

EPC SPECIAL

2/22/00

# FORM 8B MEMORANDUM OF VOTING CONFLICT FOR COUNTY, MUNICIPAL, AND OTHER LOCAL PUBLIC OFFICERS

<b>LAST NAME - FIRST NAME - MIDDLE NAME</b> Platt, Jan	<b>NAME OF BOARD, COUNCIL, COMMISSION, AUTHORITY, OR COMMITTEE</b> Environmental Protection Commission
<b>MAILING ADDRESS</b> P.O. Box 1110 Tampa, Fla. 33601	<b>THE BOARD, COUNCIL, COMMISSION, AUTHORITY OR COMMITTEE ON WHICH I SERVE IS A UNIT OF:</b> <input type="checkbox"/> CITY <input checked="" type="checkbox"/> COUNTY <input type="checkbox"/> OTHER LOCAL AGENCY
<b>CITY</b> Tampa	<b>NAME OF POLITICAL SUBDIVISION:</b> Hillsborough County
<b>DATE ON WHICH VOTE OCCURRED</b> February 22, 2000	<b>MY POSITION IS:</b> <input checked="" type="checkbox"/> ELECTIVE <input type="checkbox"/> APPOINTIVE

## WHO MUST FILE FORM 8B

This form is for use by any person serving at the county, city, or other local level of government on an appointed or elected board, council, commission, authority, or committee. It applies equally to members of advisory and non-advisory bodies who are presented with a voting conflict of interest under Section 112.3143, Florida Statutes.

Your responsibilities under the law when faced with voting on a measure in which you have a conflict of interest will vary greatly depending on whether you hold an elective or appointive position. For this reason, please pay close attention to the instructions on this form before completing the reverse side and filing the form.

## INSTRUCTIONS FOR COMPLIANCE WITH SECTION 112.3143, FLORIDA STATUTES

A person holding elective or appointive county, municipal, or other local public office, MUST ABSTAIN from voting on a measure which inures to his or her special private gain or loss. Each elected or appointed local officer also is prohibited from knowingly voting on a measure which inures to the special gain or loss of a principal (other than a government agency) by whom he or she is retained (including the parent organization or subsidiary of a corporate principal by which he or she is retained); to the special private gain or loss of a relative; or to the special private gain or loss of a business associate. Commissioners of community redevelopment agencies under Sec. 163.356 or 163.357, F.S., and officers of independent special tax districts elected on a one-acre, one-vote basis are not prohibited from voting in that capacity.

For purposes of this law, a "relative" includes only the officer's father, mother, son, daughter, husband, wife, brother, sister, father-in-law, mother-in-law, son-in-law, and daughter-in-law. A "business associate" means any person or entity engaged in or carrying on a business enterprise with the officer as a partner, joint venturer, co-owner of property, or corporate shareholder (where the shares of the corporation are not listed on any national or regional stock exchange).

### ELECTED OFFICERS:

In addition to abstaining from voting in the situations described above, you must disclose the conflict:

**PRIOR TO THE VOTE BEING TAKEN** by publicly stating to the assembly the nature of your interest in the measure on which you are abstaining from voting; and

**WITHIN 15 DAYS AFTER THE VOTE OCCURS** by completing and filing this form with the person responsible for recording the minutes of the meeting, who should incorporate the form in the minutes.

### APPOINTED OFFICERS:

You must abstain from voting and disclose the conflict in the situations described above and in the manner described for elected officers. In order to participate in these matters, you must disclose the nature of the conflict before making any attempt to influence the decision, whether orally or in writing and whether made by you or at your direction.

### IF YOU INTEND TO MAKE ANY ATTEMPT TO INFLUENCE THE DECISION PRIOR TO THE MEETING AT WHICH THE VOTE WILL BE TAKEN:

- \* You must complete and file this form (before making any attempt to influence the decision) with the person responsible for recording the minutes of the meeting, who will incorporate the form in the minutes.
- \* A copy of the form must be provided immediately to the other members of the agency.
- \* The form must be read publicly at the next meeting after the form is filed.

