File
Decontamination

Inter-Office Memorandum

GPU Service

Date July 27, 1979

Subject EVALUATION PROGRAM - POST DECONTAMINATION TEACHING PROBLEM

To: MR. J. J. BARTON

Location Three Mile Island
Waste Management Activity

Attached is the subject program developed by the decontaminated section of the radwaste management group. The program is submitted for your information.

J. A. Renshaw

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Attachment

cc: J. COLLINS, NRC
J. DE VINE, JR.

7/24/79

EVALUATION PROGRAM

POST DECONTAMINATION

LEACHING PROBLEM

ON

TMI UNIT 2 AUXILIARY AND

FUEL HANDLING BUILDINGS

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I. Discussion

Post decontamination surveys of certain areas within the auxiliary and fuel handling buildings indicate significant recontamination is occurring.

Much of this recontamination has been demonstrated to be a result of the leaching of contaminated material from floor areas which have been subjected to standing contaminated water for significant periods of time and areas of treated and untreated concrete which have become contaminated by personnel traffic and high airborne activity levels.

Recontamination due to leaching is presenting a significant problem to the decontamination effort.

II. Program Goals

Identify all areas where leaching is impacting the timely and effective decontamination of the buildings.

Determine the depth to which contamination has penetrated the various areas.

Evaluate various methodology for the removal of the contaminated materials causing the leaching problem.

Evaluate each effective method of contamination removal in order to determine the maximum effectiveness versus radiological waste generation ratio.

Select a decontamination method for each leaching area which provides the most efficient removal of the contaminants while maintaining radiological waste generation at a minimum.

III. Investigative Actions

Core bore samples will be obtained from selected areas. Analysis of these samples will provide decontamination personnel with information regarding the depth of penetration of the contaminated materials. This test will also indicate any isotopic stratification which may have occurred. Engineering evaluation of the core boring will be performed in order to ensure that no deleterious effects are introduced to the building structures.

The use of pumice and bentonite will be evaluated on test zones in order to determine their effectiveness in removal of contaminated moisture which has been entrapped below the surface of the concrete.

Chemical removal using RadiacWash, Formul-1, Foam, TSP, Nutex, DC-13, EDTA, ammonium citrate, citric acid, and dessicant will be evaluated on selected test zone sites.

Strippable vinyl coating will be evaluated in areas where application of this type material is practical.

IV. Follow-Up Actions

As a method is proven acceptable for use, detailed instructions will be developed in order to ensure proper application and maximum effectiveness.

Once the leachable levels are reduced to very low concentrations, the feasibility of sealing the affected surfaces to prevent further leaching will be evaluated.