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K-65 SILOS STRUCTURAL ANALYSIS REPORT

03/28/89

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DOE-FMPC USEPA
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LETTER

Department of Energy
FMPC Site Office
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March 28, 1989
DOE-827-89

Mr. Basil G. Constantelos, Director
Waste Management Division
U.S. Environmental Protection Agency
Region V - 5H-12
230 S. Dearborn Street
Chicago, IL 60604

Dear Mr. Constantelos:

K-65 SILOS STRUCTURAL ANALYSIS REPORT

Reference:
1) Letter, DOE-400-89, J. A. Reafsnyder to B. G. Constantelos, "K-65 Silos Near-Term Activities and Final Remediation Plan," dated January 10, 1989.

2) Letter, DOE 712-89, J. A. Reafsnyder to B. G. Constantelos, "K-65 Silos Interim Stabilization - Sand Fill", dated March 10, 1989.

A detailed outline of DOE's plan to address near-term activities and final remediation of the K-65 Silos, and the adjacent silo area, was submitted to the U.S. EPA Region V in the above references. These plans specified actions completed in response to the Federal Facilities Compliance Agreement (FFCA), all of which have either been satisfied or exceeded FFCA requirements. The plans also included a justification/description of the K-65 Interim Stabilization Sand Fill Project, an outline of the advantages gained by installing the 4 foot layer of sand inside the silos, and a detailed Work Plan for the installation of the sand fill.

The attached report, "Study and Evaluation Internal Attenuation Layer Effect on K-65 Silos", dated March, 1989, was prepared by Camargo Associates, Inc. Camargo prepared the original structural analysis on the K-65 silos in late 1985. The purpose of the report was to determine the effect the proposed sand fill project would have on the structural integrity of the two K-65 silos. The evaluation of the silos was based upon existing static loads, loads resulting from the proposed sand layer, and probable dynamic (seismic) loads.

The two K-65 Silos, as analyzed by this report, are capable of sustaining the present loads plus the addition of the sand layer. The addition of the sand layer produces slight additional binding in the silo walls. The stresses in the dome and base slab are essentially unaffected. All stresses induced by the imposed loads are within allowable values.

The K-65 Interim Stabilization/Sand Fill Project will be completed after the K-65 Sampling Project of the RI/FS, which is scheduled for completion in May 1989. The Interim Stabilization/Sand Fill Project will be completed in calendar year 1989.

In addition to the actions taken to date, DOE is committed to seeing the K-65 Interim Stabilization Project through to completion. This will be accomplished by completing the K-65 Interim Stabilization Sand Fill Project. An expeditious review and approval of the information attached and information previously submitted to U.S. EPA will ensure that this project is completed in a timely manner.

If you have any questions or require additional information, please contact Jack Craig, of my staff, at FTS 774-6159.

Sincerely,

James A. Reafsnyder
Site Manager

DP-84:Stone

Attachments: As stated

cc w/att.:

C. A. McCord, USEPA-5

cc w/o att.:

G. Mitchell, OEPA/Dayton
L. Jensen, USEPA-5
L. C. Bogar, WMCO
R. C. Kispert, WMCO