**IF YOU MAKE NO ATTEMPT TO INFLUENCE THE DECISION EXCEPT BY DISCUSSION AT THE MEETING:**

- \* You must disclose orally the nature of your conflict in the measure before participating.
- \* You must complete the form and file it within 15 days after the vote occurs with the person responsible for recording the minutes of the meeting, who must incorporate the form in the minutes. A copy of the form must be provided immediately to the other members of the agency, and the form must be read publicly at the next meeting after the form is filed.

**DISCLOSURE OF LOCAL OFFICER'S INTEREST**

I, Jan Platt, hereby disclose that on January 20, 2000,

(a) A measure came or will come before my agency which (check one)

- inured to my special private gain or loss;
- inured to the special gain or loss of my business associate, \_\_\_\_\_;
- inured to the special gain or loss of my relative, William Platt;
- inured to the special gain or loss of \_\_\_\_\_, by whom I am retained; or
- inured to the special gain or loss of \_\_\_\_\_, which is the parent organization or subsidiary of a principal which has retained me.

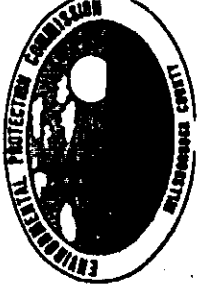
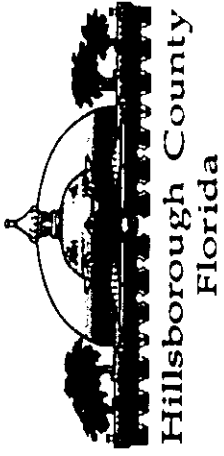
(b) The measure before my agency and the nature of my conflicting interest in the measure is as follows:

At the Environmental Protection Commission meeting of February 22, 2000 I abstained from voting on an environmental impact study that could impact the location of a desalination plant proposed to be constructed by Tampa Bay Water. My Husband owns a substantial interest in property that could be directly affected by the potential location of a desalination plant near his property.

Mr. 2, 2000 Date Filed

Signature Jan K. Platt

**NOTICE: UNDER PROVISIONS OF FLORIDA STATUTES 112.317, A FAILURE TO MAKE ANY REQUIRED DISCLOSURE CONSTITUTES GROUNDS FOR AND MAY BE PUNISHED BY ONE OR MORE OF THE FOLLOWING: IMPEACHMENT, REMOVAL OR SUSPENSION FROM OFFICE OR EMPLOYMENT, DEMOTION, REDUCTION IN SALARY, REPRIMAND, OR A CIVIL PENALTY NOT TO EXCEED \$10,000.**

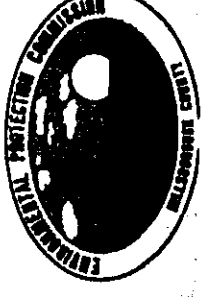
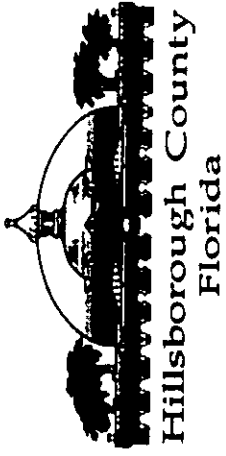


**Revised Recommendation:**

- Letter from Chair, EPC to US EPA-  
Region IV, supporting Comprehensive EIS  
of all TBW Master Water Plan, copy to  
FDEP, TBEP, and ABM.
- Letter from Chair, BOCC to FDEP,  
organizing Peer Review Panel to conduct  
cumulative assessment of all TBW Master  
Water Plan, under aegis of TBEP, with  
support of US EPA.

