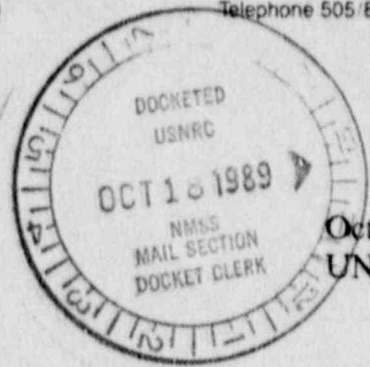


UNITED NUCLEAR CORPORATION

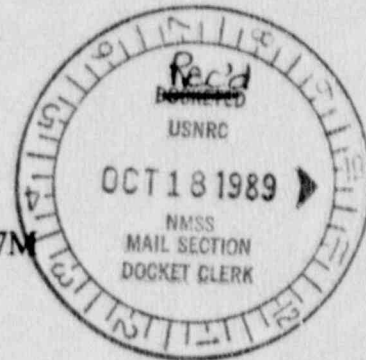
70-820
PDR

6501 America's Parkway N.E.
Suite 1040

Albuquerque, New Mexico 87110
Telephone 505/883-6901



October 11, 1989
UNC-ALO-89-287M



Ms. Mary Horn
Fuel Cycle Safety Branch
U.S. Nuclear Regulatory Commission
Washington, D.C.

Subject: Docket No. 70-820
Inspection No. 70-820/89-01

Dear Ms. Horn:

This is to advise you that we have completed the cleanup at the sluice described in my letter of September 13, 1989. Attached is a copy of the analytical results of a soil sample taken subsequent to cleaning. As you can see from the results the area of concern is clean. We are desirous of having NRC conduct any necessary verification sampling conducted as soon as possible so as to avoid the upcoming winter season.

Additionally we wish to settle your continued concern regarding grid block 138. Apparently the information I provided with my letter of September 13 did not meet your needs. Perhaps additional discussion will help alleviate your concerns. Between the time that ORAU conducted its confirmatory sampling of grid block 138 on September 26, 1986 and the time we presented our results to Mr. Crow in January, 1987, we were given permission by Mr. Crow and Mr. Ross to fill in the excavated areas, including grid block 138, with clean soil. This permission was granted on the basis that regardless whatever minor residual "hot spots" might remain, they would be covered by a minimum 4 feet of soil, thus preventing no significant increase to radiation exposure, consistent with the decontamination criteria. Messrs. Crow and Ross were aware that we had already conducted the cleanup requested in May, 1986. Additionally, while ORAU's "hot spot" findings might have indicated a localized high level of CS-137, the composite sampling of the recleaned area, as represented by the results provided to NRC in January, 1987, indicate that the area is clean.

This conclusion was confirmed by NRC during a meeting with Mr. Crow held on February 4, 1987. The purpose of the meeting was, among other things, to determine specifically what areas of concern remained for UNC to decontaminate. We were told by NRC that only grid blocks D-069, D-070, D-072, D-078, D-085, D-094, D-096 and B-126

8910230106 891011
PDR ADCK 07000820
C PDC

26024
addit info

1/1

DF03

October 11, 1989

remained of concern. Grid Block 138 was considered clean. At the meeting we discussed each grid block that had been recleaned per NRC's request of May, 1986 as well as specifically what remained to be done. Attached for your information is copy of a letter sent to Mr. Crow confirming the results of the meeting. ORAU's final Confirmatory Report Survey, (July 1989) confirms NRC's position on page 18 when it states "[a]lthough concentrations in these samples were above the guideline levels, the NRC determined that the overall site average satisfied the established criteria. Because the areas of subsurface contamination are isolated and small, the NRC determined that averaging with contiguous areas would result in satisfying the overall site guidelines."

