

SENATE STAFF ANALYSIS AND ECONOMIC IMPACT STATEMENT

(This document is based only on the provisions contained in the legislation as of the latest date listed below.)

BILL: CS/SB 2140

SPONSOR: Natural Resources Committee and Senator Latvala

SUBJECT: Water management

DATE: April 11, 2000 **REVISED:** _____

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	<u>Branning</u>	<u>Voigt</u>	<u>NR</u>	<u>Favorable/CS</u>
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____

I. Summary:

This bill provides that anyone protesting a decision on a contract administered by a water management district must file a written complaint and post a bond, cashier’s check, or money order in an amount equal to 1 percent of the estimated total volume of the contract or \$5,000, whichever is less. Allows a water management district governing board to delegate any of its powers, duties, and functions to a member or members, the executive director or other district staff. Requires the governing board to provide a process for referring certain agency actions to the governing board for final agency action. Clarifies the way water management districts determine the cumulative impacts of activities on surface waters and wetlands. Provides for aquifer storage and recovery wells and allows a zone of discharge for certain specified constituents, provided certain conditions are met and drinking water supplies, public health, and the environment are protected. Revises the provisions regarding the discharge of demineralization concentrate. Provides legislative intent. Redefines “demineralization concentrate.” Authorizes the Department of Environmental Protection to adopt rules to address facilities that discharge demineralization concentrate. Provides for a technical advisory committee to assist the department in the development of the rules. Provides certain permitting requirements. Provides an exemption to allow demineralization concentrate mixing zones in Outstanding Florida Waters if certain conditions are met. Certain revisions are made to Florida’ Safe Drinking Water Act to conform to the provisions in the federal Safe Drinking Water Act.

This bill amends ss. 287.042, 373.083, 373.414, 403.065, 403.0882, 403.061, 403.852, 403.853, 403.8532, 403.854, and 403.866, F.S.

The bill creates s. 403.065, F.S.

II. Present Situation:

With Florida’s rapid growth rate, the demand on its natural resources, particularly safe drinking water, is great. In recent years, annual rainfall amounts have been much lower than normal. This

has led to greater withdrawals from the aquifers and surface waters to the point where water levels are critically low in some areas. As a result, Florida is looking to expand its use of alternative water supplies.

Recently, serious consideration has been given to aquifer storage and recovery. This concept envisions capturing surface water that may otherwise be lost to runoff or tide and injecting it into the aquifer for retrieval during periods of high demand. These waters are generally untreated surface or ground water, not domestic wastewater. Aquifer storage and recovery plays an important part in the restoration efforts of the Everglades.

Another example of an alternative water supply source is demineralization of non-potable water. Demineralization removes salts, minerals, and other constituents from sources such as seawater or brackish water aquifers. This process yields two products: fresh, potable water and a demineralization concentrate. Demineralization processes include electrodialysis, which uses an electrical current to move salts selectively through a membrane, and reverse osmosis (R/O). Reverse osmosis subjects water on one side of a semi-permeable, plastic-like membrane to pressure which causes fresh water to diffuse through the membrane. Left behind is the concentrate. The resulting concentrate, which may be toxic, is disposed of either by discharging to surface water or deep well injection.

Section 403.0882, F.S., requires the Department of Environmental Protection to classify the discharge of demineralization concentrate as a potable water byproduct rather than as an industrial wastewater. Except as provided in s. 403.0882, F.S., the discharge of demineralization concentrate is subject to the same requirements as an industrial wastewater under ch. 403, F.S.

The discharge from small water utility businesses meeting certain standards are presumed to be allowable and permissible in all waters in the state at a reasonably accessible point where such discharge results in minimal negative impact. A small water utility business is any facility that distributes potable water to two or more customers and has a concentrate discharge of less than 50,000 gallons per day.

The discharge of demineralization concentrate to domestic wastewater treatment plant effluent disposal is presumed allowable if the discharge of concentrate to the wastewater treatment facility is at no time greater than 20 percent of the annual average daily flow of that facility.

The discharge of demineralization concentrate to domestic wastewater reuse systems is allowable if the applicant demonstrates, through the engineering report, that the blend will meet water quality standards and protect public health, site vegetation, and the ability of the reuse system, including land application, to function as intended.