2/22/00

*EPC Sneed 1/27/00*



## **Recommendation:**

- **Adopt Option 2:**
  - Letter from Chair, BOCC to Regional Administrator, US EPA-Region IV, supporting Comprehensive EIS of all TBW Master Water Plan projects on Tampa Bay, copy to FDEP Secretary Struhs.
  - Letter from Chair, BOCC to TBEP and Agency on Bay Management requesting support of Board action.

2/22/00

**MOTION FOR EPC & BOCC  
CUMULATIVE IMPACT ASSESSMENT**

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Consistent with the Approach To A Cumulative Impact Assessment (2/22/00) discussed today, I move that we:

Authorize the Chair(s) of EPC (and the BOCC) to send a (joint) letter to FDEP Secretary David Struhs requesting that he expeditiously convene an independent panel of experts to conduct a peer review of the cumulative assessments of the potential impacts to the Tampa Bay estuary from multiple projects, including the desalination project, included in the Tampa Bay Master Water Plan;

That the scope of this peer review shall be a Resource Based Evaluation; and

That the panel of experts be chaired by the FDEP and, <sup>as</sup> a minimum, ~~include~~ <sup>be guided & directed by</sup> the various organizations, agencies, and governments of the Tampa Bay region; e.g., Hillsborough County (Water Team), Tampa Bay Regional Planning Council (ABM), Tampa Bay Estuary Program, Tampa Bay Water, and the Southwest Florida Water Management District;

That this panel's work be done concurrently with the desalination project permit application, and the panel's recommendations and FDEP's decision be provided to all interested parties, including regulatory agencies, for additional actions if necessary; and

That Secretary Struhs seek any assistance necessary from the U.S. Environmental Protection Agency in this effort.

Prepared by Commissioner Chris Hart  
February 22, 2000

*Chair EPC*  
*mtf*

# BOARD OF COUNTY COMMISSIONERS

*Chairman*

Pat Frank, District 7

*Vice Chairman*

Chris Hart, District 5

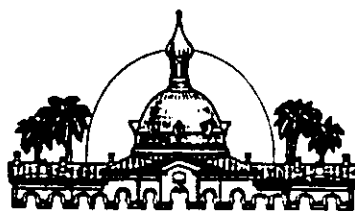
Ben Wacksman, District 1

Jim Norman, District 2

Thomas Scott, District 3

Ronda Storms, District 4

Jan K. Platt, District 6



Hillsborough County  
Florida

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Daniel A. Kleman  
County Administrator

## APPROACH TO A CUMULATIVE IMPACT ASSESSMENT

The concept is to examine the multiple water projects impacting Tampa Bay, including the desalination project, to determine if together their impacts are acceptable.

To do this we should:

- 1) Assemble a panel of experts (enlisting the cooperation and support of local agencies, i.e., the Tampa Bay Estuary Program, Tampa Bay Regional Planning Council, and regulatory agencies) to pose questions that need to be addressed. The panel would be chaired by the Florida Department of Environmental Protection with the involvement of the Environmental Protection Agency. It is estimated that the assessment could be completed in approximately 6 months, and done concurrently with the application. The panel would be charged with specific issues, such as --- what are the resources we are trying to protect (flora and fauna) in the affected area?, and what are the water quality needs of these resources? This approach is called a Resource Based Evaluation.
- 2) Identify the type of data needed to address the questions identified above.
- 3) Find out what information is now available (summarize studies done thus far) and determine any missing links.
- 4) Require a small scale model examination on the 25 MGD Big Bend Desalination project with refinements to the model based on current data (USF Three Dimensional Hydrodynamic Model).
- 5) If there are missing data links --- obtain the data and information to fill those needs, and finally build a consensus regarding what changes in bay flushing are expected, and what level of flushing will cause impacts to the resource. This approach will include the question of whether future bay flushing is going to be sufficient to keep salinity levels at acceptable standards.

