

AUG 11 1987

FCUF:EYS

DOCKET NO: 70-820

LICENSEE: UNC Recovery Systems

FACILITY: Wood River Junction  
Rhode Island

SUBJECT: SAFETY EVALUATION REPORT, APPLICATION DATED JANUARY 30, 1987,  
AND SUPPLEMENTS DATED APRIL 13 AND JUNE 12, 1987, RE APPROVAL  
FOR THE DELETION OF 17 GROUNDWATER MONITORING WELLS

#### BACKGROUND

By application dated January 30, 1987, and supplements dated April 13 and June 12, 1987, UNC Recovery Systems (the licensee) requested an amendment to License No. SNM-777 to delete 17 of the existing monitoring wells imposed by the NRC in License Condition 11(a) and 11(b). In support of the license amendment request, the licensee submitted data and information on April 13, and June 12, 1987.

#### DISCUSSION

In License Condition 11, it is specified that the licensee shall collect water samples on a monthly basis at locations and monitoring wells as identified in Figure 407.2-1 and Table 407.2-II of the application.

The collected water samples shall be analyzed for:

- (a) Gross alpha and beta radioactivity. If the gross alpha and gross beta concentrations exceed 15 pCi/l and 50 pCi/l respectively, identification of the major nuclide and its concentration shall be conducted by the licensee.
- (b) pH, nitrate, and fluoride. If a water sample is unavailable from any of the wells identified above (Table 407.2-II), an explanation shall be provided in the licensee's data collection log book. If a water sample from a particular well is unavailable for a whole year, another well shall be installed at a nearby location. Table 407.2-II of the license application identifies the following wells:

W-B	W-C	W-D	W-E	W-5
W-6	W-7	W-8A	W-9	W-10
W-12	T-1	T-3	T-4	T-5
T-6	T-7	T-8	T-9	76-U
77-B	77-D	PW-2	PW-1	W-3
T-2				

AUG 11 1987

The licensee requested the deletion of the following 17 wells from the sampling requirement:

W-B	W-5	W-10	T-5	77-D
W-C	W-6	T-1	T-6	
W-D	W-7	T-2	T-8	
W-E	W-8A	T-3	T-9	

The licensee stated that the PW-1 well (drinking water well) is no longer in service, and its use and sampling was discontinued. The licensee will maintain the following wells in their sampling program: W-3, W-9, W-12, T-4, T-7, 76-U, 77-B, and PW-2.

Water samples from these wells will be analyzed for the radiological parameters as specified in License Condition 11(a), and non-radiological parameters as specified in License Condition 11(b) will be deleted except for wells 76-U, 77-B, and PW-2.

#### Staff Evaluation and Recommendation

The NRC, through its contractor, Dr. D. Warner, had conducted an assessment on the groundwater contamination at the UNC's plant site. A report titled "Final Report on Groundwater Contamination at the United Nuclear Corporation, Wood River Plant Site" was presented to the NRC on April 15, 1985. One of the objectives in the report is to determine how quickly the groundwater will purge itself of radioactive and nitrate contamination. In regard to this, the report states: "Computer modeling of contamination migration has shown that the historic and present distributions of contamination are predictable and that, as would be expected, the natural flow system will flush the contaminants into the Pawcatuck River within a few years. Modeling has predicted that the last major contaminant slug will be completely discharged by early 1987. Water quality monitoring data indicate, however, that some contaminants have continued to enter the groundwater since the major sources were eliminated in late 1980. The most recently observed increase in contaminant levels in monitor wells near the former waste holding and trench areas occurred in September - October 1983. Thus, it can be expected to be later than the predicted 1987 date when all of the contaminants will be flushed." The report recommends that "Continued groundwater monitoring will provide confirmation of the flushing of the contaminant plume." The staff has reviewed the monitoring data submitted by the licensee and concludes that generally, the contaminants have been declining in most of the wells since the removal of the major source of contaminants from the decommissioning of the lagoon areas. Data submitted in 1986 shows most of the wells are below the action levels of gross alpha (15 pCi/l) and nitrate (10 ppm). However, based on Dr. Warner's evaluation, more time should be allowed to assure that all of the contaminants will be flushed, and continued groundwater

AUG 11 1987

monitoring will provide confirmation of the complete flushing of the contaminant plume. Therefore, the staff believes that the licensee's request to completely delete the 17 wells and to delete the analysis of nonradiological parameters from the existing monitoring program is premature at this time. Since the contaminants in these wells have been drastically reduced and the decommissioning of the lagoon areas has been completed, the staff recommends the reduction of the monitoring frequency from monthly to quarterly sampling. This will still provide long-term monitoring objectivity to determine whether contaminants are still flushing out from the lagoon area and if so, the magnitude of the contamination. The reduction in sampling frequency is not expected to destroy the overall objectives of the existing monitoring program. Therefore, the staff recommends that the existing groundwater monitoring wells, except PW-1, be maintained and the sampling and analysis frequencies be reduced from monthly to quarterly.

#### CONCLUSION

The staff has evaluated the licensee's request, the monitoring data submitted, and the NRC consultant's report and concludes that this is not the appropriate time to delete the 17 monitoring wells from the existing groundwater monitoring program. The staff recommends the following condition be approved to replace License Condition 11.

The licensee shall collect water samples on a quarterly basis at locations and monitoring wells (excluding PW-1 well) as identified in Figure 407.2-I and Table 407.2-II (issued May 17, 1984) of the application. The collected water sample shall be analyzed for:

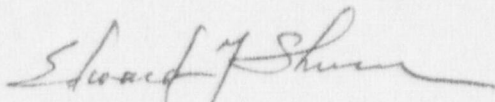
- (a) Gross alpha and beta radioactivity. If the gross alpha and beta concentrations exceed 15 pCi/l and 50 pCi/l respectively, identification of the major nuclide and its concentration shall be conducted by the licensee.
- (b) pH, nitrate, and fluoride. If a water sample is unavailable from any of the wells identified above, an explanation shall be provided in the licensee's data collection log book. If a water sample from a particular well is unavailable for a whole year, another well shall be installed at a nearby location.

The Region I Project Inspector has no objection to this recommendation. The proposed revised monitoring program has been discussed with Mr. J. Velasquez of UNC and he agrees and accepts the staff's recommendation.



AUG 11 1987

Since the recommended revised monitoring program is an administrative requirement, this action is a categorical exclusion pursuant to 10 CFR Part 51.22(b)(10), and an Environmental Assessment or Environmental Impact Statement is not warranted.



Edward Y. Shum  
Uranium Fuel Section  
Fuel Cycle Safety Branch  
Division of Fuel Cycle, Medical,  
Academic, and Commercial Use Safety

Original Signed by

Approved by:

Leland C. Rouse, Chief  
Fuel Cycle Safety Branch

NMSS/Fuel Cycle Material	
FCUF	<input checked="" type="checkbox"/>
FCAF	<input type="checkbox"/>
File:	
Docket #	70-820
Project #	
Other	
PDR	<input checked="" type="checkbox"/>
LPDR	<input checked="" type="checkbox"/>
Return to	G. Tharpe
	SS 396

OFC:FCUF	:FCUF	:FCUF	:FCSB	:	:
NAME:EYShum:ht	:VLTharpe	:GHBidincer	:LCRouse	:	:
DATE:07/22/87	:07/23/87	:07/23/87	:07/01/87:	:	:

OFFICIAL RECORD COPY