-10. So, an aerial photo annotated with various mixing zones and, unlike BW-10, showing bathymetric contours.	"irrelevant to the extent it relates to pre-remand information"	Again, this is an objection is so vague as to not be, legally, an objection. The exhibit is relevant, *in toto,* because it is a graphical presentation of Mr. Wiland's narrative testimony.
PAC-53R BW-17	This exhibit is an aerial photo from 1956 showing the area of the discharge and some of the larger surroundings.	"irrelevant to the extent it relates to pre-remand information"	Again, this is an objection is so vague as to not be, legally, an objection. Furthermore, witnesses are offering testimony that this photo provides information on the fact of eddies near the discharge point.

Mr. Wiland clearly is a well-qualified expert in water quality issues and his testimony directly relates to his areas of expertise. His testimony is neither conclusory, speculative, nor lacking in foundation or qualification. As to the objected-to exhibits attached to the testimony, Mr. Wiland's testimony is sufficient to properly authenticate the documents and to establish the relevance of the documents. Under TRE 901, "the requirement of authentication or identification as a condition precedent to admissibility is satisfied by evidence sufficient to support a finding that the matter in question is what its proponent claims." Mr. Wiland's testimony is sufficient to authenticate all of the exhibits attached to his testimony. To the extent it is not, PAC reserves the right to establish any necessary predicate for authentication at the hearing on the merits. Accordingly, all of the Port's objections should be overruled and its motion to strike testimony be denied.

E. Testimony of Scott Holt

The Port objects to Scott Holt's testimony on the basis that he lacks the requisite expertise to opine on certain matters identified in the objections. The Port also objects to numerous portions of Mr. Holt's testimony and attached exhibits. In objecting to 14 segments of Mr. Holt's Direct Testimony, the Port cites to the same Rules of Evidence each time: 702 (Testimony by Expert Witnesses); 703 (Bases of an Expert's Opinion Testimony); and 705(c) (Disclosing the Underlying Facts or Data and Examining an Expert About Them: Admissibility of Opinion). The Port's objections are entirely without merit and should be overruled.

The Port attacks Holt's qualifications because (1) he is not a Ph.D, and (2) his knowledge is "stale." These assertions are truly bizarre. Surely the Port knows there is no amount of formal education or degree required to qualify as an expert under the Texas Rules of Evidence. And the Port offers no explanation for what constitutes "stale" in this context. An expert can be qualified to give an opinion by knowledge, skill, experience, training, or education. Tex. R. Evid. 702. He only needs to have a higher degree of knowledge, skill, experience, training, or education about the subject of the testimony than an ordinary person has. *See id.*; *Roberts v. Williamson*, 111 S.W.3d 113, 121 (Tex. 2003). If one looks at Mr. Holt's credentials, he is clearly qualified to give the opinions he has provided.

Mr. Holt has Bachelors and Masters degrees in Wildlife and Fisheries Science from Texas A&M University. He was a research scientist with UTMSI from 1974 through 2010. He provided graduate student supervision to (among others) James Tolan, who appears on the Port's witness list. His CV includes seven pages of publications, technical reports, oral presentations and/or published abstracts, the most recent of which was published in 2019. Mr. Holt's professional work has focused primarily on fish ecology. His research helped establish the critical importance of seagrasses in the estuarine ecosystem. He spent much of 20 years working on the ecology of the very young, planktonic stages (larval stages) of Red Drum and the larval fish migration process in the hydrographically diverse ocean/estuarine system of the Aransas Pass inlet.

The Port's expert, Lance Fontenot, offers the opinion that only a limited number of early life stages of marine organisms may temporarily be exposed to increased salinity, but that exposure will not cause harm. Mr. Fontenot is a Ph.D, whose dissertation focused on snakes and frogs. In this case he was retained to perform a "desktop" exercise that involved a review of 180 literature references. During his deposition he qualified many of his answers as "based on the literature references." In other words, Dr. Fontenot has little or no personal experience or expertise with

this marine environment or the life cycle of relevant species – but he can read. And among the literature references Dr. Fontenot must rely on to answer comparatively basic questions about topics like the red drum life cycle, are the following papers, each of which cites to and relies on research, and papers co-authored by, Scott Holt:

> Habitat Suitability Index Models: Larval and Juvenile Red Drum, Fish and Wildlife Service, U.S. Dep't of the Interior (1984) [Bates: Port Authority 037137]
>
> The effects of weathering and chemical dispersion on Deepwater Horizon crude oil toxicity to mahi-mahi early life stages, Esbaugh, et al. (2015) [Bates: Port Authority 037667]
>
> Stressor-Response Model for the Spotted Sea Trout, Mazzotti, et al. (2008) [Bates: Port Authority 038515]
>
> Habitat Partitioning and Seasonal Movement of Red Drum and Spotted Seatrout, Moulton, et al. (2016) [Bates: Port Authority 038657]

So apparently the Port believes that Dr. Fontenot can rely on Scott Holt's research for a basic understanding of the life cycle of red drum – and "stale" articles from 1984 (that in turn cite to papers from the 1920s) – but the very source of some of that information is supposedly "unqualified" to testify. The Port's positions are patently absurd and should be seen for what they are—an effort to harass PAC and the protesting parties rather than to have this case decided by the best evidence.

PAC would note that in 2020 the Port sought, unsuccessfully, to exclude the testimony of Mr. Holt. He reaffirmed the truth and accuracy of his 2020 Pre-Filed Direct Testimony and Live Testimony at the Hearing on the Merits, and has adopted both in these proceedings on remand. Much of that earlier, already admitted testimony, describes the effects of brine discharge on marine organisms. The bases for any new opinions regarding the effects of (1) elevated salinity and (2) the dramatically increased velocity (8.2 m / s) of the newly designed jet stream discharge, include the following:

- B.S. and M.S. in Wildlife and Fisheries Science from Texas A&M University;
- Thirty-five years' experience as a research scientist at the University of Texas Marine Science Institute;
- The Port's Amended Application;
- The Port's prefiled testimony and exhibits;
- The ED's Draft Permit;

- Communications with other testifying witnesses retained by PAC regarding their data and research;
- Exhibit PAC-64R (deposition of Katie Cunningham);
- Exhibit PAC-65R (Exhibit 29 to deposition of Katie Cunningham);
- Exhibit PAC-66R (June 24, 2021 memo to Sarah Garza from Lial Tischler);
- Exhibit APP-RP-10-R (Pre-field testimony of Randy Palachek);
- Exhibit PAC-67R (Modeling results from Scott Socolofsky);
- Exhibit PAC 66-R (list of species commonly found in the Corpus Christi Ship Channel);
- Exhibit PAC-69-R (presentation titled Lateral Distribution of Fish and Shrimp Larvae Across the Aransas Pass Tidal Inlet);
- Exhibit PAC-74R (excel calculations by Scott Holt);
- Exhibit PAC-75R (calculations and notes by Scott Holt);
- Potential Effects of Deepening of the Aransas Ship Channel on Particle Transport Implications for Recruitment of Estuarine Dependent Larvae, Clint Dawson (2021);
- Exhibit PAC-46R-SH-1 (Particle transport through a narrow tidal inlet due to tidal forcing and implications for larval transport, Brown, et al. (2000));
- Exhibit PAC-71R (scientific study regarding salinity tolerances of fish / red snapper);
- Exhibit PAC-72R (scientific study regarding salinity tolerances of fish / striped bass);
- Exhibit PAC-46R-SH-2 (scientific study regarding salinity tolerances of fish / calanoid copepod); and
- Exhibit PAC-73R (UTMSI study of salinity tolerances in larvae of several relevant species – spotted seatrout, red drum, Atlantic croaker – submitted to the Texas Water Development Board).

These materials constitute more than sufficient facts or data to satisfy the Rules and to support the opinions of Mr. Holt. All of the experts in this case are bounded by the exact same limitations, which can be summarized thus – this is the first proposed marine desalination plant in Texas and the desalination plants that do exist elsewhere are not located in tidal inlets. So while much may be known about this locale and the relevant species, much remains unknown or undecided. Many of these unknowns have a direct and material impact on the reliability of the CORMIX modeling that forms the basis of the Port's Amended Application, the ED's Draft Permit, and numerous experts' opinions.

Today, after two applications, two draft permits, a final merits hearing, dozens of hours of depositions, and thousands of pages of expert materials, **NO ONE KNOWS** -

- The latitude & longitude for the diffuser barrel and ports. APP-LT-1-R at 2:4-5 (Rebuttal of Lial Tischler);
- The precise bathymetry at the location of the proposed diffuser. APP-LT-1-R at 2:10-11 (Rebuttal of Lial Tischler);
- The depth and location of the barrel to which the risers/ports will be attached. APP-LT-1-R at 2:18-19 (Rebuttal of Lial Tischler);
- Whether the barrel will be buried or sit atop the sloping surface of the channel. APP-LT-1-R at 2:19-20 (Rebuttal of Lial Tischler);
- Whether the risers will be located on the top or side of the barrel. APP-LT-1-R at 2:20-21 (Rebuttal of Lial Tischler);
- The attachment and relationship of the risers to the barrel. APP-LT-1-R at 2:21-22 (Rebuttal of Lial Tischler);
- the chemicals that will be used in this plant; and
- whether there is an eddy at the discharge location.

