

UNITED NUCLEAR CORPORATION



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January 31, 2008

Mr. Jack E. Whitten, Chief
US Nuclear Regulatory Commission
Division of Radiation Safety & Safeguards
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-4351

Dear Mr. Whitten:

Pursuant to our License SUA-1475, submitted herewith are the result of our Annual ALARA Audit conducted on December 12, 2007.

If you have any questions, please advise.

Sincerely,

A handwritten signature in black ink, appearing to read "Larry Bush", written over a horizontal line.

Larry Bush
Manager

Cc: Steve Hill, GE
Roy Blickwedel, GE
Keith I. McConnell, USNRC
Paul Michalak, US NRC



To: File

From: Max Chischilly Jr.

Subject: ALARA Committee Meeting and Audit, December 12, 2007

The UNC Mining and Milling ALARA Committee met on December 12, 2007 to audit the result of the radiological monitoring program for the fourth quarter of 2006, and the first three quarters of data for 2007. Current committee members are: Larry Bush, Manager, and Max Chischilly, Jr., Radiation Safety Officer. The Committee reviewed Mr. Chischilly's Annual Report entitled "Environmental and Personnel Monitoring Program for Inactive Status Report from 4th Qr. 2006 to 3rd Qr. 2007," dated December, 2007.

Significant Finding and Event:

1. No radiation exposure was recorded for United Nuclear Corp. (UNC) employees, contractors, and the public due to our current site status conditions.
2. Training and refresher training of employees on radiation protection and safety was done in 2007 as required.
3. All documentation and monitoring required by our radiation protection program and NRC License was in order for 2007.
4. Available data for this Report is also reported as per suggested format in Regulatory Guide 4.14 (see attached Table-1).
5. The annual land use survey was done on 3-21-07 for 2006. Significant change or event include:
 - a. No change in the number of residential home sites.
 - b. The majority of the residential home sites have running water, leach / septic tank system and electricity supplied to their homes. These utility systems is supplied and serviced by the Navajo Tribal Utility Authority.
 - c. Included NR – 1 and 15k – 303 well in this report. NR –1 was drilled / installed in 5-29-92 as part of a water quality background study and 15k – 303 is in close proximity to the two mile radius.



- d. Four injection wells (I W-1, I W - 2, I W - 3 and I W - 4) and two extraction wells (EW - 1 & EW - 2) were drilled / installed near the northeast end perimeter fence line area on UNC's Sec.36 in January 2006. These wells will be part of UNC's In Situ Alkalinity Stabilization Pilot study and the water source will be from the Mill Site Well in Sec. 2.
 - e. Further remediation work is scheduled to be done on UNC's Northeast Church Rock Mine Site in Sec. 34 and 35 and the radiological survey activity was completed in December 2006 involving various agencies and contractors (i.e. USEPA, NNEPA, MWH, AVM & USCG).
6. The environmental monitoring program is limited and the reported items in the Environmental Monitoring Summary Data (pg. 4 of 8) are solely based on available data. The only required radiation-monitoring program will be under an RWP (Radiation Work Permit), and no RWP was issued during this annual period.
 7. The active radiation monitoring instruments are routinely calibrated and Personnel Radiation Monitoring program under RWP is still in effect, but is in a standby status awaiting the final pond closure reclamation activity (see also pg. 5 of 8).
 8. Continual monthly monitoring is ongoing for well NBL-1, 504-B, PB-2, PB-3, and PB-4 to track and locate the northern most migration extent of the seepage impacted water or plume in Zone 3. Also, PB-2 is a pumping/extraction well as of 8-31-05.
 9. Continual pumping/extraction is ongoing in the Zone 3 plume area for well RW-11, RW-16, RW-13, RW-A and PB-2. The pumped water is discharged into the tailings North Evaporation Pond. Also, other pumping wells (RW-12, RW-13, RW-15 and RW-17) are currently inactive.
 10. Monitoring well NBL-2 and extraction well RW-A were drilled/installed on UNC's Sec. 36, Zone 3 plume area during the month of March 2007.
 11. The In-Situ Alkalinity Stabilization Pilot Study monitoring activities, which began during the month of October 2006 had concluded during the week of February 15, 2007.
 12. No violations or deviations were identified on a routine NRC inspection conducted on 7-24-07 by Mr. Robert J. Evans accompanied by Mr. Jason M. Razo and Douglas T. Mandeville.
 13. Based on the routine annual ALARA committee meeting and audit (December 12, 2007); the program has met the requirement under 10 CFR Part 20, Subpart G - Radiation Protection Programs, Sec. 20.1101 (c).

