FINDING OF NO SIGNIFICANT IMPACT

INNOVATIVE SULFUR DIOXIDE SCRUBBING SYSTEM FOR COAL-BURNING CEMENT KILNS AT DRAGON PRODUCTS CEMENT PLANT AT THOMASTON, MAINE

AGENCY: U.S. Department of Energy

ACTION: Finding of No Significant Impact

SUMMARY: The Department of Energy (DOE) has prepared an Environmental Assessment (EA), DOE/EA-0405, for an innovative sulfur dioxide scrubbing system for a coal-burning cement kiln located in Thomaston, Maine. Based on the analyses in the EA, DOE has determined that the proposed action is not a major Federal action significantly affecting the quality of the human environment, within the meaning of the National Environmental Policy Act (NEPA) of 1969. Therefore, the preparation of an Environmental Impact Statement is not required and the Department is issuing this Finding of No Significant Impact (FONSI).

COPIES OF THE EA ARE AVAILABLE FROM:

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BACKGROUND: In December 1987, Congress enacted Public Law No. 100-202 (the "Act") as amended by Public Law No. 100-446, which provided funds for the purpose of supporting cost-shared projects with industry to demonstrate emerging coal utilization technologies capable of reducing atmospheric emissions of sulfur dioxide and oxides of nitrogen. The Act also authorized DOE to conduct this Innovative Clean Coal Technology (ICCT) Program. On February 22, 1988, DOE issued a Program Opportunity Notice (PON) to solicit proposals for the conduct of cost-shared ICCT demonstration projects. The Passamaquoddy Tribe proposal for an innovative sulfur dioxide scrubbing system for coal-burning cement kilns was selected - along with 15 other technology proposals - from among 55 proposals received in response to the PON. The objectives of the Passamaquoddy Tribe innovative sulfur dioxide scrubbing system demonstration project are (1) to demonstrate the economic and environmental benefits of an innovative technology for the removal of sulfur dioxide from a coal-burning cement kiln, (2) to demonstrate an effective method for the reconstituting of waste kiln dust, thereby reducing the landfill capacity that would otherwise be needed, and (3) to provide the cement industry with increased flexibility in the use of high sulfur coal.

review contains proprietary and/or business confidential information provided to DOE in the proposal, this document is not publicly available.

The third element of DOE's NEPA strategy provides for the preparation of site-specific NEPA documents for each of the projects selected for financial assistance under the PON. This FONSI and the EA upon which this FONSI is based constitute the third element of the NEPA strategy for one of the 16 projects, the Innovative Sulfur Dioxide Scrubbing System for Coal-Burning Cement Kiln Demonstration Project.

DESCRIPTION OF THE PROPOSED ACTION: The proposed demonstration project would be located at the Dragon Products Cement Plant at Thomaston, Maine. The plant is located on 1,500 acres of private property between Rockland and Thomaston, along U.S. Route 1. The Innovative Sulfur Dioxide Scrubbing System Demonstration Project would be located west of the cement kiln at the Dragon Products Cement Plant site.

The current practice at the Dragon Products Cement Plant is to mix limestone, sand, and iron-ore, in a raw material mill, where they are ground to a 200-mesh size in water, to form a slurry. The slurry formed is pumped to a kiln where it is heated to 3,500°F. The heat induces a chemical reaction of the compounds in the slurry to form clinker, waste kiln dust, and about 200 ppm of sulfur dioxide. The clinker is ground to form cement powder, the wast kiln dust due to its high potassium content is landfilled on-site, and less than 80 ppm of sulfur dioxide is emitted to the atmosphere.

plant gas cleaning system, since the new equipment would be installed while the existing plant is operational with the current gas cleaning system. Tie-ins to the existing equipment would be performed using blind flanges and connected during shutdown periods of the cement plant. Shutdowns are generally done for maintenance of the kiln or other parts of the cement plant.

Air quality impacts during construction would be temporary and would be primarily associated with exhaust emissions from construction equipment and fugitive emissions from road traffic within the plant boundaries. A sprinkler system is already in operation at the site, to reduce fugitive dust emissions.

There would be minimal impacts associated with disposal of construction wastes. Construction wastes include excavated fill material and minor amounts of construction rubble. The excavated fill may be spread on the Dragon Cement Plant site and the construction rubble will be disposed off-site in a permitted landfill, if this is deemed to be contaminated, otherwise it will be disposed of on-site at either the discussed quarries or the present waste kiln dust landfill.

Construction is not expected to cause impacts to surface water because of the distance (two and half miles) and elevation (100 feet above mean sea level) from the harbor, the small area to be disturbed, the level terrain of the site, and the use of standard erosion and sedimentation control practices. Likewise, construction would not affect terrestrial and aquatic ecology because there are no terrestrial or freshwater habitats on the site. The proposed site is outside the 500-year floodplain and there are no wetlands in the area that would be destroyed or modified in any way.

tributary of the St. George's River under a Maine Department of Environmental Protection wastewater permit. The State of Maine has been granted environmental jurisdiction by the Environmental Protection Agency. The demonstration project would produce one additional flow of high quality water which may be used as process water, water for domestic use, or discharged to the St. George's River. Finally, the existing Spill Prevention, Control, and Countermeasures Plan would be modified to include the new operations that are part of the demonstration project, and the new process area would be paved and curbed to prevent spills and runoff from reaching surface waters.

Impacts to groundwater resources would not result from the proposed action, because the groundwater aquifer is isolated from industrial activities. The aquifer is not a potable aquifer, nor is it used as a source of industrial water. Operation of the demonstration plant would not affect the aquifer because the industrial water produced is impounded in the quarries and later reused by the plant. In the event of seepage, it will not adversely impact the groundwater as it is of a better quality than the groundwater. There should actually be a decrease in the potential for spills to reach the aquifer, since the project area would be paved and runoff or spilled liquids would be collected and treated.

There will be no impact of the Dragon Products Cement Plant Proposed Project on aquatic biota. There would also be a reduction in effects to aquatic biota corresponding to the improvement in wastewater effluent quality.

ALTERNATIVES CONSIDERED: Alternatives to the proposed action were considered throughout all three elements of the NEPA strategy outlined earlier. The "No Action" alternative was considered in the programmatic analysis, as well

Issued at Washington, D.C., this 16th day of February 1990.

Raymond N. Brush

for Peter N. Brush
Acting Assistant Secretary
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