If a lack of data on these issues is fatal, there will be no witnesses testifying at the final merits hearing on remand.

As noted at the beginning of this response, one of the Port's objections to Mr. Holt's testimony and exhibits is particularly noteworthy. Specifically, the Port objects that PAC-46R-SH-1 should not be admitted because it "has not been shown to be reliable." At the same time, the Port moves for the admission of Exhibit AP-LF-1R (Direct Testimony of Dr. Lance Fontenot, Ph.D.) and Appendix 2 thereto (Reference List Compendium), "the documents and sources of information that [he] reviewed in getting ready to provide opinions. This exhibit identifies more than 180 published literature references and other materials that [he] reviewed in forming [his] opinions in this matter." One of the literature references that Dr. Fontenot relies on is . . . PAC-46R-SH-1 (Brown, C.A., G.A. Jackson, and D.A. Brooks. (2000). Particle transport through a narrow tidal inlet due to tidal forcing and implications for larval transport. J. Geophys. Res. 105(C10); 24,141-24,156). Thus the Port has objected to the admissibility of the very basis of its own expert's testimony.

There is yet another reason the Port's objection to these two exhibits is deficient. An objection must be specific. Tex. R. Evid. 103(a)(1)(B). A specific objection (1) enables the court to understand the challenge; (2) permits the court to make an informed ruling, and (3) gives the party offering the evidence the opportunity to remedy the defect and offer it again in admissible

form. *McKinney v. National Un. Fire Ins*., 772 S.W.2d 72, 74 (Tex. 1989). There are two parts to a proper objection. First the objection must identify the exact part of the evidence that is objectionable. *Speier v. Webster Coll*., 616 S.W.2d 617, 619 (Tex. 1981). Second the objection must identify the legal principle the court will violate if it admits the evidence. *United Cab Co. v. Mason*, 775 S.W.2d 83, 785 (Tex. App.—Houston [1st Dist.] 1989, writ denied).

In contrast, a general objection is one that merely challenges the admissibility of the evidence or objects to evidence for vague or inexact reasons. *See Sciarrilla v. Osborne*, 946 S.W.2d 919, 924 (Tex. App.—Beaumont 1997, pet. denied). A general objection is no objection at all. *Murphy v. Waldrip*, 692 S.W.2d 584, 591 (Tex. App.—Fort Worth 1985, writ ref'd n.r.e.); *Baggett v. State*, 1989 LEXIS Tex. App. 2610 (Tex. App.—Houston [14th Dist.] 1989, no writ) (failure to specify grounds for objection waives any error).

The Port has cited to Rule 402, which states that relevant evidence is admissible and irrelevant evidence is not. Then the Port helpfully explains that the two Exhibits (peer reviewed journal articles) have "not been shown to be reliable." This general, and incongruous, objection is no objection at all. Thus, these objection on Rule 402 are not even legitimate objections.

Accordingly, for all of the reasons discussed above, all of Port's objections regarding Scott Holt's testimony and exhibits should be overruled and its motion to strike testimony be denied.

E. Testimony of Tim Osting

The Port objects to Tim Osting's testimony on the basis that he lacks the requisite expertise to opine on certain matters identified in the objections. The Port also objects to numerous portions of Mr. Osting's testimony and attached exhibits. All of the Port's objections should be overruled.

First, an expert witness is allowed to rely upon hearsay in reaching their opinions. Expert opinion may be predicated solely on inadmissible hearsay. *Wood v. State*, 299 S.W.3d 200, 212 (Tex. App. – Austin 2009, pet. ref'd). Texas Rule of Evidence 703 is clear in this: "An expert may base an opinion on facts or data in the case that the expert has been made aware of, reviewed, or personally observed. If experts in the particular field would reasonably rely on those kinds of facts or data in forming an opinion on the subject, <u>they need not be admissible for the opinion to be admitted</u>." (Emphasis added). Thus, the fact that Mr. Osting notes statements by others as a basis for his opinion is not a basis for excluding such statements. *Gharda USA, Inc. v. Control Solutions, Inc.*, 464 S.W.3d 338, 352 (Tex. 2015)("No rule prohibits experts from using other experts opinions to formulate new opinions based on their own expertise. In fact, Tex. R. Evid. 703, and our prior cases contemplate exactly such an arrangement."); *Anderson v. Gonzales*, 315 S.W.3d

582, 587 (Tex. App. – Eastland 2010, no *pet*.) ("An expert may rely on the opinions of other individuals that have rendered reports or diagnoses."); *Roberts v. Williams*, 111 S.W.3d 113, 121-122 (Tex. 2003) (pediatrician based opinion in part on pediatric neurologist); *Stam v. Mack*, 984 S.W.2d 747, 749-750 (Tex. App. – Texarkana 1999, no *pet*.) (trial court did not err in allowing expert pediatrician to base opinion in part on expert radiologist's opinion); *Associated Indem. Corp. v. Dixon*, 632 S.W.2d 833, 835-836 (Tex. App. – Dallas 1982, writ ref'd n.r.e.) ("Medical experts may rely on 'examinations, tests and diagnosis by other doctors'".).

Mr. Osting produced documents related to his conversations with Dr. Doneker, and the failure to have including him is response to these questions would have been a basis for the Port to argue Mr. Osting was not honest in his testimony. Mr. Osting did not say what Dr. Doneker said but needed to explain that he did not rely on Dr. Doneker for developing his opinions, to be clear on Dr. Doneker's role.

As a customer of Dr. Doneker's company, which leases the CORMIX model, he like any customer, including the ED and the Port is free to contact that company to ask questions to assure themselves that they are interpreting the CORMIX User's Manual correctly or used the model correctly. If Mr. Osting had learned he had not interpreted the Manual correctly or not used the model correctly, he would have had to reveal that also. His testimony is not hearsay or an unsupported opinion.

The Port objected to Mr. Osting's summary of his three overall opinions on the use of CORMIX in the near field, the use in the far field, and the results of the Port's ADCP data on flow conditions in the area of the discharge. The objection is despite the fact that Mr. Osting not only provides the bases for his opinions, i.e., what work he did and his education and expertise, but also later goes into detail to explain the bases for his three opinions providing his foundation in documents he sponsors and explanation of the bases of each opinion. He has shown much greater expertise and experience with the CORMIX model than anyone who prepared the Port's initial application and CORMIX modeling. He is clearly well qualified to provide all of the opinions he has presented in his testimony.

The Port also objects to many items for lack of foundation. As noted below, such objections are without merit.

Page:line	Topic	Response
6:20-7:4	Expertise and experience to evaluate the Port' CORMIX modeling	The Foundations, his education and experience are clearly explained in detail in the testimony.
7:5-7	Expertise and experience to evaluate the Port' SUNTANS modeling	The Foundations, his education and experience are clearly explained in detail in the testimony.
7:19-8:4	Identifying Resources and documents Reviewed or relied upon	The Foundations, his work is clearly explained in detail in the testimony.
8:25-9:10	Discussions with Dr. Doneker	The foundation, the details on why the testimony is offered is provided in his testimony.
9:12-10:2	Summary of his three opinions	The foundation and details on these opinions are provided later in the testimony.
10:20-11:4	Opinion on location of discharge	Basis for opinion is clearly explained and documented in exhibits.
11:5-12:15	Exhibit PAC 49 TO 2	Preparation, sources, basis for its and it relevance are clearly described.
13:1-13:11	Exhibit PAC 49 TO 3	Preparation, sources, basis for its and it relevance are clearly described.
13:12-13:22	Opinion on location of discharge	Basis for opinion is clearly explained and documented in exhibits.
14:23-14:22 *Probably intended 13.23 – 14-22*	Exhibit PAC 49 TO 4	Preparation, sources, basis for its and it relevance are clearly described.
14:23-15:19	Opinion on results of his CORMIX modeling	Basis for opinion is clearly explained and documented in exhibits.
16:1-16:17	Opinion on options for CORMIX modeling	Basis for opinion is clearly explained and documented in exhibits.
16:18-17:14	Opinion on use if CORMIX model	Basis for opinion is clearly explained and documented in exhibits.

17:15-17:19	Exhibit PAC 49 TO 6	Preparation, sources, basis for its and it relevance are clearly described.
17:20-19:7	Description of modeling and how the model works	Explained how he set up the model and how it works.
19:8-20:9	Exhibit PAC 49 TO 6	Preparation, sources, basis for its and it relevance are clearly described.
20:10-21:9	What his model results	Explanation of the results versus those of the Port and ED.
21:10-22:16	Opinion on other flow conditions of significance	The foundation and how it was developed is explained in his testimony.
22:17-23:21	Role of CORMIX model for this application	Explains the value and limitations of model based on his expertise and experience.
23:23-24:19	Opinions on SUNTANS modeling	Explains the value and limitations of model based on his expertise and experience.
24:24-25:4	Opinions on what ADCP data shows	Explains his opinion and basis for it.
25:5-29:2	Exhibit PAC 49 TO 5	Preparation, sources, basis for its and it relevance are clearly described..

