The Florida Senate
Local Funding Initiative Request
Fiscal Year 2023-2024

LFIR # 1482

1. Project Title Central Florida Pilot Plant Project for Phosphogypsum Reclamation into Calcium Silicate and Sulfur

2. Senate Sponsor Colleen Burton

3. Date of Request 02/07/2023

4. Project/Program Description

Conduct pilot scale testing at the Novaphos facility to demonstrate the viability of Novaphos technology to permanently and safely reprocess solid phosphogypsum wastes into safe, commercially useful co-products (calcium silicates and sulfur products). Also conduct vendor equipment tests and conduct engineering analysis to advance commercialization work, and engage third-party testing to demonstrate product safety and usefulness for USPEPA and FDOT and assist with required FDEP permitting.

5. State Agency to receive requested funds Department of Environmental Protection

State Agency contacted? Yes

6. Amount of the Nonrecurring Request for Fiscal Year 2023-2024

Type of Funding	Amount
Operations	830,000
Fixed Capital Outlay	120,000
Total State Funds Requested	**950,000**

7. Total Project Cost for Fiscal Year 2023-2024 (including matching funds available for this project)

Type of Funding	Amount	Percentage
Total State Funds Requested (from question #6)	950,000	28%
Matching Funds		
Federal	0	0%
State (excluding the amount of this request)	0	0%
Local	0	0%
Other	2,400,000	72%
Total Project Costs for Fiscal Year 2023-2024	**3,350,000**	**100%**

8. Has this project previously received state funding? No

Fiscal Year (yyyy-yy)	Amount		Specific Appropriation #	Vetoed
	Recurring	Nonrecurring		

9. Is future funding likely to be requested? No

a. If yes, indicate nonrecurring amount per year.

b. Describe the source of funding that can be used in lieu of state funding.

10. Has the entity requesting this project received any federal assistance related to the COVID-19 pandemic?

Yes

If yes, indicate the amount of funds received and what the funds were used for.

PPP Loans & ERTC totaling 735,800. The PPP loans were used for wages, rent, and utilities. The ERTC loan was based specifically on payroll taxes.

Complete questions 11 and 12 for Fixed Capital Outlay Projects

11. Status of Construction

a. What is the current phase of the project?

○ Planning ○ Design ◉ Construction

b. Is the project "shovel ready" (i.e permitted)? Yes

c. What is the estimated start date of construction? ongoing

d. What is the estimated completion date of construction? 3/31/2024 (new)

12. List the owners of the facility to receive, directly or indirectly, any fixed capital outlay funding. Include the relationship between the owners of the facility and the entity.

Novaphos Development LLC

13. Details on how the requested state funds will be expended

Spending Category	Description	Amount
Administrative Costs:		
Executive Director/Project Head Salary and Benefits	Portion of annual wages for lead project engineer	70,000
Other Salary and Benefits		0
Expense/Equipment/Travel/Supplies/ Other		0
Consultants/Contracted Services/Study	Conduct third party pot grate tests to determine design criteria and operating parameters for straight grate furnace system for phosphogypsum processing. Complete mass & energy balance for gypsum recovery process. Prepare CapEx and OpEx estimates and bgein engineering for construction of the first commercial scale phosphogypsum processing plant for Central Florida.	350,000
Operational Costs: Other		
Salary and Benefits	Employee salaries and benefits while upgrading the Fort Meade pilot plant and conducting RHF test runs using phosphogypsum from existing Florida stacks.	75,000
Expense/Equipment/Travel/Supplies/ Other	Characterization, removal and transportation of phosphogypsum from the Piney Point stack to the Novaphos pilot plant. Rental of pilot scale equipment for the evaluating the recovery of sulfur from the furnace exhaust gas for the subsequent production of sulfur based products including sulfuric acid, ammonium sulfate, sodium sulfate and other sulfur based products.	210,000

Consultants/Contracted Services/Study	Conduct third party testing of gypsum J-Rox for to determine suitability as a substitute for cement, fine aggregate, and lightweight aggregate in concrete construction applications. Prepare a petition to USEP under 40 CFR 61.206 to allow the use of gypsum J-Rox in concrete construction application. Third party analysis of gypsum J-Rox for radium-226 and radon-222 emanation and preparation of independent risk assessment.	125,000
Fixed Capital Construction/Major Renovation:		
Construction/Renovation/Land/ Planning Engineering	Purchase and install operating and monitoring equipment for phosphogypsum test runs at the Fort Meade Pilot Plant	120,000
Total State Funds Requested (must equal total from question #6)		**950,000**

14. Program Performance

a. What specific purpose or goal will be achieved by the funds requested?

