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Report No. 05-27

## Department Strengthens Financial Responsibility Requirements for Phosphate Mining Companies

### *at a glance*

As recommended in our 2003 report, the Legislature and the Department of Environmental Protection have taken steps to strengthen financial responsibility requirements for phosphate mining companies. These new requirements should better assure that mining companies have sufficient financial resources to close phosphate gypsum stacks, which have caused significant environmental damage in the past.

### Scope

In accordance with state law, this progress report informs the Legislature of the actions taken in response to the findings and recommendations regarding phosphate mining regulation included in our 2003 justification review of the Department of Environmental Protection's Water Resource Program.<sup>1,2</sup>

### Background

Phosphate mining is a major industry in Florida, providing 75% of the nation's phosphate supply and 25% of the world's supply. During 2004, 29 million tons of

phosphate rock was mined on approximately 5,000 to 6,000 acres in Florida. Phosphate mining operations are located in central Florida (DeSoto, Hardee, Hillsborough, Manatee, and Polk counties) and north Florida (Hamilton County).

The phosphate mining process creates by-products that can adversely affect the environment. During the mining process, phosphate rock is separated from the clay and sand in soil. Once the phosphate rock is separated, it is reacted with sulfuric acid to create phosphoric acid which is used in producing fertilizer and other products. This chemical process creates a by-product called phosphogypsum, which is stored in stacks that can stand over 100 feet high and cover several hundred acres. The process also creates wastewater that represents a major environmental concern since it is highly acidic and contains heavy metals including concentrations of uranium and radium. This wastewater is contained within the phosphogypsum stacks. Florida currently has 25 phosphogypsum stacks systems covering over 10,560 acres.

Failure to contain the wastewater from phosphogypsum stacks has caused significant environmental damage in the past. A December 1997 breach of a phosphogypsum stack owned by the Mulberry Corporation resulted in the release of about 50 to 60 million

<sup>1</sup> Section 11.51(6), F.S.

<sup>2</sup> *Justification Review: Water Resource Program, Department of Environmental Protection, OPPAGA [Report No. 03-12](#), February 2003.*

gallons of toxic wastewater into the Alafia River in Polk County, causing massive fish kills.

The Department of Environmental Protection is responsible for regulating phosphate mining in Florida. Regulatory activities include permitting mines, overseeing land reclamation, and monitoring the construction, operation, and maintenance of phosphogypsum stacks.

Reclamation. Florida law provides that areas mined for phosphate must be reclaimed to a beneficial use in a timely manner. Reclamation activities include restoring topsoil, original land contours, and hydrology as well as mitigating for wetland impacts. Department staff is responsible for ensuring land reclamation efforts are adequate by inspecting such efforts until a mined site is fully reclaimed.

Areas mined prior to 1975 are not required to be reclaimed, but owners may voluntarily undertake reclamation efforts. Areas mined after 1975 must be reclaimed at the owner's expense. The Legislature established the Nonmandatory Land Reclamation Trust Fund to provide funding for land reclamation of areas mined before 1975.<sup>3</sup> Companies can submit reclamation plans to the department, and if approved, can be reimbursed for reclamation costs.

Phosphogypsum stack closure. The department has adopted rules specifying the requirements that companies must carry out in closing a phosphogypsum stack system. Companies must submit a closure permit application to the department, which includes a closure plan designed to protect human health and the environment. Companies are responsible for monitoring and maintaining the stack systems in accordance to the closure plan for 50 years from the date of closing unless the department approves a request to reduce the monitoring and maintenance period. They also must demonstrate financial

responsibility for closure and long-term maintenance of the phosphogypsum stack.

## Prior Findings ---

### ***State financial responsibility requirements for phosphate mining companies were inadequate***

Our 2003 report noted major weaknesses in the financial responsibility requirements used by the department to ensure that mine owners have sufficient resources to close and manage phosphogypsum stacks. At the time of our prior review, mine owners had several options for demonstrating their financial responsibility:

- establishing and funding a closure trust fund;
- posting a surety bond guaranteeing payment into a closure trust fund;
- posting a surety bond guaranteeing performance of closure;
- obtaining an irrevocable letter of credit;
- obtaining closure insurance; or
- satisfying financial tests.

All mine owners in Florida met the financial responsibility requirements by satisfying financial tests of company solvency. The financial tests considered a company's ratio of total liabilities to net worth, net working capital, tangible net worth, and bond ratings. This option was less costly for companies because they did not have to incur the expense of issuing a closure bond or purchasing closure insurance.