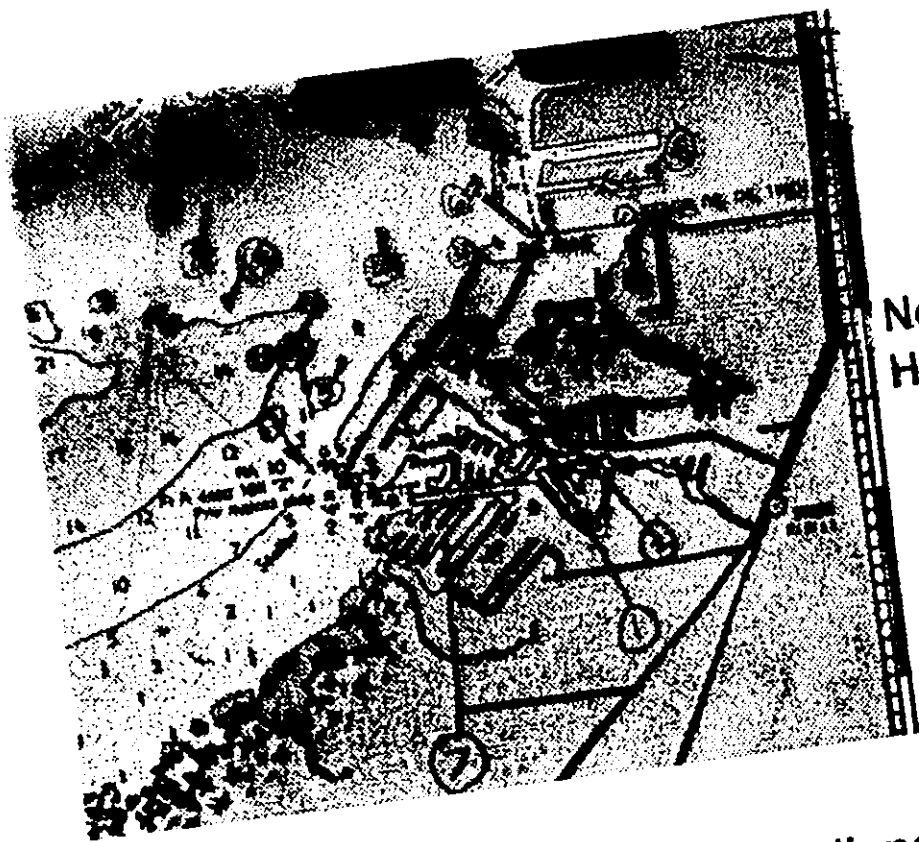
Prepared by Commissioner Chris Hart  
February 22, 2000

**A comprehensive Cumulative Environmental Impact Study is needed with an evaluation for the Life of the Plant.**

- Near field model is needed**
- Far field model is needed**
- Toxicity Testing**
- Tracer studies using small quantities of nonradioactive isotopes of metals to determine the quantity of metals that end up in the estuary microlayer**
- Studies to determine the effect on particle size of mixing brine with cleaning chemical, pretreatment chemicals, and flue desulfurization waste streams**
- Studies to determine the dispersion of metals.**
- A long-term inventory of marine organisms in the microlayer.**

*Special EPC mtg  
Solarc handout*





**Near Field Study -  
Hydrodynamic Model**

→ Detail the mixing and plume dispersion of concentrate and power plant discharges.

→ Address potential for recirculation

→ Address potential for entrapment (embayment)