F. Andrew Esbaugh, Ph.D.

The Port objects to Dr. Esbaugh's testimony on the basis that he lacks the requisite expertise to opine on certain matters identified in the objections. The Port also objects to numerous portions of Dr. Esbaugh's testimony and attached exhibits. All of the Port's objections should be overruled.

First, the Port re-urges all of its objections to Dr. Esbaugh's prior 2020 testimony. Those objections were already ruled upon by the ALJs and there is no basis for revisiting those rulings. Thus, all of the Port's objections to related to Dr. Esbaugh's prior testimony and exhibits should be overruled.

The Port also continues to assert the same basic objections to Dr. Esbaugh's testimony on remand as it did last time, challenging his opinions and conclusions. The Port contends that Dr. Esbaugh's opinions are unsupported because they allegedly rest on flawed bases. But, the Port's objections are not truly objections but a request for the ALJs to decide whether they agree with the Port's experts or PAC's experts at this stage. Such is not proper. Dr. Esbaugh provides

the foundation for his opinions. The Port just does not like them. So, the Port wants the ALJs to basically accept the Port's witnesses' opinions at this stage as a basis for concluding that PAC's experts' opinions are unsupported. Not only is the Port wrong about whose witnesses are more credible, and have the best expertise, but this stage of the hearing is not where the ALJs make such determinations. The Port's objections are not a proper basis for striking or excluding Dr. Esbaugh's testimony.

The application and draft permit in this case are for a wastewater discharge permit. The necessary technical review is centered on the impacts of the proposed effluent upon aquatic life in the receiving waters, as well as any impact from the intake upon the waters drawn from. Dr. Esbaugh is has been on the faculty of UTMSI since 2012. He has studied comparative physiology for 19 years, and his research program examines questions related to salt and water balance in fishes. He has published multiple papers on subjects related to ion transport pathways in the gills, esophageal desalination and intestinal water processing, including several papers involving hypersalinity acclimation. Therefore, his background and experience includes a focus on salinity and its impact upon aquatic life. Of all witnesses presented in this case, Dr. Esbaugh best understands the impacts of salinity balances upon aquatic life—*and this is a case involving a desalination facility*.

Dr. Esbaugh is clearly well-qualified to opine upon the issues presented in reviewing the application and the draft permit, as well as the more specific issues related to the "effects of desalination on local salinity" and the "effects of the effluent from the Desalination Facility on the overall salinity of the Corpus Christi Ship Channel." He is well qualified to opine on requirements that may be necessary to ensure the protection of aquatic life, including whether the draft permit contains all such requirements necessary to do so. Moreover, Dr. Esbaugh is well-qualified to discuss failings in the CORMIX and SUNTANS modeling used by the Port. He is not required to know all of the details of the modeling or to have used it himself to be able to recognize its many shortcomings, moreover he is able to rely on supporting information from other experts related to those models in formulating his opinions.

All of the Port's identified objections to Dr. Esbaugh's testimony are without merit. His testimony is neither conclusory, speculative, nor lacking in foundation. Moreover, an expert is allowed to rely on hearsay in forming an opinion; thus, the Port's hearsay objections are without merit. Accordingly, all of the Port's objections should be overruled and its motion to strike testimony be denied.

G. Kristin Nielsen, Ph.D.

Like its objections regarding other witnesses, the Port's objections to Dr. Nielsen's testimony are shamelessly broad, and thus, difficult to address with any specificity. For example, every single objection offers generally TRE 702, 703 and 705(c) as its basis. Similarly, all but two objections span entire answers, and frequently, objections span multiple questions. In fact, the Port Authority objects to the vast majority of Dr. Nielsen's substantive testimony and each and every one of the associated exhibits, including even her resume and a peer-reviewed, published report authored by Dr. Nielsen herself.

Texas Rule of Evidence Rule 702 goes to whether the witness is "qualified as an expert by knowledge, skill, experience, training, or education."[5] Rule 703 simply makes clear that an expert may base an opinion on facts or data in the case that the expert has been made aware of, reviewed, or personally observed.[6] Finally, Rule 705(c) provides that an expert's opinion must have a sufficient basis.[7]

In most of its objections, the Port asserts some combination of objections of "legal conclusions," "unsupported conclusions," or "unsupported legal conclusions." In doing so, the Port attempts to blur the distinction between expert testimony that has a basis in science—but with which the Port just simply disagrees in the expert's conclusions—and expert testimony that lacks any apparent support apart from the expert's claim to superior knowledge.

The Port relies heavily on the *Whirlpool Corp. v. Camacho*, 298 S.W.3d 631 (Tex. 2009) to argue that Dr. Nielsen's testimony is conclusory. The *Whirlpool* case though, which involves a clothes dryer that allegedly caused a house fire, helps to illustrate the difference between expert testimony that the Port simply disagrees with, and expert testimony lacking any apparent basis.

In the *Whirlpool* case, the Texas Supreme Court found it compelling that the expert neither performed tests, had tests performed, did calculations, nor explained how the testing data which

[5] "A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue." TRE 702.

[6] "An expert may base an opinion on facts or data in the case that the expert has been made aware of, reviewed, or personally observed. If experts in the particular field would reasonably rely on those kinds of facts or data in forming an opinion on the subject, they need not be admissible for the opinion to be admitted." TRE 703.

[7] "An expert's opinion is inadmissible if the underlying facts or data do not provide a sufficient basis for the opinion." TRE 705(c).

did exist supported his ultimate conclusion as to lint particles reaching the clothes in the drum, smoldering there for some period of time, and then igniting the clothes.[8]

Dr. Nielsen is offered as an expert on toxicology. Her resume, testimony, and experience demonstrate her extensive knowledge, skill, experience, training, and education in the relevant field. Dr. Nielsen has of course relied on facts and opinions of other experts, and has testified that these are the types of information that experts in her field would normally rely on. For example, Dr. Nielsen is not offered as modeler. She relies on the hydrologic modeling done by PAC's expert modelers, which predicts an increase in salinity from the Port's proposed discharge (≥ 2 ppt above ambient). This is the context and basis of her opinions regarding the likely adverse effects on aquatic life.

Furthermore, Dr. Nielsen has conducted and published a prospective risk evaluation of ecotoxicological risk associated with the Port's proposed desalination discharge from Harbor Island. She has also conducted a series of toxicity tests estimating the impacts of hypersalinity on early life stage red drum, which she testifies, in the context of predicting and evaluating potential damage to local estuarine ecosystems, are essentially "the gold standard of study organisms."[9]

Also highly relevant to the *Whirlpool* Court were the *Robinson* factors. The Court explained that the fact that the expert's theory was developed for the litigation in the matter made it more likely to be biased toward a particulate result; the opinions and theory of the expert in the *Whirlpool* case had not been published in any scientific journal or been subjected to peer review by someone other than an expert retained by the same side; and finally, the expert did not indicate that his theory had been accepted as valid by any part of a relevant scientific or expert community at large.[10]

Dr. Nielsen, on the other hand, has demonstrated that the results of her own studies, on which she relies, have been published (PAC-48R KN-2) or subjected to peer review/review by someone other than an expert retained by PAC (PAC-48R KN-3/PAC-48R KN-4).[11] The study design using early life stage red drum is the same or similar to most other early life stage red drum studies, including peer-reviewed studies.[12]

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[8] *Id.* at 642.

[9] Nielsen Prefiled Testimony, 16:3.

[10] *Id. at 643.*

[11] Nielsen Prefiled Testimony, 5:13-16; 6:21-7:2.

[12] Nielsen Prefiled Testimony, 18:21-22.

As a final note, the Port Authority objects to five of the six exhibits accompanying Dr. Nielsen's prefiled testimony for virtually identical and absurd reasons: Rule 901, lack of authentication; Rule 805, hearsay; Rule 902(10), lack of authentication.

1. PAC-48R KN-1 is Dr. Nielsen's resume. Dr. Nielsen identified it as her CV and testified that it is a true and correct copy.

2. PAC-48R KN-2 is the 2021 report authored by Dr. Nielsen, entitled *Proposed Harbor Island Seawater Reverse Osmosis Desalination Facility: A Prospective* 10 *Evaluation of Toxicological Risk.* Dr. Nielsen identified it as such and testified that it is a true and correct copy.

3. PAC-48R KN-3 is Dr. Nielsen's report documenting the methods and results of the rangefinder test for the median lethal concentration (Test 1), the results of the first median lethal time test (Test 2), and all data from follow-up testing (i.e., the final median lethal concentration test and the second median lethal time test). Dr. Nielsen identified it as such and testified that it is a true and correct copy.

4. Exhibit PAC-48R KN-4 is the manuscript of Dr. Nielsen's toxicity tests, currently undergoing peer review. Dr. Nielsen identified it as such.

5. Exhibit PAC-48R KN-5 is a reference list of scientific literature reviewed by Dr. Nielsen. Dr. Nielsen identified it as such.

