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HOUSE OF REPRESENTATIVES
AS REVISED BY THE
COUNCIL FOR READY INFRASTRUCTURE
ANALYSIS

BILL #: HB 1831 (PCB NREP 01-01)

RELATING TO: Demineralization Concentrate

SPONSOR(S): Committee on Natural Resources and Environmental Protection; and Rep(s): Harrington

TIED BILL(S):

ORIGINATING COMMITTEE(S)/COUNCIL(S)/COMMITTEE(S) OF REFERENCE:

(1) NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION YEAS 13 NAYS 0
(2) COUNCIL FOR READY INFRASTRUCTURE YEAS 18 NAYS 0
(3)
(4)
(5)

I. SUMMARY:

This bill substantially revises s. 403.0882, Florida Statutes (F.S), relating to the permitting of demineralization concentrate discharges. It directs the Department of Environmental Protection (Department) to initiate rulemaking by October 1, 2001, addressing facilities that discharge demineralization and to establish a technical advisory committee to assist with the rule development. The bill addresses the evaluation of toxicity tests in relation to permitting these facilities, and states that the failure of these tests due to the presence of specific, naturally occurring source water constituents (e.g., calcium, potassium, sodium, magnesium, chloride, bromide) cannot be used as the basis to deny a permit. It also provides a narrowly defined exemption from the mixing zone prohibition in Outstanding Florida Waters (OFWs) for those demineralization discharges that contain specific, naturally occurring source water constituents and can be sufficiently diluted. These discharges must be clearly in the public interest.

The bill provides that the act will take effect upon becoming a law.

II. SUBSTANTIVE ANALYSIS:

A. DOES THE BILL SUPPORT THE FOLLOWING PRINCIPLES:

1.	Less Government	Yes []	No []	N/A [x]
2.	Lower Taxes	Yes []	No []	N/A [x]
3.	Individual Freedom	Yes []	No []	N/A [x]
4.	Personal Responsibility	Yes []	No []	N/A [x]
5.	Family Empowerment	Yes []	No []	N/A [x]

For any principle that received a "no" above, please explain:

B. 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.

One 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. A concentrate is left behind in the process. 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 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 discharge under ch. 403, F.S.

The discharge from small water utility businesses meeting certain standards are presumed to be allowable and permittable 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 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 Department may not require performance of toxicity testing other than at the time of permit application, permit renewal, or any requested permit modification except under certain circumstances. The Department 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 the 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.

C. EFFECT OF PROPOSED CHANGES:

This bill substantially rewrites s. 443.0882, F.S., to remove or reword confusing language and to update the statute according to the latest Department 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 defined 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 is required to initiate rulemaking no later than October 1, 2001, to address facilities that discharge demineralization concentrate. The Department 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; and
- One member representing the five water management districts.

The Department’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 permittable 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 Department is authorized to adopt additional rules for regulation of demineralization and to administer the provisions of s.403.0882 and s. 403.061(11)(b), F.S.

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.

The act would take effect upon becoming law.

D. SECTION-BY-SECTION ANALYSIS:

This section need be completed only in the discretion of the Committee.

III. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT:

A. FISCAL IMPACT ON STATE GOVERNMENT:

1. Revenues:

N/A

2. Expenditures:

N/A

B. FISCAL IMPACT ON LOCAL GOVERNMENTS:

1. Revenues:

N/A

2. Expenditures:

Indeterminate. Local governments utilizing demineralization facilities could realize reductions in permitting, construction, and operating costs.

C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:

Indeterminate. However, private utilities implementing demineralization facilities could realize reductions in permitting, construction, and operating costs.

D. FISCAL COMMENTS:

N/A

IV. CONSEQUENCES OF ARTICLE VII, SECTION 18 OF THE FLORIDA CONSTITUTION:

A. APPLICABILITY OF THE MANDATES PROVISION:

The bill does not require counties or municipalities to expend funds, nor does it require counties or municipalities to take an action requiring the expenditure of funds.

B. REDUCTION OF REVENUE RAISING AUTHORITY:

The bill does not reduce the authority that municipalities or counties have to raise revenues in the aggregate.

C. REDUCTION OF STATE TAX SHARED WITH COUNTIES AND MUNICIPALITIES:

The bill does not reduce the percentage of a state tax shared with counties or municipalities.

V. COMMENTS:

A. CONSTITUTIONAL ISSUES:

N/A

B. RULE-MAKING AUTHORITY:

DEP is directed to initiate rulemaking to address facilities that discharge demineralization concentrate and is authorized to adopt additional rules for the regulation of demineralization and to administer the provisions of s. 403.0822 and s. 403.061(11)(b), F.S.

C. OTHER COMMENTS:

N/A

VI. AMENDMENTS OR COMMITTEE SUBSTITUTE CHANGES:

N/A

VII. SIGNATURES:

COMMITTEE ON NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION:

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AS REVISED BY THE COUNCIL FOR READY INFRASTRUCTURE:

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