Key West Desalination Plant - Turbulent, Sank to Bottom

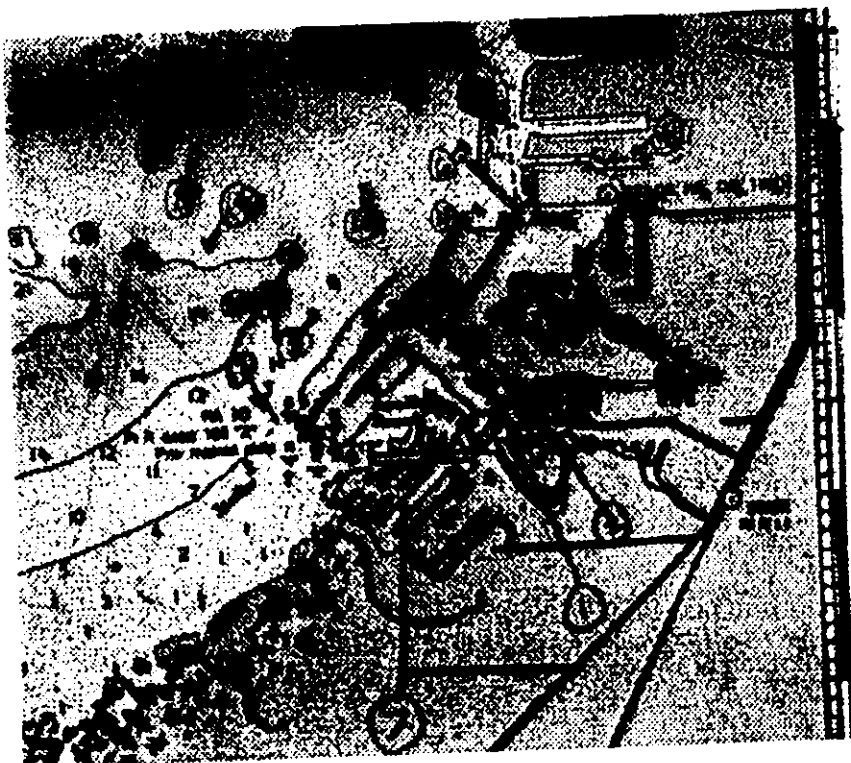
USF Research - Salt collect on bottom, non-mixing plume

National Oceanic and Atmospheric Administration -

Considerable Uncertainty of Dilution

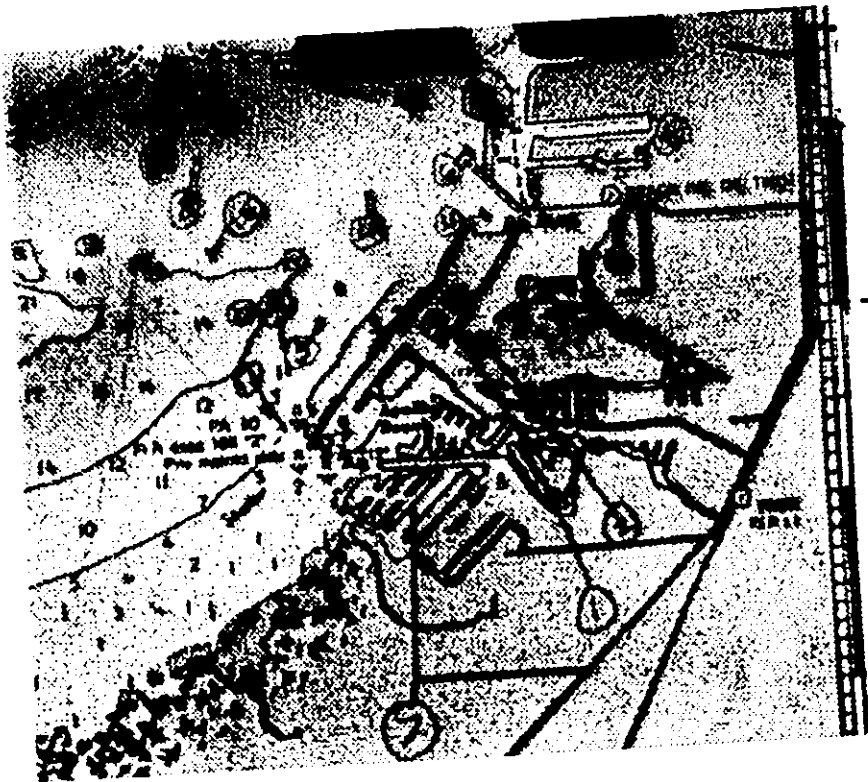
Different Aggregation

Influence Rate of Sedimentation



Dissolved Oxygen Levels

- TECO discharge DO levels exceeded permit levels for several years
- Seeking a variance, can not meet permit
- Desal pilot plant also negatively impacts DO levels
- EPC monitoring shows area waters already have toxic levels