6. Exhibit PAC-48R KN-6 is a chart showing historical rainfall in Port Aransas. The Port argues this evidence should be excluded because it lacks relevance and Dr. Nielsen lacks qualifications on the subject. Dr. Nielsen is a toxicologist with experience conducting risk assessments and ecotoxicological testing on aquatic life. Her testimony as to whether a water sample size and sample method provide representative and reliable results that can be used in assessing potential risk of sediment contamination on aquatic life is certainly relevant to assessing risks from the proposed discharge.

For these reasons, and for the additional reasons below, the Port Authority's objections to Dr. Nielsen's testimony and associated exhibits, should be overruled.

Page: lines	**Objection**	**Response**
6:1-8	Rules 702, 703, 705(c), legal conclusions Dr. Nielsen states she has conducted multiple studies investigating the survival and growth implications of anthropogenic-mediated salinity stress to early life state	Dr. Nielsen described the rangefinder test for median lethal concentration (Test 1), the median lethal time test (Test 2), and the final median lethal concentration test and second median lethal time test, and offered a report documenting the methods and results of all of these tests. (6:10-15)

	red drum, but neither describes them with particularity nor offers them as exhibits.	
6:21-24	Rules 702, 703, 705(c), legal conclusions The witness states that she submitted her data to an "uninvolved third-party for review" which is an unsupported or inaccurate legal conclusion.	This is not a legal conclusion, nor is it unsupported statement. Dr. Nielsen immediately states, "My data was submitted to Dr. Matthew Alloy, with US EPA, for preservation and review. His evaluation resulted in similar (though slightly more conservative) toxicity values to those reported in the manuscript." (6:24-7:2)
7:27-9:2	Rules 702, 703, 705(c), legal conclusions, speculation The witness states unsupported conclusions about risk to estuarine habitats, the discharge of effluent, the location of the discharge, and the impacts of simultaneous exposure to multiple stressors. . . . The witness also appears to speculate as to the impacts.	These statements are not unsupported. Dr. Nielsen is summarizing her opinions. Prior to this testimony summarizing her opinions, Dr. Nielsen explains clearly the documents and other materials she reviewed in preparation of developing her opinions.
9:18-10:3	Rules 702, 703, 705(c), unsupported legal conclusions The witness provides an inappropriate narrative opinion in which she fails to provide the source of the recited facts or support for the opinions.	These statements regarding the aquatic habitat adjacent to the proposed discharge are not unsupported. Among other sources, Dr. Nielsen relies on the 2021 report titled *Proposed Harbor Island Seawater Reverse Osmosis Desalination Facility: A Prospective Evaluation of Toxicological Risk* (offered as Exhibit PAC-48R KN-2). This report includes a thorough description of the ecology of Harbor Island and adjacent habitat, and cites to a host of other published articles on the subject.
10:5-16	Rules 702, 703, 705(c), unsupported legal conclusions The witness provides narrative opinion in which she fails to provide the source of the recited facts or support for the opinions.	These statements explaining why it is important to know that the habitat adjacent to the proposed discharge site is productive and of high ecological are not unsupported. Again, Dr. Nielsen relies on the 2021 report, Exhibit PAC-48R KN-2 in addition to a host of other sources.
10:24-12:2	Rules 702, 703, 705(c), unsupported legal conclusions; Rule 802, hearsay	These opinions regarding salinity are not unsupported, as Dr. Nielsen's testimony includes a resume detailing her relevant experience and a report regarding her salinity

	The witness provides narrative opinion in which she fails to provide the source of the recited facts or support for the opinions. Her "basis" for these opinions is her experience and unidentified studies she has performed, and hearsay conversations with other PAC experts.	studies. Further, Dr. Nielsen's reliance on the opinions of other experts, for example, PAC's expert modelers, is well within what is allowed under TRE 703. Dr. Nielsen references the increase in salinity (≥ 2 ppt above ambient) as context and as the basis of her opinions regarding the likely adverse effects on aquatic life.
12:6-15:22	Rules 702, 703, 705(c); unreliable opinions, not based on material typically relied upon by experts in the field The witness' "follow up test" used flawed methodology, and therefore any testimony related to that test (also called Test 3) is unreliable and does not support any opinion	Dr. Nielsen's entire explanation of how she conducted the toxicity tests (12:6-13:9) are not opinions, but a factual account of the testing procedures she utilized in conducting the tests. Furthermore, Dr. Nielsen later testified that the methods she followed are the types of methods accepted by professionals in her field. (18:16-18)
16:1-17:15	Rules 702, 703, 705(c), unsupported conclusions; Rules 402, 403, irrelevant The witness states unsupported facts and conclusions relating to red drum and her choice to study red drum. . . Her testimony regarding inland silverside being more tolerant is unsupported by any data or source, and is irrelevant.	Dr. Nielsen's testimony as to why she used early life stage red drum (i.e. the "gold standard of study organisms") is not unsupported nor is it irrelevant. As described above, she testifies at length about the value and use of red drum and makes connections between her use of the species and her conclusions about likely adverse impacts on aquatic life.
18:7-15	Rules 702, 703, 705(c), unsupported conclusions The witness states unsupported conclusions regarding what the tests "confirm."	Dr. Nielsen's testimony provides the basis for her conclusions that the test findings were similar, even from eggs from two different broodstock populations and embryos spawned at different salinities, and that her opinion is that the
18:21-19:2	Rules 702, 703, 705(c), unsupported conclusions	These statements are not unsupported. Dr. Nielsen is summarizing her knowledge of her field of work and opinions. Prior to this testimony, Dr. Nielsen explains clearly the

	The witness states unsupported conclusions about her study design being the same or similar to other, unidentified "peer-reviewed" studies involving estuarine/marine species.	documents and other materials she reviewed in preparation of developing her opinions, and she supplied a list of references.
19:7-20:15	Rules 702, 703, 705(c), unsupported conclusions, irrelevant, does not assist trier of fact; Rules 402, 403, irrelevant The witness states unsupported conclusions about a "widely accepted principal in toxicology" without providing source or support. . . . The witness also criticizes the Port Authority's choice to do WET testing on the mysid shrimp and inland silverside, but her opinion is irrelevant, and not helpful to the trier of fact, as the TCEQ requires applicants to test those two species.	These statements are not unsupported simply because the Port disagrees. Dr. Nielsen is summarizing her knowledge of her field of work and opinions. Prior to this testimony, Dr. Nielsen explains clearly the documents and other materials she reviewed in preparation of developing her opinions, and she supplied a list of references. Dr. Nielsen does not testify about what the TCEQ requires. She testifies only to why mysid shrimp and inland silverside are poor choices to determine adverse impacts from increased salinity due to their high salinity stress tolerance. It is directly relevant and helpful to the trier of fact in determining whether the Port Authority's opinions are reliable or true.
20:18-23	Rules 702, 703, 705(c), unsupported conclusions The witness states unsupported conclusions about organisms and their relative tolerance to salinity, and refers to "research" without identifying the source or support for her opinions.	These statements are not unsupported simply because the Port disagrees. Dr. Nielsen is summarizing her knowledge of her field of work and opinions. Prior to this testimony, Dr. Nielsen explains clearly the documents and other materials she reviewed in preparation of developing her opinions, and she supplied a list of references.
21:10-23:11	Rules 702, 703, 705(c), unsupported conclusions, irrelevant, does not assist trier of fact, speculation; Rules 402, 403, irrelevant This testimony is in inappropriate narrative form. The witness discusses "contaminants" while stating facts and opinions regarding the area of the intake without providing any source or	These statements are not unsupported simply because the Port disagrees. Again, Dr. Nielsen relies on the 2021 report, Exhibit PAC-48R KN-2 (which the Port Authority acknowledges) in addition to a host of other sources.

	support, except for a "World Health Organization" quote. However, this quote is recited without providing a citation for verification and without including this document as an exhibit. In addition, the witness concludes only by stating that the Port Authority has not presented enough information regarding contaminants, which is not an opinion based on probability, and is irrelevant, as the Port Authority has met the TCEQ's standards in this respect. She relies on her experience and her own 2021 study, which used inappropriate methodology with respect to Test 3.	
23:13-19	Rules 702, 703, 705(c), unsupported conclusions The witness states that the assumptions she utilized in her 2021 study were based on "a combination of peer-reviewed scientific journal articles, reports from various government agencies, technical reports" along with a database, which do not provide specific enough information or sources to support or verify her assumptions.	Dr. Nielsen's 2021 study, which was peer-reviewed and published, includes an extensive list of 235 references, which are all cited in detail.
24:3-25:6	Rules 702, 703, 705(c), unsupported conclusions, lacks specific qualifications The witness states unsupported and unreliable, inaccurate conclusions. . . Her inexperience disqualifies her from offering opinions on this subject. . . The witness' opinion is based on her perception of the applicability	Dr. Nielsen is a toxicologist with experience conducting risk assessments and testing on aquatic life. She is qualified to testify as to whether a water sample size and sample method provide representative and reliable results that can be used in assessing potential risk of sediment contamination on aquatic life. .