Past Significant Events:

1. The mill site was released from a restricted to unrestricted area by License # SUA-1475 Amendment # 21 in 1995.
2. The final tailings reclamation was completed in 1995. The last of drainage channels was completed in 1996. The reclamation of evaporation ponds is being delayed until the ground water Corrective Action Plan is deemed completed by the NRC and EPA.
3. The radon cap covers was completed in 1996 with the exception of the lined evaporation ponds.
4. The report submitted January 03, 1997 and on January 13, 1998 on Radon Emanation Testing of UNC's Church Rock Tailings Site shows the average Radon Flux to be 5.71 pci/m²sec., which is less than the allowable of 20.0 pci/m²sec.

UNC MINING AND MILLING
ENVIRONMENTAL SURVEILLANCE

Monitoring Program

- * 1. The Radiation Safety Officer (RSO) inspects the restricted areas monthly.
- * 2. Air sampling is continuously done at four locations; one located upwind of the tailings impoundment, two located downwind of the tailings impoundment, and one background sampling location (see EMP-2).
- * 3. Gamma exposure is continuously monitored with TLDs at the same four locations as the air sampling. The TLDs are changed out and analyzed semi-annually (See Procedure EMP-3).
- * 4. Ambient radon is continuously monitored with radon detectors at the same sites as air sampling. The detectors are changed out and analyzed quarterly and reported semi-annually (see Procedure EMP-4).
- * 5. Groundwater samples are collected and analyzed quarterly at two locations near tailings, and one domestic water well at the mill site (see Procedures EMP-5 and EMP-5a).
- 6. Equipment being sold or for other purposes, leaving the restricted area is surveyed for compliance with guidelines for release to unrestricted use (see Procedure EMP-8A).
- * 7. An Effluent Report will be submitted semi-annually within 60 days of each six-month period. All of the Environmental Monitoring Program data is included in this report, with the exception of the equipment surveys (see EMP-9).

Note: The above (*) marked items are deleted as per NRC approved License amendment 29 dated 6-18-99 deleting condition's #16, #22, and #28.

Additional Note: Item #1 procedure is continued on 10-19-99, to show and maintain the integrity of the restricted tailings area. Effluent Report under Item #7 is reported when pertinent data is available.

May Chinchilly Jr. 1/28/02 May Chinchilly Jr. 1-20-03 May Chinchilly Jr. 1/17/05
May Chinchilly Jr. 1/29/01 M. Chinchilly 1/22/99 May Chinchilly Jr. 1/24/06
May Chinchilly Jr. 1/20/00 May Chinchilly Jr. 1-20-04 May Chinchilly Jr. 1/25/07
E. Morante 1/19/95 E. Morante 1/20/97 May Chinchilly Jr. 1/28/08
E. Morante 1/20/96 E. Morante 1/22/98

UNC MINING AND MILLING

PERSONNEL RADIATION PROTECTION PROGRAM

External Exposure Monitoring

1. Employees working within the tailings area wear a TLD badge which is changed out and analyzed semi-annually. (See Procedure PMP-2).

Internal Exposure Monitoring

2. Self-monitoring Alpha survey is done by employees working within the tailings area daily prior to leaving the area with occasional spot checks by the RSO or the Radiation Technician (see Procedure PMP-4).
3. Bioassays are done on employees working within the tailings area semi-annually (See Procedure PMP-5).
4. Continuous air samples are taken in the general tailings working area of employees for the purpose of calculating exposures (see Procedure PMP-6).
5. Surface surveys of eating areas, change room benches, and labs are done monthly.
6. TLD, bioassays and air samples will also be done under the RWP program (see Procedure PMP-9).
7. Instrumentation and calibration (see Procedure PMP-10).

*NOTE Rev. 4, PMP

Personnel Radiation Monitoring, 1 through 6, to be done as needed under an RWP.

Max Chinchilly Jr. 1/28/08
E. Mucak
1/19/95
1/20/96 E. Mucak

Max Chinchilly Jr. 1/25/07
ED Mucak
1/20/97
1/22/98 E. Mucak

Max Chinchilly Jr. 1/24/06
Max Chinchilly Jr. 1/17/05
M. Chinchilly 1/22/99
Max Chinchilly 1/20/00
Max Chinchilly 1/29/01
Max Chinchilly Jr. 1/28/02
Max Chinchilly Jr. 1/20/03
Max Chinchilly Jr. 1-20-04