In our recent telephone conversation you reference a radiation survey conducted by Mr. Ross in August during his inspection of the site, described in the referenced inspection report. Based on his survey you continue to question the condition of grid block 138. Mr. Ross reports finding "the presence of radioactivity at levels 5 to 10 times background (about 1000 counts per minute)". Upon receipt of the report I had Mr. Helgeson conduct a similar survey. We were unable to duplicate Mr. Ross' results. Apparently, ORAU's findings are also contrary to Mr. Ross'. In a footnote on Table 14 of ORAU's report (page 115), ORAU indicates that at 1 meter above the surface, radiological surveys indicated levels were less than 10 micro-R/hr above background. It should be remembered, additionally, that ORAU's surveys were taken prior to backfilling grid block 138. Based on those results ORAU concluded that additional sampling was unnecessary. The highest exposure rate measured at the site by ORAU after completion of the remedial activities was 18 micro-R/hr at 1 meter above the surface. Background at the site has been established at 11 micro-R/hr. in ORAU's report. The exposure rate guideline for the site is 10 micro-R/hr above background, or 21 micro-R/hr for a diffuse source area, and 20 micro-R/hr above background, or 31 micro-R/hr for a discrete source area. The recent surveys conducted by Mr. Helgeson also indicate results within the criteria.

For these reasons we are having great difficulty understanding your continued concern. We have already demonstrated with the data which I included in my September 13 letter that the soils in grid block 138 were cleaned to below 10 pCi/gm CS-137 prior to being back-filled with clean soil. We have no reason to believe this soil to be contaminated. Therefore, we believe it appropriate at this time that NRC conduct verification soils surveys at both grid block 138 and the sluice where we recently cleaned. We request that these surveys be conducted following established procedures consistent with published regulatory guidance documents in order to avoid the identifying insignificant localized "hot-spots" that do not accurately reflect the condition of the site.

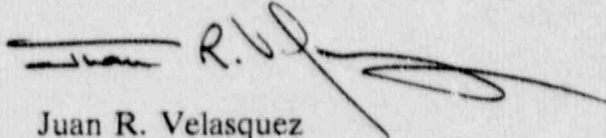
UNC-ALO-89-287M

Page 3

October 11, 1989

We recommend that they be conducted as soon as possible in order to avoid potential lengthy delays through the winter season. Please let me know when you propose to conduct this sampling so that we may have the appropriate personnel on site.

Sincerely,

A handwritten signature in black ink, appearing to read "Juan R. Velasquez". The signature is stylized with a long horizontal stroke at the end.

Juan R. Velasquez
President

JRV: dms

cc: Jerry Roth - NRC
Karl Helgeson



REPORT OF ANALYSIS

LAB #

89-09-571

SAMPLE IDENTIFICATION

#1

DATE COLLECTED

09/27/89

TYPE OF ANALYSIS

Gross Alpha
Gross Beta
Cesium-137
Uranium-234
Uranium-235
Uranium-238

pCi/gram

6.3+/-1.6
16.7+/-1.1
0.17+/-0.04
4.55+/-0.52
0.18+/-0.09
1.38+/-0.08

UNC MINING AND MILLING

Division of United Nuclear Corporation
A UNC RESOURCES Company

P.O. Box 8480
Santa Fe, New Mexico 87504-8480 Telephone 505/988-9208



March 16, 1987

Mr. W.J. Crow, Acting Chief
Uranium Fuel Licensing Branch
Division of Fuel Cycle and Materials Safety, NMSS
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Crow,

Regarding continued decommissioning efforts at our facility at Wood River Junction, Rhode Island, this letter serves to notify you of our proposed activities to review and as necessary to further decontaminate the grid blocks identified by your staff at our February meeting. By way of confirmation, it is our understanding that NRC continues to be concerned about the status of grid blocks D-069, D-070, D-072, D-078, D-085, D-094, D-096 and B-126. NRC's concerns arise from the results of soils analyses obtained by NRC's contractor, ORAU.

