



STATE OF NEW MEXICO
INSPECTOR OF MINES DEPARTMENT
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ALBUQUERQUE, NEW MEXICO 87101

SAFETY FIRST



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RADIATION
REPORT OF INSPECTION

I.D. No. 2900575
Sandstone Mine (United Nuclear Corporation) } Mine
Underground (Name) } December 2, 3, 4, 1975
Uranium (Classification of Mine) } (Date of Inspection)
McKinley (County in which located) } John Visarraga, Leadman
Roger Siegman, Leadman
(Company representative present at inspection)

Pursuant to the Mining Laws of the State of New Mexico, Section 63-4-8, an inspection, as designated above, has been made. During this inspection the following was noted:

INTRODUCTION

The primary purpose of this inspection was to check radon-daughter concentrations in each working place of the mine, to measure quantity of air supplied to each man working underground, and to calculate a time-weighted exposure for each of the various classes of mine personnel.

GENERAL INFORMATION

Owner and Operator: United
Nuclear Corporation

Company Officials:
James Greenslade, General Manager
Walter Smit, Production Manager
Jack Farley, Mine Superintendent
Paul Christensen, Safety Engineer

Location: 22 miles NE of Grants,
New Mexico, on State Highway No.
509, then 5 miles E on graveled
road.

Mining Methods: modified room and pillar

No. of Employees: 59

Last Radiation Inspection: July 8, 15, 1975,
and the report was posted.

Work Schedule:

Hours per shift 8
Shifts per day 2
Hours per week 40

The inspector was accompanied by Messrs. John Visarraga and Roger Siegman during the entire period of this inspection. Mr. John Visarraga obtained duplicate radon-daughter samples for comparison purposes.

The mine is opened by one 12 foot I.D. concrete, 3 compartment shaft, 940 feet deep. This shaft is used for ventilation, for hoisting and lowering men, for hoisting ore and handling materials. This mine is interconnected with the Section 27 Mine at the west end of 2 track haulage drift and with the Section 33 Mine of the Kerr-McGee Nuclear Corporation.

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PDR ADCK 04008907
C PDR

JOE D. LONGACRE, SR.
State Inspector of Mines

ONE COPY OF THIS REPORT SHALL BE POSTED IN A CONSPICUOUS PLACE AT THE MINE

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VENTILATION AND RADIATION

Fresh air entered this mine through the shaft at a rate of approximately 250,000 cubic feet per minute and after ventilating the working places, it was forced to exhaust through the No. 1 borehole and No. 2 borehole. No. 2 borehole was mounted with two 125 HP, two-stage Joy fans which exhausted the 250,000 cubic feet per minute from the Sandstone Mine, plus some 25,000 cubic feet per minute of air used in Section 27 Mine.

This mine has two boreholes as previously mentioned, borehole No. 1 is 41" I.D. in size, borehole No. 2 is 51" I.D. in size. All these boreholes are steel lined throughout the length of the opening and they can be used as escapeway in extreme cases of emergency.

The primary ventilation was found to be well planned, the secondary ventilation seems to be fairly planned but it was found to be very poorly supervised, causing all the active working places to have a concentration of radon-daughters in excess of the minimum permissible concentration (M.P.C.) required by State and Federal standards; bringing the total mine exposure index to a high of 2.4 x working level.

The following is a list of radon-daughter concentrations, air volume measurements and time-weighted exposure for each of the different types of mine personnel:

Sample No.	Sample Location	Ventilation c.f.m.	Man-Shift Exposure			Working Level
			M&M	Stopes	Haulages	
* 1	40 room 13 entry drill	2500-8,000	0.4	2.0		2.2
* 2	40 room 13 entry haulage	static-8,000	0.4		1.0	1.8
* 3	40 room 20 entry drill	1400-closed	0.4	3.0		1.5
* 4	40 room 20 entry haulage	1400-closed	0.4		1.0	1.8
* 5	40 room Dosco development	2000-closed	0.4	2.0		2.1
* 6	40 room Dosco haulage	2000-closed	0.4		1.0	2.0
* 7	40 room 18-B entry drill	2200-8,400	0.4	3.0		1.4
* 8	40 room 18-B entry haulage	2500-8,400	0.4		1.0	1.8
** 9	40 room lunch room	convection	0.4		1.0	1.1
* 10	40 room 14 entry drill	4000-7,000	0.4	2.0		1.5
** 11	40 room 14 entry haulage	4,000-8,000	0.4		1.0	1.0
12	40 room 18-B entry drill	Resampled, Cease Work Order abated 12-3-75 at 12:30 p.m.				0.5
13	40 room 18-B entry haulage	Resampled, Cease Work Order abated 12-3-75 at 12:30 p.m.				0.9
14	40 room Dosco development	Resampled, Cease Work Order abated 12-3-75 at 12:30 p.m.				0.6
15	40 room Dosco haulage	Resampled, Cease Work Order abated 12-3-75 at 12:30 p.m.				0.7
16	40 room lunch room	Resampled, Notice issued, abated 12-4-75.				0.9
17	40 room 17 entry slusher	convection	0.4	2.0		0.7
18	40 room 13 entry drill	Resampled, Cease Work Order abated 12-3-75 at 12:30 p.m.				0.6
19	40 room 13 entry haulage	Resampled, Cease Work Order abated 12-3-75 at 12:30 p.m.				0.8
20	40 room 14 entry drill	4,000-7,000 Resampled, Notice issued, abated 12-4-75.				0.5
21	40 room 14 entry haulage	4,000-8,000 Resampled, Notice issued, abated 12-4-75.				0.6