**ENVIRONMENTAL MONITORING SUMMARY DATA
FROM 4TH QUARTER 2006 TO 3RD QUARTER 2007**

Environmental Monitoring:	Required Analysis:	Highest Result Obtained:	Allowable:
1. Quarterly Ground Water GW-Wells: (NOTE: Available data is on GW-3 Well)	U-Nat ($\frac{\text{mg}}{\text{l}}$)	0.130 (dissolved or total)	0.30 (NRC) 5.0 (EPA)
	Th-230 ($\frac{\text{pci}}{\text{l}}$)	0.20 (dissolved or total)	5.0 (NRC)
	RA-226 ($\frac{\text{pci}}{\text{l}}$)	0.20 (dissolved or total)	5.0 with RA-228 (NRC & EPA)
	PB-210 ($\frac{\text{pci}}{\text{l}}$)	1.00 (dissolved or total)	1.0 (NRC)
	PH (units)	6.68	6 - 9 (NMED)
2. Surface Alpha:	Any Material or Equipment released, will meet the requirements for unrestricted use.		<p>a. Removable is $1000 \frac{\text{dpm}}{100 \text{ cm}^2}$</p> <p>b. Fixed average is $5000 \frac{\text{dpm}}{100 \text{ cm}^2}$ where area is not greater than 1m^2</p> <p>c. Gamma is 40 ur/hr</p>
3. Monthly Inspection Findings:			
	<p>a. About 6–10 feet of fenceline was opened and later closed near the main entrance gate on 11/30/06 to install an underground domestic water pipeline/feedline to storage tanks as part of the In-Situ Pilot Study. This opening was closely monitored to prevent livestock or unauthorized entry.</p> <p>b. A major flood event on 8/6/07 had damaged the perimeter fenceline (located on UNC's Sec. 2 & 36 boundary line areas) and repair work were completed on 8/8–10/07 & 9/28/07. Continual surveillance was ongoing to keepout livestock or unauthorized entry.</p>		

PERSONNEL MONITORING SUMMARY DATA
FROM 4TH QUARTER 2006 TO 3RD QUARTER 2007

Personnel Monitoring Items:	Required Analysis:	Highest Result Obtained:	Allowable:
1. Semi-Annual or as needed personnel TLD (DDE)	Gamma ($\frac{\text{rem}}{\text{yr}}$)	NM	0.500 (Active Level)
2. Semi-Annual or as needed Bioassay:	Total Uranium ($\frac{\mu\text{g}}{\text{l}}$)	NM	15-35 (active Level)
3. Bi-Weekly or Quarterly air sample	Gross Alpha ($\frac{\text{uci}}{\text{ml}}$)	NM	6E^{-11} (DAC)
(Also Note: Action Level is 10% of an application doses limit)	Th-230 ($\frac{\text{uci}}{\text{ml}}$)	NM	6E^{-12} (DAC)
	RA-226 ($\frac{\text{uci}}{\text{ml}}$)	NM	3E^{-10}
	PB-210 ($\frac{\text{uci}}{\text{ml}}$)	NM	1E^{-10} (DAC)
	RN-222 ($\frac{\text{uci}}{\text{ml}}$)	NM	4E^{-6} (DAC)
	(-Daughter)		
	U-Nat ($\frac{\text{uci}}{\text{ml}}$)	NM	2E^{-11} (DAC)
Personnel Exposure:			
4. Estimated Annual Total Effective Dose Equivalent (TEDE):	TEDE (rem)	NM	5.0 (MAX.) 2.0 (Action Level)

NOTE: The above items are only required under an RWP as needed (see PMP, Rev. 4). And no RWP was issued during this reporting period.

NM - Not Monitored

TABLE - 1
QUARTERLY LIQUID SAMPLES

<u>Date/Qr.</u>	<u>Location</u>	<u>Type</u>	<u>Radionuclide</u>	<u>Concentration</u>		<u>Error Est.</u>	<u>LLD</u>
				<u>Mg/l</u>	<u>µci/ml</u>	<u>µci/ml</u>	<u>µci/ml</u>
4TH-QR.2005	GW-3	GROUND	U-Nat (dissolved) or total		7.99E-08		2.00E-10
to 3RD-QR.		WATER WELL					
2006 HIGHEST RESULT			Th-230 (dissolved) or total		2.00E-10		2.00E-10
UNC Field Data:	PH (STD. Units) = 6.65 Cond. (µ MHOS) = 5,680 Water Depth (Ft.) = 51.40 Temp. (°C) = 20.1		Ra-266 (dissolved) or total		4.00E-10	2.00E-10	2.00E-10
			Pb-210 (dissolved) or total		1.00E-09		1.00E-09
			Po-210 (dissolved) or total	NOT MONITORED			1.00E-09

COMMENTS:
