



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

JUL 12 1979

DOCKET NO.: 40-8027
APPLICANT: Kerr-McGee Nuclear Corporation (KM)
FACILITY: Sequoyah Uranium Hexafluoride Production Plant
SUBJECT: SAFETY EVALUATION REPORT -
LICENSE AMENDMENT APPLICATION FOR AUTHORIZATION
TO REDUCE THE SAMPLING FREQUENCY OF THE 26
ENVIRONMENTAL MONITORING LOCATIONS
LICENSE NUMBER: SUB-1010
AMENDMENT NO.: 5
REVIEWER: A. L. Soong

Background

The existing environmental monitoring program conducted by KM at the Sequoyah Facility consists of taking air, water, soil and vegetation samples routinely. Results to date indicate that there is no adverse off-site environmental impact resulting from the operation of the facility.

By letters dated March 10, 1978, December 12, 1978, March 26, 1979, and May 10, 1979, KM requested permission to reduce the sampling frequency of twenty-six (26) environmental monitoring stations as specified in Table 1 of this report.

Discussion

The previous three years' sampling data obtained from these sampling stations has been reviewed. The results show a constant and insignificant level both in radiological and non-radiological effluents (see licensee's submittals dated December 12, 1978).

The M series groundwater monitoring wells (see Table 1 and Figure 1) were installed in 1974 among others for monitoring the leak from raffinate storage pond #2. Since their installation, all monthly collected samples (except M-3 well which is not included in the application) have shown an insignificant level both in radiological and non-radiological contaminants. The result of the extensive studies regarding the leak of pond #2, however, may be summarized as follows (see KM's letter to NRC dated February 3, 1979, annual report concerning leakage of pond #2):

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- (a) The leak is confined to a relatively narrow band and extends to about 80 feet south of the pond.
- (b) The leakage rate from pond #2 is estimated at about one gallon per day which flows to the south. The leakage rate has remained essentially unchanged since 1976.

Based on the above conclusions, the staff considers that KM's request for quarterly sampling from the M series wells is adequate. Furthermore, in order to ensure an earlier warning of further spreading from the leakage, the staff proposed to the licensee that should an elevated nitrate level be detected in the M-6 to M-10 wells which are located about 800 feet south of the pond, KM shall investigate the possible cause of this nitrate elevation in the sample and report to the NRC.

On NRC's request as the result of the visit to the facility made by W. Nixon and A. Soong of NRC on March 21, 1979, the sampling frequency for surface water at Carlisle School (5800 ft. NE of the facility) is being increased to monthly rather than semi-annually as requested by KM. The semi-annually frequency at the School location will be allowed only when the rural water system to serve the school is installed and operating.

Recommendation

On the basis of the findings in the current assessment, it is recommended that Source Material License No. SUB-1010 be amended to authorize reducing the sampling frequency of the 26 environmental sampling stations in accordance with the application and subject to the following condition:

1. If any groundwater sample from well M-5, M-6, M-7, M-8, M-9, or M-10 shows concentration in excess of 10 mg/liter of nitrate (as N), the licensee shall investigate the cause of the elevated analytical result and promptly report to the NRC Inspection and Enforcement Region IV Office.

It is further recommended that all other conditions of this license remain the same.

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TABLE 1. New Sampling Frequency of the Environmental Sampling Stations That KM Requested

<u>Sample Point and I.D.</u>		<u>Existing Sample Frequency</u>	<u>KM Requested Sample Frequency</u>	<u>NRC's Action Frequency</u>
Arkansas River-Up	2203	Monthly (M)	Quarterly (Q)	Q
Arkansas River-Down	2204	M	Q	Q
Farm Pond	2205	Quarterly (Q)	Semi-Annual(SA)	SA
Farm Pond	2206	Q	SA	SA
Raw Water	2208	Q	SA	SA
Salt Fork River	2209	Q	SA	SA
School Pond	2210	Q	SA	Monthly
Monitor Well (MW)	230T	M	Q	Q
MW	2310	M	Q	Q
MW	2311	M	Q	Q
MW	2313	M	Q	Q
MW	2316	M	Q	Q
MW	2319	M	Q	Q
MW	ED-6	M	Q	Q
MW	ED-8	M	Q	Q
All* "M" Series MW's	M-1 - M-10	M	Q	Q
Fault Well	2307	Q	SA	SA
Residence Well	2320	Q	SA	SA