Facilities owned by small water utility businesses have specific mixing zone requirements. A mixing zone that has a radius not in excess of two times the natural water depth at the point of discharge for acute toxicity, or has a 200-foot radius for chronic toxicity, and provides for a minimum of 4-to-1 dilution within the mixing zone for acute toxicity under all conditions, is presumed allowable in the permitting of discharge of concentrate from facilities used for demineralization for potable water production.

For such small businesses, the DEP may not require such businesses to perform toxicity testing other than at the time of permit application, permit renewal, or any requested permit modification except under certain circumstances. The DEP also may not require those businesses to obtain a water-quality-based effluent limitation determination.

Currently, the demineralization industry in Florida has experienced difficulties concerning permitting by the DEP and disposal of concentrate which test results indicate may be toxic. There has been some uncertainty and inconsistency in permitting these types of facilities due to the lack of a clearly defined permitting process and misinterpretation of existing law.

III. Effect of Proposed Changes:

Section 1: Section 287.042, F.S., is amended to put the water management districts on a par with state agencies regarding certain procurement contracts. Anyone protesting a decision on a contract administered by a water management district must file a formal written complaint and post a bond, cashier's check, or money in an amount equal to 1 percent of the estimated total volume of the contract or \$5,000, whichever is less. If the water management district prevails at the administrative hearing or appellate court proceeding, it shall recover all costs and charges which shall be included in the final order or judgment, excluding attorney's fees. If the person protesting the award prevails, he or she shall recover from the water management district all costs and charges which shall be included in the final order or judgment, excluding attorney's fees.

Section 2: Section 373.083, F.S., is amended to authorize the governing board of a water management district to delegate any of its powers, duties, and functions to a board member or members, the executive director, or other district staff. The governing board may establish the scope and terms of any delegation. However, when delegating the authority to take final agency action on permit applications under part II or part IV of ch. 373, F.S., or petitions for variances or waivers of permitting requirements, the board shall provide a process for referring any denial of such application or petition to the governing board to take final action. This kind of general delegation authority currently exists for state departments.

Section 3: Section 373.414, F.S., is amended to clarify the way water management districts determine the cumulative impacts of activities on surface waters and wetlands. If an applicant proposes mitigation within the same drainage basin as the adverse effects to be mitigated and if the mitigation offsets these adverse effects, the governing board and the Department of Environmental Protection (DEP) shall consider the regulated activity to meet the requirements for considering the cumulative impacts on surface water and wetlands.

Section 4: Section 403.065, F.S., is created to provide a statewide process for permitting aquifer storage and recovery wells. Aquifer storage and recovery, or ASR, is a technology to store water underground in periods of excess supply for later retrieval in periods of high demand. ASR technology is a major component of the Comprehensive Plan for Everglades restoration. The permitting of ASR wells must be consistent with the federal Safe Drinking Water Act. ASR wells are to be constructed to prevent violation of state ground water quality standards at the point of discharge, with certain specified exceptions.

ASR wells are allowed a zone of discharge for sodium and secondary drinking water standards provided certain requirements are met.

ASR wells used to inject water from a surface water or ground water source, shall be allowed a zone of discharge for total coliform bacteria when the applicant for the ASR well permit demonstrates, through a risk-based analysis, the following:

- The ground water within the zone of discharge contains no less than 1,500 milligrams per liter total dissolved solids;
- The ground water within the zone of discharge is not currently being used nor is it reasonably expected to be used as a public or private drinking water supply, except by the permit applicant;
- The presence of the stored water shall not cause any person other than the permit applicant to treat its source water in any way that would not have been required in the absence of the ASR well;
- The DEP has approved a monitoring plan that specifies that number and location of monitor wells, monitoring parameters, and frequency of monitoring;
- Total coliform bacteria is the only primary drinking water standard other than sodium that does not have to be met prior to injection;
- The permit applicant demonstrates that biological contaminants will experience die-off such that primary drinking water standards will be met at the edge of the zone of discharge and that those contaminants will not pose an adverse risk to human health;
- The permit applicant documents the environmental benefits to be derived from the storage, recovery, and future use of the injected water;
- The use of the recovered water is consistent with its intended primary purpose; and
- The storage of water shall not endanger drinking water sources.