PROTOCOL DIFFERENCES

Before delineating our proposed actions I would like to discuss our view of ORAU's results and their implication for our facility. As you are aware, we continue to be concerned that the procedures ORAU has used in conducting its confirmatory survey sampling present a problem in determining dose commitment data per target criteria and cleanup requirements as prescribed for this site by NRC. We have expressed our concern in the past regarding the differences in protocols used by ORAU and UNC's vendor laboratory, CEP, in sample gathering, preparation and analysis. We believe that procedures used by ORAU have caused some samples to be biased high and do not represent the true radiological condition of the grid block per the soil decontamination criteria. For instance, in gathering its samples ORAU did not appear to use a systematic methodology. In addition, some of the samples were taken based on meter readings. Also, ORAU has analyzed its samples using gamma spectrometry rather than alpha spectrometry which had previously been agreed to. Use of gamma spectrometry can lead to generally higher results and is less sensitive (e.g. the limits of error can equal or exceed the stated sample value). Also complicating the interpretation of the results of our respective labs is the problem of non-homogeneity of samples.

8703310056 Jpp

The results of the ORAU sampling and analytic methods have been interpreted in many cases to represent the condition of the entire grid block causing the whole block to be suspected of being contaminated.

We believe that if ORAU had used methods identical to those used by UNC's vendor laboratory, thus generating average values for the soils within the grid blocks, their results would have allowed them to conclude that the soil at the site met NRC's criteria. Unfortunately, the difference in protocols used by UNC in conducting its survey and those used by ORAU in performing the confirmatory surveys have resulted in disagreement concerning the contamination status of particular grid blocks. The difference in analytical results can be attributed in the difference in protocols and does not reflect "good" or "bad" results.

In an effort to resolve these differences we are willing to conduct certain additional cleanup activity in the grid blocks of concern. However, we would like to ensure that the evaluation methods used by ORAU and our laboratory are identical in order to minimize the possibility of widely varying results. It is important, in our view, that ORAU and our vendor laboratory use the same protocol. Therefore, per our discussions during our February meeting, we propose the following procedures to resolve our respective concerns.

1. UNC will review each block and determine what remedial action it will undertake.
2. After the action has been completed, UNC and NRC (ORAU) will jointly gather representative samples from each grid block where this is possible (with NRC Region I assistance).
3. UNC and NRC will work with their respective contractors (CEP and ORAU) to develop an agreed upon protocol for sample preparation and analysis. The samples will be split three ways after preparation and analyzed independently using the agreed upon methodology.
4. The third split of each sample will be archived pending the comparison of results from ORAU and CEP. If widely divergent results occur the differences will be resolved by using a mutually agreed upon referee laboratory to whom the third split of the sample(s) will be submitted for analysis.

UNC is already in contact with ORAU and CEP. We hope to effect this procedure as soon as weather permits.

REVIEW OF SPECIFIC GRID BLOCKS

Following is a discussion of our review of the grids of continued concern as identified in our February meeting. We include a discussion of our proposed action where appropriate.

D-069 & D-070

These grid blocks are in an area largely covered by macadam. They also contain the concrete loading dock well and an office trailer. Discussions with Mr. Berger of ORAU indicate that he took his samples from a long narrow three feet wide strip of soil between the trailer and concrete block wall, the only exposed soil in these blocks. Such samples should be treated as locally biased samples not representative of average concentrations within in the 30 ft. by 30 ft. grid block.

UNC does not agree that these blocks require additional cleaning. Nonetheless, UNC will skim and remove the surface soil from the area in question to allow samples to be taken for comparison.

D-072

This grid block is entirely covered by macadam. It is unclear to us where ORAU took its soils sample as there is no soil exposed. There may have been some blow sand deposits in a depression in the macadam. However, such a sample would not constitute a representative sample of the grid block. It is also possible that the sampling procedure removed whatever contamination was present. UNC will sweep up any visible deposits of soil on the macadam such that no additional sampling will be necessary.