The purpose of this project is to establish a much needed path forward for the eventual elimination of Central Florida's 25 phosphogypsum stacks which contain more than 1 billion tons of radioactive phosphogypsum. The project's goal is to demonstrate the Novaphos technology as a sustainable alternative for processing this material into safe and useful co-products. This will create economic incentives and additional development activities, including job creation,for the production of calcium silicate based cement subsitutes and fine and lightweight aggregates; sulfur chemicals; and silicon fertilizers from the processing of phosphogypsum using the Novaphos process.

b. What activities and services will be provided to meet the intended purpose of these funds?

Recover and transport phosphogypsum from Piney Point for testing in an existing pilot plant located in Fort Meade. Also, modify the pilot plant to improve phosphogypsum processing, conduct testing of other process equipment for sulfur recovery, conduct mass and energy balance analysis for finalizing process inputs and outputs, and begin design of Central Florida's first commercial scale plant for phosphogypsum processing. Also conduct emission testing and independent third-party analysis to demonstrate co-product safety and usefulness for evaluation by USPEPA and FDOT and assist with required FDEP permitting.

c. What direct services will be provided to citizens by the appropriation project?

Initially, pilot plant employees and local contracted personnel who will be supporting this program will receive wages and other ecnomic benefits from this appropriation project. Once the Novaphos process is demonstrated and further developed, additional jobs will be created for an even greater number of citizens from the processing of phosphogypsum and manufacture of calcium silicate and sulfur based co-products.

d. Who is the target population served by this project? How many individuals are expected to be served?

The citizens, farmers, and businesses in Polk and Hillsborough counties, whose potable and process water needs may be impacted by sudden releases of phosphogypsum and acidic stack water to surrounding groundwater and surface waster, will benefit from the implementation of this project. The reclamation, elimination and avoidance of existing and new phosphogypsum stacks can reduce the likelihood of adverse environmental and economic impacts caused by releases of phosphogypsum and of acidic stack water due to stack and containment failures caused by liner leaks, sinkholes, hurricanes, pond breaches, and climate change.

e. What is the expected benefit or outcome of this project? What is the methodology by which this outcome will be measured?

Avoidance of landfill disposal for phosphogypsum and eliminate the need for new phosphogypsum stacks in the future by producing safe and useful co-products in lieu of disposal. Approximately 30 million tons of phosphogypsum are generated and landfilled in Florida each year.This equates to 50 tons per minute and the total tons are twice the 15 million tons of municipal solid waste that are landfilled every year for Florida's 20 million residents.

f. What are the suggested penalties that the contracting agency may consider in addition to its standard penalties for failing to meet deliverables or performance measures provided for the contract?

Since these funds will be used to operate a demonstration plant for demonstrating a new process, as well as gather data for future project development, penalty provisions are not traditionally applicable.

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15. Requester Contact Information

a. First Name Mark **Last Name** Vignovic

b. Organization Novaphos Development LLC

c. E-mail Address mvignovic@novaphos.com

d. Phone Number (863)285-8607 **Ext.**

16. Recipient Contact Information

a. Organization Novaphos Development LLC

b. Municipality and County Polk

c. Organization Type

☑For Profit Entity

☐Non Profit 501(c)(3)

☐Non Profit 501(c)(4)

☐Local Entity

☐University or College

☐Other (please specify)

d. First Name Mark **Last Name** Vignovic

e. E-mail Address mvignovic@novaphos.com

f. Phone Number (863)285-8607

17. Lobbyist Contact Information

a. Name Mike Grissom

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