	of a statute which does not apply.	
25:11-26:9	Rules 702, 703, 705(c), unsupported conclusions The witness states unsupported conclusions regarding the impact of the discharge of sediments	These statements explaining the risks associated with contaminated sediments are not unsupported. Again, Dr. Nielsen relies on her experience as a toxicologist, in addition to a host of other sources. She also cites to the Port Authority's own Process Design Basis and Narrative.
26:12-22	Rules 702, 703, 705(c), unsupported conclusions The witness states unsupported conclusions as to the impact of the "concentrate contaminant," and uses undefined and vague terms such as hypersaline, concentrated contamination, and accumulation. She fails to quantify such discharges or provide specifics as to what she calls the "actual risk."	These statements explaining the risks associated with concentrated contamination and multi-stressor effects are not unsupported. Again, Dr. Nielsen relies on her work in producing the 2021 report, Exhibit PAC-48R KN-2, in addition to a host of other sources.
27:3-12	Rules 702, 703, 705(c), unsupported conclusions The witness states unsupported conclusions as to the location of the discharge based on "experts from around the globe," which constitutes no support.	These statements explaining the geography, hydrology, and climate, as well as the opinions of experts from around the are not unsupported. Again, Dr. Nielsen relies on her work in producing the 2021 report, Exhibit PAC-48R KN-2, in addition to a host of other sources.
27:14-28:5	Rules 702, 703, 705(c), unsupported conclusions, lacks specific qualifications	Dr. Nielsen does not claim to be an expert hydrologic modeler. In fact, as the Port Authority pointed out in its Motion to Exclude Evidence, Dr. Nielsen directly testified that she relies on the modeling Scott Socolofsky.[13]
28:18-29:19	Rules 702, 703, 705(c), unsupported conclusions, speculation The witness states unsupported conclusions as to multi-stressor effects, without providing the source for the	These statements are not unsupported simply because the Port disagrees. Dr. Nielsen is summarizing her knowledge of her field of work and opinions. Prior to this testimony, Dr. Nielsen explains clearly the documents and other materials she reviewed in preparation of developing her opinions, and she supplied a list of references.

[13] Direct Testimony of Dr. Kristin Nielsen, p. 9:7-10. See also, Port Authority's Motion to Exclude Protestants' Expert Witnesses and Testimony, p. 41.

	recited facts or support for her opinions. . . . The witness also uses undefined and vague terms such as "small amounts" and "widespread lethality." The witness also speculates as to what might occur in her toxicity tests if she had incorporated multiple stressors (she did not).	
29:23-30:2	Rules 702, 703, 705(c), unsupported conclusions The witness states unsupported conclusions.	These statements are not unsupported simply because the Port disagrees with Dr. Nielsen's conclusions.

H. Daniel Schlenk, Ph.D.

As a general matter, the Port's challenges to Dr. Schlenk's opinions are of the type that the Port should properly address through cross-examination rather than an evidentiary objection. The ALJs are well-qualified to give Dr. Schlenk's opinions the significant weight that they deserve. The question of admissibility is solely an issue of whether an expert's opinions are reasonably reliable; the question of whether the opinions are correct is a matter that should be decided by the fact-finder.[14] As the Texas Supreme Court noted in *E.I. dePont de Mours v Robinson*:

> The trial court's role [when ruling on an evidentiary objection] is not to determine the truth or falsity of the expert's opinion. *See In re Paoli R.R. Yard PCB Litig.,* 35 F.3d 717, 749 (3d Cir.1994), *cert. denied sub nom. General Elec. Co. v. Ingram,* 513U.S. 1190, 115 S.Ct. 1253, 131 L.Ed.2d 134 (1995). Rather, the trial court's role is to make the initial determination whether the expert's opinion is relevant and whether the methods and research upon which it is based are reliable.[15]

The Port moves to strike Dr. Schlenk's testimony opining that "without adequate mixing and diffusion, the higher density of the brine causes the discharge to remain within sunken areas of the sea floor."[16] The logic of this statement is quite simple – denser fluids will tend to sink

[14] *Tabor v. Roush,* 316 S.W.3d 139, 158-159 (Tex. App. – Houston [14th], 2010) *no pet.*

[15] *E.I. dePont de Mours v Robinson,* 923 S.W.2d 549, 558 (Tex. 1995).

[16] POCCA MTS p. 75, referencing Exh. PAC-50R at 14:7-9.

beneath lighter fluids. Furthermore, Dr. Schlenk testified that he gained knowledge of the relative ecological impact of different settings through his work a Science Advisory Panel convened to advise the State of California on the best practices for brine disposal in coastal water.[17] In fact, that prior experience included education specifically on this topic, as he testifies that on that panel he received presentations regarding, "the role that bathymetric holes and barriers to dilution play in the potential aquatic impact of desalination discharges."[18] The California panel report, of which he is a joint author, graphically depicted the role of density in the behavior of a plume:[19]

I. Larry McKinney, Ph.D.

The Port objects to Dr. McKinney's testimony for the following reasons: that he failed to specify the exposure time of aquatic life to the salinity plume from the Port's discharge and the specific concentration of such salinity plume; that he lacks the requisite expertise to opine on modeling; that his testimony is too similar to that of other PAC experts, Dr. Stunz and Mr. Holt, and therefore, will not help the trier of fact understand the evidence; that his opinions are based on an unidentified study; that he does not have specialized knowledge to provide an opinion on the adverse effects of increased salinity levels within Corpus Christi Bay; and finally, that his opinions regarding the species of fish used in the Port's whole effluent toxicity (WET) testing were not supported. All of the Port's objections should be overruled.

The application and draft permit in this case are for a wastewater discharge permit. The necessary technical review is centered on the impacts of the proposed effluent upon the marine environment in the Aransas Pass Tidal Inlet, the Corpus Christi Ship Channel, and the surrounding bay systems. Dr. McKinney is the Chair for Gulf Strategies at the Harte Research Institute for Gulf of Mexico Studies (HRI). His expertise is directly related to the issues presented in reviewing the application and the draft permit. As reflected in his testimony, he serves in a senior leadership role with HRI, advising scientists studying issues related to the Gulf of Mexico, including ecology, species conservation, water resource development, economics, habitat loss, and fisheries. Along with reviewing and advising on the scientific aspects of the HRI mission, he also uses the results of HRI's scientific studies to develop effective policies that advance the HRI vision of an ecologically and economically sustainable Gulf of Mexico.

[17] PAC-50R at 7-17.

[18] PAC-50R, at 6:4-7.

[19] PAC-50R DS-2, p. 35.

Dr. McKinney is a recognized expert in this field having led the Resource Protection Division of Texas Parks and Wildlife Department (TPWD), where he oversaw TPWD's review of every state and federal permit or action that might affect fish or wildlife in Texas and TPWD's responses to eliminate, reduce or mitigate any negative impacts. He also directed TPWD's Coastal Fisheries Division, overseeing all fisheries related matters for the state of Texas. Finally, from 1980-1986, Dr. McKinney served as the Director of TPWD's Texas Environmental Engineering Field laboratory, where he led the biological assessment of the largest brine disposal project ever undertaken to create the U.S. Strategic Petroleum Reserve's storage facilities.

Dr. McKinney is well qualified to provide his expert opinion on the ecological impact of the Port's proposed discharge of 96 million gallons per day of concentrated brine into the Aransas Pass Tidal Inlet. The Port makes much of the fact that Dr. McKinney did not independently determine the exact amount of time contaminants will be in the ZID or mixing zone and provides a list of contaminants in a non-specific fashion. The Port also seeks to exclude Dr. McKinney's testimony because he did not calculate how long aquatic species would be exposed to increased salinity levels from the plume created by the Port's discharge or the specific concentration that these species would be exposed to. Dr. McKinney and PAC do not bear the burden of proof in this matter and they are not required to do the Port's work in order for Dr. McKinney to be able to assess the impact of brine wastewater on the marine environment and aquatic life.

The Port also argues that Dr. McKinney's testimony should be excluded because he reviewed and relied on the studies of other scientists at HRI in forming his own opinion about the current salinity levels in Corpus Christi Bay and the potential impacts of increased salinity levels in an already salinity-stressed bay system. The fact that Dr. McKinney reviewed a report developed by HRI on behalf of the Coastal Bend Bays & Estuaries Program and found the data to be compelling evidence of a salinity-stressed bay system in no way renders his opinion invalid. Instead, it lends credence to the validity of the substantive findings in such report and supports Dr. McKinney's opinions regarding the impacts of the proposed wastewater discharge.

Dr. McKinney is well-qualified to discuss the failings in the CORMIX and SUNTANS modeling used by Port. He is not required to know all of the details of the modeling to be able to recognize those areas where the models fail to demonstrate that the proposed salinity plume will be protective of the marine environment. The Port also argues that Dr. McKinney's opinions regarding the "optimal salinity to maintain existing biodiversity in the Corpus Christi Bay System," should be excluded because he does not provide enough detail to identify the study. To

be clear, the study Dr. McKinney is relying upon is the exact same study identified and offered into evidence on the immediately preceding page of his prefiled testimony, titled "Vulnerability Assessment of Coastal Bend Bays."