* Excluding M-3 Well

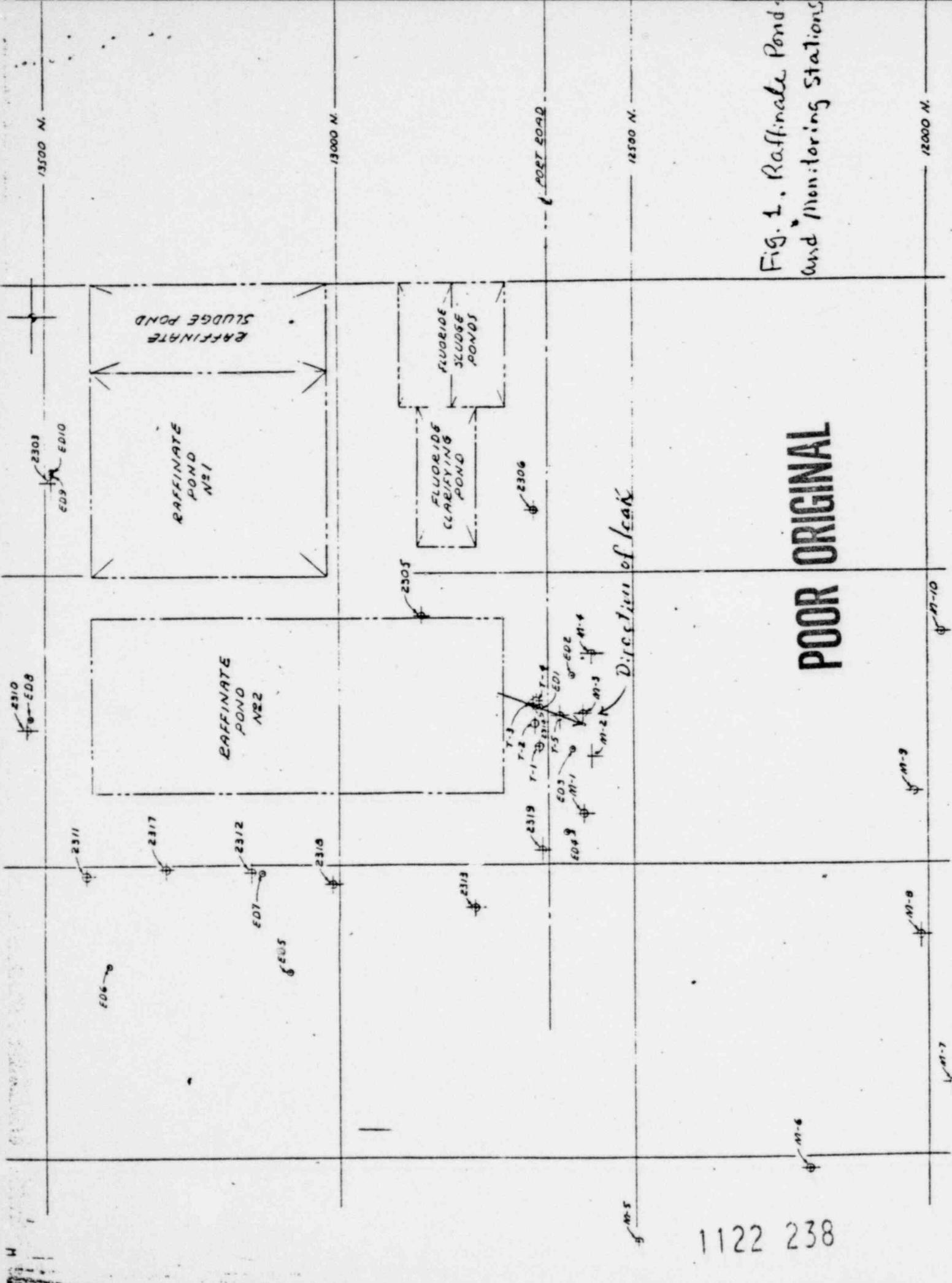


Fig. 1. Raffinate Ponds and Monitoring Stations

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