Toxic Metals

- TECO groundwater permit expired 1994, still operating:
- TECO Exceeded permit level 11 months of past 32:  
Totals Suspended Solids
- TECO Exceeded permit level every quarter since permit issued:
  - Arsenic
  - Chloride
  - Sodium
  - Gross Alpha Radiation
  - Total Dissolved Solids

- ▣ NOAA - The metals may become concentrated in the microlayer
- ▣ NOAA - Toxic constituents driven by wind or currents becomes concentrated in the intertidal zone



## Chemical Characterization

"RESULT IN IMPROBABLE MASS BALANCE"

Antimony  
Barium  
Boron  
Bromide  
Copper  
Fluoride  
Magnesium  
Nickel  
Silver  
Thallium  
Zinc  
Total Suspended Solids  
Total Nitrogen  
Total Organic Nitrogen  
Surfactants  
Sodium  
Chloride  
Calcium

## Far Field Study

- **All water projects need to be evaluated, not just Tampa Bay Water's Surface Withdrawal West Coast Regional Water Supply Master Water Plan for Potable Sources**
  
- **Include the entire water basin in evaluation**
  
- **Include all water impacts, surface, groundwater, reclaimed, water diversions, additional desalination plants, desalination expansion**
  
- **Include other brine discharges within the basin**
  
- **Evaluation should be projected over the life of the plant, minimum of 30 years**
  
- **Evaluation should include plant operation at expanded capacity of 35 mgd**



## Toxicity Testing

- Must include pre-treatment chemicals
- Must include "worst case brine concentration" 9.2%
- Must include flue desulfurization waste stream
- Must include cleaning chemicals
- Must use native species know to be "at risk"

**The Anclote toxicity testing not representative of Big Bend Site - not valid**

**Toxicity testing from pilot plant not representative**

**Key West Plant - Effluent more toxic following maintenance**  
**Santa Barbara Plant - Brine with pre-treatment chemical - inhibition of sea urchin embryo development**

The proposed desalination plant for the Big Bend site needs to have a comprehensive and cumulative Environmental Impact Study. This needs to include:

Near Field which is the movement of water near the plant

Far Field which evaluates the bay

Toxicity Testing of the Effluent

Tracer Studies of the Microlayer - upper few micrometers like a finger nail thickness

Particle size from brine mixing with other chemicals in the waste stream

Evaluate the how metals move in the presence of brine

Micro-organisms in the Microlayer

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The action of the tides, temperature, winds, bottom characteristics all need to be established to predict the mixing and how a brine plume will act near the power plant.

At the Key West Desalination Plant divers were put into the water and dye observations made. They found that the effluent mixed turbulently with the ambient water at the point of discharge. The density of the mixture was greater than that of the ambient water in the harbor where the effluent was discharged and the mixture sank to the harbor bottom, filled up the harbor basin which was deeper than the surrounding waters, and then flowed into more shallow water. This resulting in killing the starfish that were on the shallow bottom.

( The temperature of the effluent averaged about 0.5 to 0.9 OF and salinity was 0.2 to 0.5% above ambient. The analysis found that temperature and salinity did not by themselves cause damage to marine organisms but did result in lower mixing rates for Copper.)

USF tank testing research found that when brine similar to the average

effluent to this proposed plant was mixed with average salinity background that a precipitate formed on the bottom. Also when dye was added to the brine, some runs had a 27 ppt plume wave travel through the 25 ppt seawater intact.

#### NOAA National Oceanic and Atmospheric Administration

Found that in all their studies, there was considerable uncertainty of dilution of the brine from desalination plants even when pre-mixed with coolant water or sewage water.