In response to Port's arguments that Dr. McKinney does not have any specialized knowledge to provide an expert opinion on the impact of increases in salinity levels on Corpus Christi Bay, we are hard pressed to find anyone who could provide a greater depth of knowledge regarding the aquatic environment in the Coastal Bend Region in combination with the impacts of brine discharges in the Gulf of Mexico.

Similarly, all of Port's identified objections to Dr. McKinney's testimony are without merit. His testimony is not conclusory, speculative, irrelevant, lacking in personal knowledge, nor lacking in foundation. Additionally, under TRE 608, a witnesses' credibility may be supported by testimony about the witnesses' reputation. The Port has repeatedly attacked PAC witnesses as biased and as unreliable scientists. Dr. McKinney's testimony, consistent with TRE 608, provides evidence of Dr. Stunz's and Mr. Holt's character.

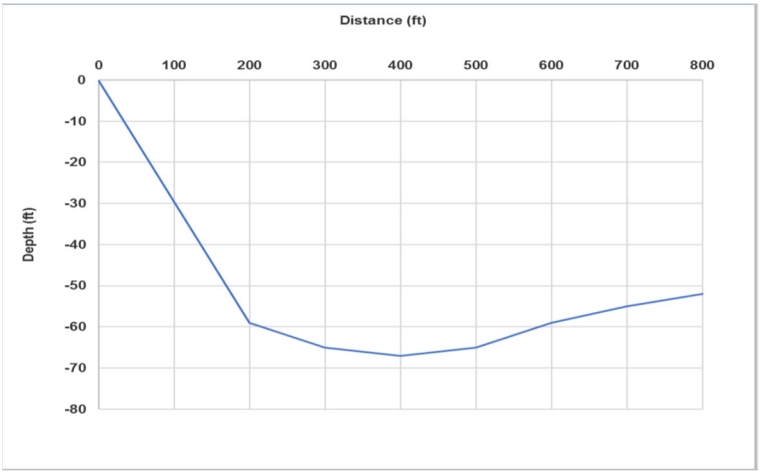
As to the objected-to exhibits attached to the testimony, Dr. McKinney's testimony is sufficient to properly authenticate the documents. Under TRE 901, "the requirement of authentication or identification as a condition precedent to admissibility is satisfied by evidence sufficient to support a finding that the matter in question is what its proponent claims." Dr. McKinney's testimony is sufficient to authenticate all of the exhibits attached to his testimony. To the extent it is not, PAC reserves the right to establish any necessary predicate for authentication at the hearing on the merits. Accordingly, all of Port's objections should be overruled and its motion to strike testimony be denied.

J. Scott Socolofsky, Ph.D.

The Port has lodged objections both to Dr. Socolofsky's testimony, but also to his exhibits. objected to Exhibits PAC 51 R-SS- 2, 4, 5, 6, 8, 9, and 10. The objections are often absurd and, when they are not, they are just red herrings. For example, two objections are simply the result of the Port disagreeing with Dr. Socolofsky's use of the CORMIX model. Dr. Socolofsky worked directly under the developer of the model, worked with the current owner of the model, and developed his own similar model using the CORMIX model. Dr. Socolofsky is eminently qualified to speak to the use of the CORMIX model.

The Port also tries to derogate a scientifically important term. The Port argues that "exaggerated figures" such as PAC-51R-SS-6 cannot be admitted, referring to exaggerated figures

as "distortions." The Port knows this is more than misleading; it is outrageous. The term "exaggerated" is used by scientists and engineers to mean that a figure has not been drawn to the same scale in all directions. That is appropriate, if not necessary in some cases, as long at the scales are shown so everyone knows that there are different scales. This is a scientifically accepted method of showing information and, in fact, such was first used **in this case by the Port,** in its original application, Figure 3: Cross Section Near Proposed Harbor Island Facility Diffuser which is pasted below. It is a copy of the figure in the original application at page S-Application 0000354, and it uses just such an exaggerated scale for the channel.



Similarly, Bruce Wiland the used this type of scaling in his exhibits in the last hearing and the current hearing to reflect that the Port's showing of the bottom, compared to the actual bottom with the hole. See PAC-3-BW-5 and PAC-53R-BW-4.

Likewise, the Port objects to two exhibits, PAC-51R-SS-5 and PAC-51R-SS-8, because it disagrees with the most qualified person to speak on the proper use of the model, contending "As set forth in detail in the Port Authority's Motion to Strike, the CORMIX results for scenarios in which the witness has placed an imaginary wall behind the diffuser are inherently unreliable and should be excluded." Actually, it is the Port's incorrect use of CORMIX that results in an inherently unreliable modeling result. The Port is aware that there is a sloping bank that results in an actual physical side of the channel where the Port's modeling shows only water existing.

There I no imaginary wall. Rather, there is actual bank in the location where Dr. Socolofsky placed it. Dr. Socolofsky placed the bank close to the discharge location, which is where the bank is. In contrast, the Port puts the bank 200 feet away, which is a modeling fiction and ignores where the bank actually is. The Port did so to try to avoid dealing with the contact by the plume with the

bank, which reduces the mixing dramatically, as Dr. Socolofsky shows.

In regard to the Port's other objections to exhibits, PAC responds as follows:

Exhibit No.	**Objection**	**Discussion**	**Response**
PAC-51R SS-2	Rule 901: Authentication	The witness has not properly identified the location of the pictures or what they purport to depict.	The witness has. The Port is apparently unfamiliar with its own land and structures in front of its land
PAC-51R SS-4	Rule 901: Authentication Rule 403: Relevance	The aerial photos have not been properly identified.	The witness has explained the source of the photograph and what it shows in the area of the hole and discharge
PAC-51R SS-6	Rule 403: Relevance	The Port Authority objects to the depictions in the "cross- sections" on pages 4 – 16 because they . . . exaggerate the slope of what Protestants refer toas the "bank" which is in fact the channel bottom.	See above. Moreover, the witness is clear what land surface he is referring to, the bank which is also the channel bottom, a practice that the Port also uses, referring to the bottom of the hole as also the bottom of the channel.
PAC-51R SS-8	Rule 403: Relevance	As set forth in detail in the Port Authority's Motion to Strike, the CORMIX results for scenarios in which the witness has placed an imaginary wall behind the diffuserare inherently unreliable and should be excluded.	The Port is objecting to the placement of the imaginary wall used in the CORMIX model as the bank close to the discharge location, which it is while the Port puts at 200 feet away to avoid dealing with the contact by the plume with the bank
PAC-51R SS-9	Rule 802: Hearsay	Document is hearsay and none of the exceptions to thehearsay rule have been proven.	The documents are, as the witness explains from a report prepared by a student of his in a thesis
PAC-51R SS-10	Rule 403: Relevance	PAC states that the exhibit is not offered for the truth of thematter asserted, but to show what the Port Authority previously filed. However, the portion of the application that is being submitted has been replaced and both the exhibit and the discussion are irrelevant to the current diffuser design and as such should be excluded.	This is the same proceeding and the evidence in the record of the last hearing is still evidence here. Moreover it is clearly relevant.

PAC-51R SS-5	Rule 702: Lack of sufficient basis, irrelevant and does not assist the trier of fact Rules 402, 403: Irrelevant	The Port Authority objects to those portions of the exhibit which show CORMIX results for scenarios in which the witness has placed an artificial wall behind the diffuser which makes those results inherently unreliable and shouldbe excluded. See also Port Authority's Motion to Strike Scott Socolofsky, incorporated herein.	The Port is objecting to the placement of the imaginary wall used in the CORMIX model as the bank close to the discharge location, which it is while the Port puts at 200 feet away to avoid dealing with the contact by the plume with the bank

In regard to the other objections to the testimony of Dr. Socolofsky, PAC responds as follows:

Page:line	**Objection**	**Discussion**	**Response**
10:11-10:25	Rule 702: Speculation	The witness makes observations regarding the surface conditions and speculates as to the distance under the water thatthey extend, then speculates regarding the flow at the depth of the discharge some 65' below the surface and over 150 feet south. The witness provides no basis for such speculation.	The testimony is based on the Port's bathymetry and his observations at a site visit. If the Port has information contrary what is seen on its land and under the water, it should have provided it in the application
11:24-12:6	Rule 801: Hearsay	The witness is attempting to introduce out of court statements or implications regarding those statements made outside the court room. These people are not witnesses in this proceeding. The statements are hearsay and should be excluded. See also objection below at pg. 19:11-20:8.	All individuals are or have been witnesses except the owner of the CORMIX model, Dr. Doneker with whom the witness has had a long relationship with on modeling. There is no hearsay in this testimony
12:10 – 12:23	Rule 702: Lack of foundation; does not assist the trier of fact; Rules 402, 403: Irrelevant	The witness purports to use the aerial photos to "identify some of the conditions that he saw" at the Site. However, the witnesshas not and cannot state that the photos, which were taken an unknown number of years ago, accurately	The witness can rely upon such photographs as the Port has also done.