The bankruptcy of a Florida mining company demonstrated that these financial responsibility requirements were inadequate for assuring that mine owners had sufficient resources to be able to close and manage phosphogypsum stacks. In February 2001, Mulberry Phosphates Inc., which operated two phosphate mining facilities, filed for bankruptcy. The department subsequently assumed responsibility for securing, closing, and maintaining the company's

<sup>3</sup> Pursuant to [Chapter 2004-107](#), *Laws of Florida*, the trust fund will expire in November 4, 2008, unless reauthorized by the Legislature.

phosphogypsum stacks.<sup>4</sup> It projected the total cost to complete the closure of the phosphogypsum stacks would be approximately \$164 million. However, an analysis made by the department's consultant determined that the Mulberry Corporation had met the department's financial responsibility requirements for three years prior to its bankruptcy.

The department's consultant concluded that the state's financial tests were inadequate for assuring that mine owners were financially able to close a phosphogypsum stack and recommended new, more stringent financial tests. The consultant also recommended that mine operators be required to submit audited financial statements to the department for verifying the data used in calculating financial ratios and other measures. We concurred with the consultant's conclusion and recommended that the department amend its rules to strengthen these requirements. We also recommended that the Legislature amend s. 403.4154(2)9(b), *Florida Statutes*, to require mining companies' chief executive officers to certify the accuracy and completeness of information used to satisfy financial tests.

## Current Status ---

### ***The Legislature and the department strengthened phosphate mining company financial responsibility requirements***

Since our 2003 report, the Legislature and the department have taken steps to strengthen financial responsibility requirements for phosphate mining companies. The 2003 Legislature passed legislation that directed the department to revise its rules requiring owners and operators to demonstrate financial responsibility for the costs of closing a phosphogypsum stack system in a manner that protects the public health and safety.<sup>5</sup> Mine

owners and operators must now demonstrate financial responsibility by using one or more of the following methods: a bond, letter of credit, cash deposit arrangement, closure insurance, financial tests, and corporate guarantee. A "cash deposit arrangement" is basically a savings account in which funds deposited in the account can only be expended for the purpose of closing the phosphogypsum stack system.

This law required phosphate mining companies to

- have the cost of closure and long-term care of a phosphogypsum stack re-estimated by a professional engineer and adjusted for inflation annually;
- prepare financial statements according to generally accepted accounting principles and submitted quarterly;
- provide audited financial statements annually along with the statement of financial assurance; and
- report immediately whether the owner or operator default on any of its obligations.

This law also amended s. 403.4154, *Florida Statutes*, to impose criminal penalties for misrepresenting the financial condition or closure of a phosphogypsum stack or stack system.

As required by the law, the department has recently revised its rules to establish more stringent financial responsibility requirements for phosphate mining companies. The revised rule incorporates the recommendations made by its consultant for strengthening the financial tests used to determine whether a company has sufficient resources to close and manage phosphogypsum stack system, and requires that water management costs be included in the closure costs estimates. Department managers and its consultant believe that the rule revisions strike a balance between providing additional protection to the state and being overly costly to the industry. This is consistent with our recommendation that the benefits achieved by the new financial

<sup>4</sup> In May 2002, the department entered into an agreement with the Cargill Fertilizer Company (now Mosaic Company) to close the site and conduct long-term maintenance.

<sup>5</sup> [Chapter 2003-423](#), *Laws of Florida*.

responsibility requirements not have the unintended effect of forcing mining companies to go out of business. The rule revisions were approved by Environmental Regulation Commission on February 24, 2005 and are scheduled to become effective on July 2, 2005, unless challenged.

The importance of strengthening phosphate mining company financial responsibility requirements is underscored by the high cost to the state of closing the phosphogypsum stacks at Mulberry and Piney Point. As of February 2005, the department had spent \$98.4 million on the two sites and projected that it would need an additional \$50 to \$60 million to fully close them. Funding to pay for closing the sites has come from the Non-mandatory Land Reclamation Trust Fund and general revenue.<sup>6</sup>

Because the Non-mandatory Land Reclamation Trust Fund was used to pay for closing the Mulberry and Piney Point phosphogypsum stacks, the moneys in the fund have been largely depleted.<sup>7</sup> As a result, funding will not be available to help reclaim lands mined prior to 1975 until the trust fund has been replenished. As a result, funding may not be available to complete the environmental security and closure work at the Mulberry and Piney Point sites nor to reclaim lands mined prior to 1975. The department estimates the cost to reclaim eligible “non-mandatory” lands for which applications have been submitted by landowners at approximately \$42 million.

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<sup>6</sup> The Legislature also appropriated \$12 million in general revenue for the Mulberry and Piney Point sites in Fiscal Year 2004-05. The department reports that these funds have been encumbered to pay a contractor for conducting daily operation and management, water treatment, and closure work at the sites.

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<sup>7</sup> The available balance in the Non-mandatory Trust Fund was \$13.4 million as of December 31, 2004. The trust fund is expected to receive \$7.2 million in revenues in Fiscal Year 2004-05. However, the department projects a deficit of \$4.6 million in the trust fund in Fiscal Year 2006-07.

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