They also found that in the presence of brine, different sizes of particles were formed. This affected the light scattering properties, and the available light for photosynthesis, and also influenced the rate of sedimentation. This can affect the organisms that live on the sea bed.

\$ Re-circulation is a concern because as the background salinity increases the cost for producing the drinking water is increased. According to the Tampa Bay Contract, these increased costs are passed directly on to the customer.

Entrapment may happen when the winds and tides hold the water into the Apollo Bay area allowing a build-up of brine and chemicals.

The mixing and dispersion of the brine and chemicals can not be predicted based on previous salinity concentrations, Stone and Webster's Mass Balance Salinity concentration and an evaluation of the evaporation rate.

The SW salinity concentration table miss-calculates the salinity content. They use gallons and did not convert to pounds. This under represents the salinity content by approximately 8 times.

SW has been exempted from producing a near field study based on an inappropriate theory and in-house bad data.

**A near field model that can reliably duplicate the thermal plume would most likely be sophisticated enough to predict the desalination plume.**

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Most are aware of the long term violations of air quality standards by the TECO plant.

They also have long term violations of water quality standards. TECO has not be made to correct these violations to date.

Several monitoring programs are being proposed to protect the estuary system, as this will protect the environment or force compliance.

We already have data that documents that TECO is currently in violation of several permits and has been for YEARS.

The TECO discharge already violates the Dissolved Oxygen Standard. EPC data shows the area is stressed with many measurements below 4 mg/l and some measurements even below 2 mg/l, a toxic condition. The pilot plant shows that the R/O process reduces the dissolved oxygen level by 6%.

TECO can not meet the DO standard and instead of correcting the problem, they are requesting a variance.

The waste streams of TECO and the desalination plant are to be mixed together and discharged. WHEN this causes more environmental damage, who is going to stop them. How is the responsibility to be divided?

Chapter 62-302 of the Florida Administrative Code states "Pollution which causes or contributes to new violations of water quality standards or to continuation of existing violations is harmful to the waters of this State and shall not be allowed."

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TECO is also in violation of other permits.

They are operating under a permit that expired in 1994.

They have exceeded their pumping level. They have exceeded the total suspended solids level. This is important because in the presence of brine, the particles will combine differently and settle differently.

They have also been in violation **every quarter since the permit was**

issued for several parameters including Arsenic (Groundwater Monitoring Well)

Again this is important because in the presence of brine, the metals can become concentrated in the Microlayer, the upper layer of the water about the thickness of a fingernail.. This Microlayer can be driven by wind and tides and become toxic to the plankton and fish eggs that reside there.

This separation of metals has been documented at many desalination plants.

At the Key West Plant the Copper levels were 5 to 10 X greater than background..

The Chevron Gaviota, Ca desal plant, the zinc level exceeded the permit.

The Antigua Desal plant Aluminum level was 10x greater than background.

The Santa Barbara Desal Plant had Arsenic, Copper, Nickel, Silver and Zinc at elevated levels.

The BIG BEND pilot plant laboratory bench sheets revealed elevated levels of copper, nickel, antimony, silver, zinc, and thallium.

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I quoted the laboratory bench sheet findings because Stone and Webster had problems with their mass balance calculations, again. This time they state that they have improbable numbers, but that did not stop them.

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The studies that have been conducted on the bay have had many driving forces, but none that looked at the whole picture. All water projects need to be evaluated not just

Tampa Bays Water's Surface Withdrawal and West Coast Regional Water Supply Master Water Plan for Potable Sources. No consideration was given to the proposed Bull Frog Creek withdrawals, or City of Tampa's diversion of the reclaimed water.

This study needs to include the entire water basin that feeds the bay. The

Far field study need to include all water impacts from surface, groundwater, reclaimed water diversions, evaporation, additional desalination plants, the desalination plant expansion.

This study needs to include other brine discharges within the basin.

The study need to be projected over the life of the plant.