		depict the present conditions at the Site.	
12:26 - 14:1 (Table 1)	Rule 702: Lack of sufficient basis, irrelevant and does not assist the trier of fact; Rules 402, 403: Irrelevant	The witness's testimony is based on CORMIX results for scenarios in which the witness has placed an artificial wall behind the diffuser which makes those results inherently unreliable and should be excluded. See also Port Authority'sMotion to Strike Scott Socolofsky, incorporated herein.	See the discussion of the "imaginary wall" above. The Port is trying to keep out opinions to which it disagrees, and disagrees erroneously
15:1 – 15:4, 15:15 – 15:16	Rule 705(c): Unsupported conclusions, speculation; Rule 702: Lack of sufficient basis	The witness opines about the existence of stratification in the water column that he "*believe[s]* occurs at times in the Corpus Christi Ship Channel, and *presumably*, in the hole" and its potential impact on mixing. There are multiple issues with this testimony. First, what the witness presumes cannot by definition be a sufficient basis for expert testimony. Second, the witness testifies at 24:22- 24:25 that "I have not evaluated data for stratification at this site," clearly demonstrating that any opinions that there is stratification or that it may impact mixing at the site are without a sufficient basis.	He can testify to what he has observed, even if not just at the site, and have an opinion about that those observations indicate for the proposed discharge location, as he has clearly shown he has the education and experience to do so
16:1 – 17:8	Rule 702: Lackof sufficient basis	The witness's opinions regarding the SUNTANS model are based on the prediction of a density current from CORMIX modeling performed using the artificial wall placed behind the diffuser. As set forth in detail in the Motion to Strike Scott Socolofsky, the CORMIX results for scenarios in which the witness has placed an	The Port's statements are not true, The opinions are based on the CORMIX modeling done by the ED and the Port, as well as the witnesses modeling. It is the Port now claiming the predictions from the CORMIX model are not reliable!

		artificial wall behind the diffuser are inherently unreliable and the results as well as any opinions thatare based on those results should be excluded.	
19:11 – 20:18	Rule 801: Hearsay	The testimony seeks to introduce out of court statements for the proof of the matters asserted and is hearsay.	PAC relies on its response to the same objections made to statements by Tim Osting regarding his conversation with Dr. Doneker. The Port had the same right to confirm with the owner of the model as PAC did. It just knows and fears what the owner will say.
25:1 – 25:6	Rule 702: Lackof reliable basis	See objection to PAC-51R SS-6, below. The witness's opinions are based on CORMIX modeling performed using theartificial wall placed behind the diffuser. As set forth in detail in the Motion to Strike Scott Socolofsky, the CORMIX resultsfor scenarios in which the witness has placed an artificial wall behind the diffuser are inherently unreliable and the results as well as any opinions that are based on those results should be excluded.	Again this is discussed above on page 2 under the Imaginary wall objection
25:23 – 26:3	Rule 702: Lackof reliable basis	See objection to PAC-51R SS-8, below. The witness's opinionsare based on CORMIX modeling performed using the artificial wall placed behind the diffuser. As set forth in detail in the Motion to Strike Socolofsky, the CORMIX results for scenariosin which the witness has placed an artificial wall behind the diffuser are inherently unreliable and the results as well as any opinions that are based on those results should be excluded.	Same as immediately above

27:1 – 27:10	Rules 402, 403: Irrelevant	Figure 1 and the associated testimony should be excluded because it does not reflect the actual conditions in the channelin the location of the diffuser and as such the exhibit and the testimony are not probative of the issues in this hearing.	The Port and its experts use a number of figures from studies that are not reflective of actual conditions but meant to help the judges understand the discussion. See APP - CJ 9 R for example a drawing of a tropical island. Such testimony is clearly admissible, it just needs accurate description of what it I as it is here
28:1 – 28:4	Rule 705(c): Unsupported conclusions, speculation	The testimony of the witness demonstrates that it is based on what might be "possible" not what is probable and therefore not sufficient to support expert testimony.	The witness is being honest, not overstating what is possible by saying it is probable. If the Port had done is work to provide adequate bathymetry to show depressions in the channel, Dr. Socolofsky may have been able to say there would be pooling of the effluent
29:7 – 29:12	Rule 705(c): Unsupported conclusions, speculation	The witness states unsupported conclusions regarding the originof the "hole." The witness states that he has not studied what might have created the hole (29:5-29:6) then proceeds to give opinions regarding the possible origin which are by definition speculative. *Whirlpool Corp. v. Camacho*, 298 S.W.3d 631, 638(Tex. 2009) ("Conclusory or speculative opinion testimony is not relevant evidence because it does not tend to make the existence of material facts more probable or less probable.").	The opinions are based on historic figures such as PAC 53 R BW 17 showing the infrastructure, in the Port's own application such as in the original application at S. Application 000357, 386 and in the new application at 489. It is time for the Port to present its information on its lands, what infrastructure has removed from the water and the depth of the dredging done there.
29:18 – 30:5	Rule 705(c): Unsupported conclusions, speculation	The witness states unsupported conclusions regarding the existence or effect of eddies. The witness states that he has notdone an analysis of potential impacts of eddies, therefore any opinions regarding eddies are unsupported and speculative.	Witness is providing his observations at a site visit and his conclusions and opinions on what the is confirmed in satellite images.

		Whirlpool Corp. v. Camacho, 298 S.W.3d 631, 638 (Tex. 2009) ("Conclusory or speculative opinion testimony is not relevant evidence because it does not tend to make the existence of material facts more probable or less probable.").	
30:6 – 30:11	Rule 705(c): Unsupported conclusions, speculation	The witness states unsupported conclusions regarding the existence or effect of eddies or other non-uniform flow. Like his opinions on eddies, the witness has not done an analysis of potential impacts of other non-uniform flows, therefore any opinions regarding other non-uniform flows are unsupported and speculative. *Whirlpool Corp. v. Camacho*, 298 S.W.3d 631,638 (Tex. 2009) ("Conclusory or speculative opinion testimony is not relevant evidence because it does not tend to make theexistence of material facts more probable or less probable.").	The witness is providing an opinion that he is well qualified to provide.
30:12 – 31:13	Rule 705(c): Unsupported conclusions, speculation	The witness's testimony demonstrates that the opinions regarding stratification do not have sufficient basis. The witness testifies at 24:22- 24:25 that "I have not evaluated data for stratification at this site" and again at pg. 31:9-31:10 "I have not been asked to analyze the available stratification data in the area and do not have plans to do so." The witness's admissionsthat he has ignored the available data from the site location clearly demonstrate that any opinions he expresses regarding stratification at the Site or the potential impact of stratification on mixing at the Site are without a sufficient basis. See alsoobjection to PAC-51R SS-9 below.	Dr. Socolofsky is providing his opinion that more work is needed by the Port to determine characteristics in the hole, given the Port only has data on a few days on days it could select to provide most favorable results. He is basis his opinion on his experience, education and on the bathymetry the Port provided

31:14 – 33:17	Rule 403: Relevance	The witness's testimony is based on the design of the diffuser from the prior application. The prior diffuser design is completely different from the current design and as such, discussion regarding the prior design is completely irrelevant tothe performance of the revised diffuser's performance. *See also,*Port Authority's Motion to Strike Scott Socolofsky, incorporated herein for all purposes. See also objection to PAC-51R SS-10, below.	The Port destroyed its records similar to those the witness is using. He is basing his opinion on information in the record, and the only such modeling done by the Port. It is clearly information which helps to inform his opinion about the how CORMIX modeling has shown and may show here, if the modeling is done by the Port, the problems with the mixing at lesser discharge rates
34:17 – 34:23	Rule 801: Hearsay	The testimony seeks to introduce out of court statements for theproof of the matters asserted and is hearsay.	The reference is to Exhibit PAC-50R DS-2 Page 95 of 101, PAC_DS_000227. At the time of preparation of his testimony, the exhibit had not been labeled or bate stamped for the hearing
39:4- 39:17	Rule 702: Lack of sufficient basis, irrelevant and does not assist the trier of fact; Rules 402, 403: Irrelevant	The witness's opinions regarding the SUNTANS model arebased on the prediction of a density current from CORMIX modeling performed using the artificial wall placed behind thediffuser. As set forth in detail in the Motion to Strike, the CORMIX results for scenarios in which the witness has placedan artificial wall behind the diffuser are inherently unreliable and the results as well as any opinions that are based on those results should be excluded.	As stated above, the Port's statements are not true, The opinions are based on the CORMIX modeling done by the ED and the Port, as well as the witnesses modeling. It is the Port now claiming the predictions from the CORMIX model are not reliable!

K. Exhibits

The Port and the ED object to many of PAC's Exhibits, as set forth in the chart below. The chart below identifies the specific exhibits objected to, the basis of the Port and/or ED's objections, and PAC's response to those objections.