The DEP may allow a zone of discharge for sodium, total coliform bacteria and secondary drinking water standards if the total dissolved solids concentration with the zone of discharge is less than 1,500 milligrams per liter if:

- The applicant for the ASR well demonstrates that ground water within the zone of discharge is not currently being used and will not in the future be used as a public or private drinking water supply except by the permit applicant.
- The permit applicant provides written notice to each land owner whose property overlies the zone of discharge.

A zone of discharge for ASR wells shall not intersect or include any part of a 500-foot radius surrounding any well that uses the injection zone to supply drinking water.

The DEP shall specify in the permit for the ASR well the vertical and lateral limits of the approved zone of discharge. Compliance with the primary drinking water standards for total coliform bacteria, sodium, and the secondary drinking water standards shall be required at the edge of the zone of discharge.

After the ASR well is in operation, ground water monitoring must demonstrate that biological die-off is occurring, no exceedances of the primary drinking water standards have occurred outside of the zone of discharge, and there is no adverse risk to human health from the injection activity. Failure to make this demonstration will result in revocation of the zone of discharge.

If drinking water supply wells are present in the injection zone within 2.5 miles of the edge of the zone of discharge, additional monitor wells may be required to detect the possible movement of injected fluids in the direction of the drinking water wells.

An aquifer exemption shall be obtained prior to injection if the injection fluid exceeds the primary drinking water standard maximum contaminant level other than total coliform bacteria or sodium, or if the injection fluid may adversely affect the health of persons.

The DEP shall make a reasonable effort to issue or deny a permit within 90 days after determining the permit application to be complete. Failure of the department to issue or deny an underground injection control permit for an ASR well within the 90-day time period shall not result in the automatic issuance or denial of the permit and shall not prevent the inclusion of specific permit conditions which are necessary to ensure compliance with applicable statutes and rules.

The DEP may adopt rules for the regulation of ASR wells.

Section 5: Section 403.0882, F.S., is rewritten to remove or reword confusing language and to update the statute according to the latest DEP rules and industry developments.

The bill provides that it is the intent of the Legislature to conserve and protect water resources, provide adequate water supplies and provide for natural systems, and promote brackish water demineralization as an alternative to freshwater withdrawals by removing institutional barriers to demineralization and through research, including demonstration projects, to advance water and water byproduct treatment technology, sound waste byproduct disposal methods, and regional solutions to water resources issues. Also, in order to promote the state objective of alternative water supply development, the concentrate resulting from demineralization must be classified as a potable water byproduct, regardless of flow quantity, and must be appropriately treated and discharged or reused.

“Demineralization concentrate” is redefined to mean the concentrated byproduct water, brine, or reject water produced by ion exchange or membrane separation technologies such as reverse osmosis, membrane softening, ultra-filtration, membrane filtration, electrodialysis, and electrodialysis reversal used for desalination, softening, or reducing total dissolved solids during water treatment for public water supply purposes.

The Department of Environmental Protection (DEP) is required to initiate rulemaking no later than October 1, 2000, to address facilities that discharge demineralization concentrate. The DEP shall convene a technical advisory committee to assist in the development of the rules. Members of the technical advisory committee shall include:

- One representative each from the demineralization industry, local government, water and wastewater utilities, the engineering profession, business, and environmental organizations;
- One member representing the five water management districts; and
- One member representing the Florida Marine Research Institute.

The DEP's rules must address:

- Permit application forms for concentrate disposal;
- Specific options and requirements for demineralization concentrate disposal, including a standardized list of effluent and monitoring parameters, which may be adjusted or expanded by the department as necessary to protect water quality;
- Specific requirements and accepted methods for evaluating mixing of effluent in receiving waters; and
- Specific toxicity provisions.

For facilities that discharge demineralization concentrate, the failure of whole effluent toxicity tests predominantly due to the presence of constituents naturally occurring in the source water (limited to calcium, potassium, sodium, magnesium, chloride, bromide, and other constituents designated by the department), may not be the basis for denial of a permit, denial of a permit renewal, revocation of a permit, or other enforcement action by the department as long as the volume of water necessary to achieve water quality standards is available within a distance not in excess of two times the natural water depth at the point of discharge under all flow conditions.

