

STATE OF MICHIGAN



JAMES J. BLANCHARD, Governor

DEPARTMENT OF PUBLIC HEALTH

3500 N. LOGAN
P.O. BOX 30035, LANSING, MICHIGAN 48909
GLORIA R. SMITH, Ph.D., M.P.H., F.A.A.N., Director

August 16, 1984

Mr. Martin Schumacher
Nuclear Regulatory Commission
Region III
799 Roosevelt
Glen Ellyn, Illinois 60137

Dear Mr. Schumacher:

Enclosed is a copy of a memo regarding radioactive material monitoring criteria for the SCA Chemical Services Inc. landfill, Kawkawlin, Michigan. We discussed the subject during a meeting on July 30, 1984, and during a telephone conversation on August 13, 1984.

Please contact me if you have any questions about this matter.

Sincerely,

BUREAU OF ENVIRONMENTAL
AND OCCUPATIONAL HEALTH

Joseph M. Hennigan, P.E., Chief
Nuclear Fac. & Env. Monitoring Section
DIVISION OF RADIOLOGICAL HEALTH

JMH:p
Enclosure
cc: George Bruchmann

*Monitoring was discussed on 8/23/84
via meeting held at the SCA site
with J.M. Hennigan, Don Schultz (NRC), D.A. Col (NMS)
and M.C. Schumacher. Agreement in principle was
reached on the type of the program to be conducted,
thereafter. It will consist of soil samples with RA
collected by NRC for radiological analysis in 1984
and additional sampling done by water table well to be
conducted by local Health Department for monitoring.
It will involve some of the samples through the well.*

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MEMORANDUM



MICHIGAN
DEPARTMENT
OF PUBLIC
HEALTH

TO: Thomas Schimpf, Assistant Attorney General
Env. Protection & Natural Resources

DATE: 8/16/84

FROM: George W. Bruchmann, Chief
Division of Radiological Health

SUBJECT: SCA Landfill, Kawkawlin - Radioactive Material Monitoring Criteria

At the July 30, 1984, meeting attended by representatives from the U. S. Nuclear Regulatory Commission (NRC), SCA Chemical Services, Inc., and the Departments of Attorney General, Natural Resources (DNR), and Public Health, it was agreed that the Departments of Natural Resources, Agriculture, and Public Health would propose monitoring criteria for an Agreement being negotiated between the DNR and SCA.

In response to your request at that meeting to Joe Hennigan of my staff, attached is a summary of monitoring criteria for inclusion in the Agreement. The criteria have been discussed with the NRC.

However, during a telephone conversation between Mr. Hennigan and Mr. Schultz, DNR, on August 14, 1984, Mr. Schultz said SCA is refusing to perform radioactivity monitoring and that radioactive material sampling and analysis will not be a part of the DNR/SCA Agreement. If the situation described by Mr. Schultz on August 14 is accurate, I would appreciate your confirmation. If the Agreement can be negotiated to include radioactivity monitoring, then the attached criteria should be used.

GWB:JHp

Attachment

cc: Daniel Schultz, DNR
Marty Schumacher, NRC ✓
Joe Hennigan
Roy Klaviter
Walt Wheeler

CRITERIA FOR RADIOACTIVE MATERIAL SAMPLING AND ANALYSIS OF
WATER SAMPLES FROM SCA/DNR PROPERTY

I. Sampling

- A. 1.5 liters per sample
- B. Samples to be preserved with nitric acid to a pH of 2 or less during storage
- C. Samples to include a control well and monitoring wells inside and outside of slurry wall
- D. Department of Public Health/Department of Natural Resources/Nuclear Regulatory Commission to sample private wells
- E. Frequency
 - 1. First two years - semiannual samples
 - 2. Two to six years - annual samples
 - 3. Six to eighteen years - biennial samples
 - 4. Eighteen to thirty years - triennial samples

II. Analysis

A. Detection Limit

- 1. The detection limit shall be that concentration which can be counted with a precision of plus or minus 100% at the 95% confidence level (1.96σ where σ is the standard deviation of the net counting rate of the sample).
- 2. Numerical Detection Limits

Gross Alpha	3 pCi/l
Gross Beta	4 pCi/l
^{227}Th	1 pCi/l
^{228}Th	1 pCi/l
^{230}Th	1 pCi/l
^{232}Th	1 pCi/l

B. Gross Beta Activity

The sample shall be analyzed for gross beta activity using Cs-137 as a standard and shall be corrected for self-absorption.

C. Gross Alpha Activity

The sample shall be analyzed for gross alpha activity such that the maximum sample deposition on the planchet is 5 mg/cm² and shall be corrected for self-absorption.

D. Thorium Isotopic Analysis

If the Gross Alpha Activity equals or exceeds 15 pCi/liter, the same sample shall be analyzed for isotopic thorium content (Th-227, Th-228, Th-230, and Th-232).

III. Results

Results of analyses for radioactive material and chemical contamination will be reviewed by the State and NRC.

- A. Increased radioactive material sampling/analysis may be required if evidence of migration of radioactive or chemical contaminants from confined areas is found.
- B. Decreased sampling/analysis may be allowed by the Division of Radiological Health, Department of Public Health, on the basis of continuing negative results.

IV. Governmental Sampling

The Department of Public Health and/or U. S. Nuclear Regulatory Commission may, from time to time, collect samples or split samples for confirmatory analysis.