D-078 & D-085

These grid blocks are also almost completely covered by macadam with the exception of a ten ft. by ten ft., fenced, transformer enclosure. Construction of this specialized enclosure includes a concrete pad supporting the transformer with about three feet of trap rock surrounding the pad out to the fence. The layer of trap rock is about thirty inches deep to act as a water diverting dry well to protect the transformer from submersion. In discussions with Mr. Berger at the February meeting and later by telephone, it was his recollection that he scooped his samples from dirt that had been deposited around the bottom of the fence and from joints between the macadam and the concrete retaining wall of the truck well. These are not representative samples and UNC cannot agree that these grid blocks are contaminated. Nonetheless, UNC will skim and remove as much soil as is evident and sweep up the macadam.

D-094

This grid block contains a macadam surface with an excavated hole approximately 10ft by 10ft by 4ft(deep). The hole resulted from excavation and removal of materials identified by ORAU as being contaminated based on ORAU's meter readings, indicating elevated levels of contamination inside a four inch diameter conduit. UNC removed the incinerator pad, the conduit, and a sizeable amount of soil under the pad. An additional one foot of soil was then removed from the entire excavation. Thus, ORAU's sample indicating contamination in the area around the old incinerator pad was taken prior to UNC's final act of decontamination. UNC's subsequent sample analysis indicates that this area is now free of contamination, and we plan no further action on this block.

D-096

This grid block contains an area that is approximately one-third covered with macadam, an area of soil at a surface level even with the macadam approximately 100 feet square, and an area approximately 500 feet square that has already been excavated to a depth of 4 ft. Both UNC and ORAU are uncertain as to where ORAU took their samples. However, comments at the February meeting leads us to believe that they were taken on the slope between the original surface and the bottom of the excavation. If so, UNC does not believe such a sample is representative of the average conditions within the grid. Nonetheless, UNC will sample this grid block in accordance with the decommissioning criteria and determine if it is necessary to conduct additional remedial action. If so, UNC will skim and remove additional soil.

B-126

This grid block is approximately half covered by macadam. The balance of this block has already been excavated, early in the program, to a depth of over two feet and backfilled with soil. Additionally, in response to a previous NRC contamination concern, an area of approximately sixteen feet square was excavated to a depth of three feet. Both UNC and ORAU are uncertain as to where ORAU took their samples and we question whether the ORAU sample is representative of the entire block. Nevertheless, UNC will resample the soil in the block in accordance with the decommissioning protocol and determine if additional remedial action is necessary. If so, UNC will skim and remove soil from the area not covered with macadam.

Upon completion of the work as described above, UNC will contact Mr. Roth of NRC's Region I, the site's principal investigator, and request that he and Mr. Berger schedule a site visit for the purpose of acquiring verification samples in accordance with the agreed upon protocol we discussed at our February meeting and described above.

CONCLUSION

It is important to reiterate that UNC considers that the soils at the site have been decontaminated to well within the criteria as set forth in NRC's document titled, "Soil Decontamination Criteria for the Decommissioning of UNC's Facility", in accordance with the ALARA concept. We have decommissioned and decontaminated the site in accordance with regulatory mandate using NRC's guidance. We believe that the dose commitment attributable to this site is sufficiently low so as to warrant release of the site for unrestricted use and termination of the NRC license once the drummed waste has been removed from the site.

At the February meeting members of your staff made note that the regulatory goal of decommissioning and decontamination is to ensure protection of the public by keeping radiation exposures to within criteria determined as applicable for unrestricted use and keeping exposures as low as reasonably achievable. UNC believes it has accomplished D&D well within this framework. We will conduct the additional work described herein to demonstrate our commitment to the ALARA principle as it is our hope that once this its work is concluded, we can proceed with termination of the license.

Sincerely Yours,


Juan R. Velasquez
Manager, Environmental Affairs

JRV/mn
UNCALO2Q

cc: Jerry Roth - NRC Region I
Karl Helgeson

bcc: Ron Messenheimer
Chuck Johnson
Chuck Patrizia
Bob Greg

DOCKET NO. 70-820
CONTROL NO. 26024
DATE OF DOC. October 11, 1989
DATE RCVD. October 18, 1989
FCUF PDR
FCAF _____ LPDR _____
I & E REF.
SAFEGUARDS
FCTC _____ OTHER _____
DATE 10/18/89 INITIAL SAC