If the failure of the whole effluent toxicity tests is due predominately to the presence of the naturally occurring constituents, the department shall issue a permit for the demineralization concentrate discharge if certain specified conditions are met.

Blending of demineralization concentrate with reclaimed water is allowed in accordance with the department's reuse rules.

For small water utility businesses, the discharge of demineralization concentrate is presumed to be allowable and permissible if certain specified conditions are met. This presumption may be overcome only by a demonstration that one or more of the following conditions is present:

- The discharge will be made directly into an Outstanding Florida Water, except as provided in ch. 90-262, L.O.F.;

- The discharge will be made directly to Class I or Class II waters;
- The discharge will be made to a water body having a total maximum daily load (TMDL) established by the department and the discharge will cause or contribute to a violation of the TMDL;
- The discharge fails to meet the requirements of the antidegradation policy contained in the department rules;
- The discharge will be made to a sole-source aquifer;
- The discharge fails to meet applicable surface water and groundwater quality standards; or
- The results of any toxicity test performed by the applicant or the department indicate that the discharge does not meet toxicity requirements at the boundary of the mixing zone.

If any of the above conditions are present, the department may require more stringent effluent limitations; require relocation of the discharge point or change the method of discharge; limit the duration or volume of the discharge; or prohibit the discharge if there is no suitable alternative.

Facilities owned by small utility businesses are not required to perform toxicity testing other than at the time of permit application, permit renewal, or any requested permit modification, unless the initial toxicity test or any subsequent toxicity test performed by the department does not meet toxicity requirements. These facilities are also not required to obtain a water-quality-based effluent limitation determination.

The DEP is authorized to adopt additional rules relating to the regulation of demineralization.

Section 6: Section 403.061, F.S., is amended to provide that a mixing zone for the discharge of demineralization concentrate may be allowed in an Outstanding Florida Water under certain conditions.

Sections 7, 8, 9, 10, and 11: Sections 403.852, 403.853, 403.8532, 403.854, and 403.66, F.S., are amended to redefine the terms “public water system,” “noncommunity water system,” and “nontransient noncommunity water system.” and to make certain other technical and necessary changes to conform Florida’s Safe Drinking Water Act to the federal Safe Drinking Water Act.

Section 12: This act takes effect upon becoming a law.

IV. Constitutional Issues:

A. Municipality/County Mandates Restrictions:

None.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

V. Economic Impact and Fiscal Note:**A. Tax/Fee Issues:**

None.

B. Private Sector Impact:

Aquifer storage and recovery is expected to provide an estimated 1.7 billion gallons per day of storage capacity for South Florida alone. There are concerns, however, that untreated water pumped directly into a confined segment of the aquifer could migrate and contaminate both private and public drinking water supplies. The bill, however, restricts the location of the injection wells for this water so as to minimize the possibility of that occurring.

This bill is intended to clarify and streamline the permitting process for utilities implementing demineralization projects. Those private utilities involved in such projects could realize some cost savings associated with the permit. In addition, there would be a significant cost savings to those utilities previously unable to discharge into an Outstanding Florida Water. This bill would allow such discharges under certain circumstances. Currently the only other viable discharge alternative is deep well injection which is more costly. Any savings realized by the utility presumably would be passed on the consumer.

C. Government Sector Impact:

Water management districts would be able to delegate many of its day-to-day duties and operations to the executive directors and the districts' staff. State agencies already have that authority. It would increase the efficiency of the daily operations of the district by not having all decisions go directly to the governing board.

Public utilities implementing demineralization projects would realize the same cost savings associated with a streamlined permitting process as would private utilities.

The Department of Environmental Protection would experience some costs associated with rulemaking to implement the provisions of this bill; however, those costs are not expected to be significant and could be handled using existing resources.

The bill is silent on the issue of costs associated with the technical advisory committee. It is not known whether or not the members may be reimbursed for their travel and per diem

expenses associated with their participation on the committee. Those costs, if reimbursable, would presumably be borne by the department.

VI. Technical Deficiencies:

None.

VII. Related Issues:

None.

VIII. Amendments:

None.

This Senate staff analysis does not reflect the intent or official position of the bill's sponsor or the Florida Senate.