Exhibit	Objections	PAC's Response
PAC-55R	It is not clear, although it appears to be relevance	This is the deposition of James Tolan, the designated representative of Texas Parks and Wildlife Department. The entirety of his deposition is relevant to this case and the issues referred by the Commission. Moreover, the Port has offered portions of Mr. Tolan's deposition as evidence, and PAC has the right under optional completeness to offer the rest of it. In addition to being relevant in its own right, PAC asserts that the entirety of the deposition is necessary to provide completeness and context for the deposition portions offered by the Port. Moreover, as the party objecting, it is the Port's burden to identify with specificity the portions being objected to, and it has not done so.
PAC-56R	Relevance	This is the deposition transcript for Sarah Garza, the Port's designated representative in this case. The entirety of her deposition is relevant to this case and the issues referred by the Commission. Moreover, as the party objecting, it is the Port's burden to identify with specificity the portions being objected to, and it has not done so.
PAC-57R	Hearsay; Relevance	It is PAC's position that the Port's evidence well exceeds the scope of remand in this case and it intends to argue such in closing arguments. The transcript of the Commission's open meeting at which the Commissioners voted to remand is directly relevant to understanding the scope of the Commission's remand in this docket. Moreover, the Commissioners statements at the open meeting represent public records

		and, excepted from the rule against hearsay, pursuant to Tex. R. Evid. 803(8)(A).
PAC-58R	Relevance	This is the EPA letter withdrawing its waiver of review of this permit application and requiring TCEQ to forward information to EPA regarding this permit application. TCEQ's review in this case takes place as a delegation of authority by EPA under the federal Clean Water Act and EPA retains its right of review over the process. As noted in PAC-59R, EPA objected to this permit, finding it had been misclassified. Further, in PAC-59R, the EPA specifically requested that its communications be included in the record before the ALJs. This exhibit and PAC-59R are companion letters and should be construed together. Combined, the letters clearly relate to multiple issues referred by the Commission, including "Whether the Application, and representations contained therein, are complete and accurate" (They were not, as EPA found the facility was improperly classified as a minor facility when it was actually a major facility), as well as "Whether the modeling complies with applicable regulations to ensure the draft permit is protective of water quality, including using accurate inputs," "Whether the Executive Director's antidegradation review was accurate;" and "Whether the draft permit includes all appropriate and necessary requirements."
PAC-59R	Relevance	This is the EPA letter asserting objections to the draft permit and requiring TCEQ to respond to EPA's objections regarding this permit application. TCEQ's review in this case takes place as a delegation of authority by EPA under the federal Clean Water Act and EPA retains its right of review over the process. As noted in this exhibit, EPA objected to this permit, finding it had been misclassified. Further, in this exhibit, EPA specifically requests that its communications be included in the record before the ALJs. This exhibit and PAC-58R

		are companion letters and should be construed together. Combined, the letters clearly relate to multiple issues referred by the Commission, including "Whether the Application, and representations contained therein, are complete and accurate" (They were not, as EPA found the facility was improperly classified as a minor facility when it was actually a major facility), as well as "Whether the modeling complies with applicable regulations to ensure the draft permit is protective of water quality, including using accurate inputs," "Whether the Executive Director's antidegradation review was accurate;" and "Whether the draft permit includes all appropriate and necessary requirements."
PAC-60R	Relevance; hearsay	The Texas Parks and Wildlife 2021 Stocking Report is directly relevant to one or more of the issues the Commission Referred to SOAH, including Issue C, which asks "Whether the proposed discharge will adversely impact recreation activities, commercial fishing, or fisheries in Corpus Christi Bay and the ship channel." The TPWD stocking activities directly relate to this issue and are relevant for consideration when determining the types of activities that could be harmed by the discharge. Further, as a public record, this document is excepted from the rule against hearsay, pursuant to Tex. R. Evid. 803(8)(A).
PAC-61R	Relevance; hearsay	The Fingerling stocking records are directly relevant to one or more of the issues the Commission Referred to SOAH, including Issue C, which asks "Whether the proposed discharge will adversely impact recreation activities, commercial fishing, or fisheries in Corpus Christi Bay and the ship channel." The stocking records directly relate to this issue and are relevant for consideration when determining the types of activities that could be harmed by the discharge. Further, the data reflected in this

		document are from the TPWD and, thus qualify as a public record, excepted from the rule against hearsay, pursuant to Tex. R. Evid. 803(8)(A).
PAC-62R	Relevance	This exhibit contains excerpts from the deposition of one of the Port's own experts in this proceeding, related to his background and work in this case. The excerpts clearly relate to the matters in issue in this docket. This witness offered testimony on behalf of the Port in this docket, and testimony related to his background, experience, and prior work is relevant.
PAC-63R	Relevance; hearsay; lack of personal knowledge; lack of foundation.	This exhibit contains excerpts from the deposition of Shannon Gibson, one of the ED's own experts in this proceeding. The excerpts clearly relate to the matters in issue in this docket and, thus, are relevant. Moreover, the statements are from a party opponent, so they are not hearsay. In regard to the personal knowledge or foundation for the witness's testimony, the witness's testimony speaks for itself. There is no jury to be improperly prejudiced in this case and the ALJs can determine whatever weight to give to the witness's testimony.
PAC-64R	Relevance; hearsay; optional completeness	This exhibit contains excerpts from the deposition of Katie Cunningham, one of the ED's own experts in this proceeding. The excerpts clearly relate to the matters in issue in this docket and, thus, are relevant. Moreover, the statements are from a party opponent, so they are not hearsay. In regard to optional completeness, this is not a valid objection. Rather, optional completeness entitles a party to submit additional information. However, the time for the Port to offer additional portions of the testimony was on its rebuttal case, not in objections.
PAC-65R	Authentication; hearsay	This document was Exhibit 29 to the deposition of Katie Cunningham, one the ED's own experts in this case. The document is necessary to understand the testimony given by Ms. Cunningham in her

		deposition. Ms, Cunningham's deposition testimony on this document speaks for itself. There is no jury to be improperly prejudiced in this case and the ALJs can determine whatever weight to give to the witness's testimony and the document.
PAC-67R	Relevance; Lack of expert predicate	This document represents the modeling results draft of Scott Socolofsky's work. He testifies to the reliability of his work and this document is relevant to the issues in this case. While this is a summary of some of Dr. Socolofsky's modeling results, it is not the final ones. The final version is Ex. PAC-51R-SS-5. This is provided as his first draft and it accurately represents his draft work prior to correcting a few minor errors. The matters he testifies to are clearly relevant to the issues referred by the Commission on remand.
PAC-68R	Hearsay; authentication; relevance	This document is relied upon by numerous of PAC's experts and is addressed by them. While the original exhibit had some "###" entries, the document was corrected and an updated exhibit was filed with SOAH and provided to all parties. The document contains data utilized by PAC's experts and is explained by them in their testimony. It is relevant. Moreover, experts can rely on hearsay. The document is authenticated by the remand testimony of PAC's experts.
PAC-69R	Hearsay; authentication; relevance	This document is a presentation by Scott Holt, entitled "Lateral Distribution of Fish and Shrimp Larvae Across the Aransas Pass Tidal Inlet." The document contains information utilized by PAC's experts. It was prepared by one of PAC's experts, Mr. Holt. It is relevant. To the extent it is hearsay, experts can rely on hearsay. The document is authenticated by the remand testimony of PAC's experts.
PAC-70R	Hearsay; authentication; relevance	This document is a paper prepared by, among others, Dr. Greg Stunz analyzing the Coastal Bend Bays, including the waterbody in issue in this case. The document contains

		information utilized by PAC's experts. It was prepared by one of PAC's experts, Dr. Stunz. It is clearly relevant. To the extent it is hearsay, experts can rely on hearsay. The document is authenticated by the remand testimony of PAC's experts.
PAC-71R	Hearsay; authentication; relevance	This document is a paper entitled "Salinity tolerance of larvae of the mangrove red snapper (*Lutjanus argentimaculatus*) during ontogy." The document contains information on salinity impacts utilized by PAC's experts. It is clearly relevant. To the extent it is hearsay, experts can rely on hearsay. The document is authenticated by the remand testimony of PAC's experts.
PAC-72R	Hearsay; authentication; lack of predicate	This document is a paper entitled "Acute toxicity of salt cavern brine on early life stages of striped bass (*Morone saxatilis*)." The document contains information on salinity impacts utilized by PAC's experts. It is clearly relevant. To the extent it is hearsay, experts can rely on hearsay. The document is authenticated by the remand testimony of PAC's experts.
PAC-74R	Hearsay; authentication; relevance	This document is relied upon by numerous of PAC's experts and is addressed by them. The document contains data utilized by PAC's experts and is explained by them in their testimony. It is relevant. Moreover, experts can rely on hearsay. The document is authenticated by the remand testimony of PAC's experts.
PAC-75R	Hearsay; authentication; relevance	This document reflects Scott Holt's calculations for the dilution of brine water. It was prepared by Mr. Holt, one of PAC's experts, and it is relied upon by PAC's experts and addressed by them. It is clearly relevant. Moreover, experts can rely on hearsay. The document is authenticated by the remand testimony of PAC's experts.

III. CONCLUSION

In conclusion, for the reasons noted above, PAC requests that all objections to PAC's testimony and evidence be overruled and the motions to strike such evidence be denied.

Respectfully submitted,

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ATTORNEYS FOR PORT ARANSAS CONSERVANCY

CERTIFICATE OF SERVICE

I certify that a copy of this document was served on all parties of record on this date, March 9, 2022, in accordance with the applicable service procedures.

/s/ Craig R. Bennett
Craig R. Bennett