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### **Toxicity Testing**

The toxicity testing conducted by Stone and Webster and Swifmud is not representative of the discharge.

As indicated earlier, the salinity content was not properly calculated and is underestimated.

Toxicity testing needs to include the pre-treatment chemicals, the worst case brine concentration, which would be if only one of the four TECO systems was operating and the plant was at seasonal production of 29 mgd.

The Santa Barbara Plant testing found that brine with pre-treatment chemicals showed inhibition of sea urchin embryo. Just South of Apollo Beach is a state designated shell fish propagation zone.

The toxicity testing needs to include the scrubber waste. The monitoring wells for this water has shown to include toxic agents in concentrations above standards. There was talk that TECO was going to discharge this waste stream in a different conduit from the RO waste, but when only one system is running that is not a choice, unless TECO intends to violate their permit.

The toxicity testing need to include the cleaning chemicals. A new MSDS sheet indicates that a known carcinogenic agent is being proposed as part of the cleaning process. There is supposed to be 32,000 gallons per day for 14 days of cleaning chemicals discharged.

At the Key West Plant, testing there confirmed that the effluent was more

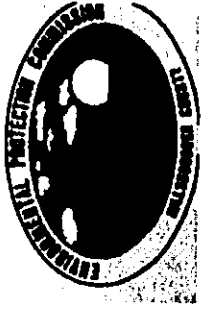
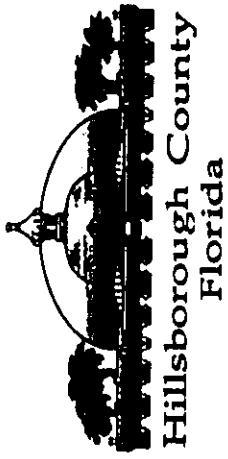
toxic following maintenance procedures and start-up.

And the test species should be selected from the Tampa Bay native species that are known to be "at risk"

When reviewing the procedures, one scientist laughed and said that a minnow species was used as a test subject and that it takes stepping on a minnow to kill one.

The permit submitted Table 5.2.2 Extreme salinity limits and optimum ranges for selected TEXAS ESTUARINE-DEPENDENT PLANTS.

We need a comprehensive environmental impact study for our bay. Tampa Bay

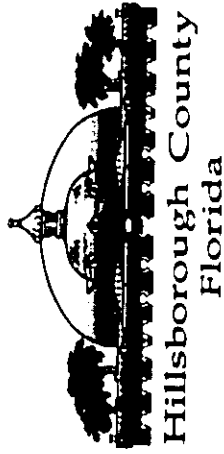


# **Environmental Impact Statement, Cumulative Impacts, and Water Supply Projects**

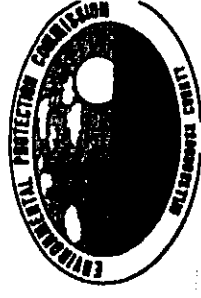
**EPC Staff Special Presentation to  
Board of the Environmental Protection  
Commission of Hillsborough County**

**February 22, 2000**

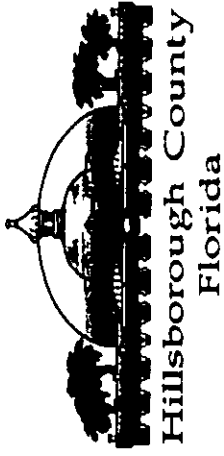
2/22/00



## ISSUES



- Staff is recommending dual action, one course of action by the EPC Board, and a different course of action by the BOCC.
- This allows the County to take advantage of the unique capabilities of the independent EPC Board.
- County maintains consistency with its position on cumulative impacts, dating back to April, 1998.



## ISSUES

- Dual action allows County to influence decisions of US EPA, and impact on Scoping of Regional Reservoir EIS.
- It allows for a thorough, independent assessment of cumulative impacts.
- Peer review will also provide guidance to environmental monitoring efforts to detect impacts on the Bay.