Sample No.	Sample Location	Ventilation c.f.m.	M&M	Stopes	Haulages	Working Level
22	24 room 4 entry drill	3000	0.4	3.0		0.4
23	24 room 4 3ntry haulage	4000	0.4		1.0	0.4
24	Machine doctor's shop	1000	1.4			0.1
25	pump station	10,000	1.4			0.1
26	Electric shop	2,200	1.4			Nil
27	Maintenance lunch room	1000	1.4			Nil
28	Maintenance shop	10,000	1.4			Nil
29	Skip tender	2,000	0.4		2.0	Nil
30	M & E station	200,000	0.4	1.0	1.0	Nil
31	24 room shop	12,000	1.4		0	0.8
32	24 room slusher	convection	0.3	2.0		0.8
* 33	26 room raise development slusher	2000	0.3	1.0		46.0
* 34	26 room raise development working drifts	3000	0.3	1.0		10.0
35	2, 14 & 1 track haulages	75,000	0.3		2.0	0.7
			16.0	23.0	12.0	

* Cease Work Orders Issued.

** Notices Issued.

The average time-weighted exposure for the various classes of mine personnel and the mine exposure index are as follow:

Maintenance and Management - 1.7 x working level
Stopes and Developments - 3.6 x working level
Haulageways - 0.9 x working level
Total Mine Exposure Index - 2.4 x working level

ENFORCEMENT

Due to the excess radon-daughter concentrations found during this inspection the following Cease Work Order was issued:

Order No. 1

Date: December 2, 1975

Time: 12:30 p.m.

To: Jack Farley, Mine Superintendent, Sandstone Mine, United Nuclear Corporation.

"Pursuant to New Mexico Mine Laws, Section 63-4-5(c) and 63-4-12, and regulations adopted by this office and under the authority conferred by this office thereby - you are hereby ordered to Cease all operations of production in the entire 40 room area (eleven (11) working places) for the reason of excess radon-daughter concentrations and such order will remain in effect until radon-daughter concentrations decrease below 1.0 working level and abated by this department. Failure to comply with this order will result in prosecution for its violation".

The above Cease Work Order was abated on December 4, 1975, at 12:30 p.m. Radon-daughter concentrations decreased below 1.0 working levels.

Order No. 2

Date: December 4, 1975

Time: 12:00 noon

To: Jack Farley, Mine Superintendent, Sandstone Mine, United Nuclear Corporation.

"Pursuant to New Mexico Mine Laws, Section 63-4-5(c) and 63-4-12, and regulations adopted by this office and under the authority conferred by this office thereby - you are hereby ordered to Cease all operations of production in 26 raise development for the reason of high concentration of radon-daughters, (26 raise development slusher set-up 46.0 working levels, 26 raise development working drifts 10.0 working levels), and such order will remain in effect until radon-daughter concentrations decrease below 1.0 working level and abated by this department. Failure to comply with this order will result in prosecution for its violation".

The above Cease Work Order was cancelled on December 4, 1975. This particular working place was permanently closed for development.

NOTICES ISSUED DECEMBER 4, 1975

Notice No. 1, SIM Rule No. 71-1(2c): Cigarette smoking shall be prohibited in 9 room haulage. (57.5-41M) Abated December 4, 1975.

Notice No. 2, SIM Rule No. 71-1(2c): Cigarette smoking shall be prohibited in station supply room area. (57.5-41M) Abated December 4, 1975.

Notice No. 3, SIM Rule No. 71-1(2c): Cigarette smoking shall be prohibited in main pump room area. (57.5-41M) Abated December 4, 1975.

Notice No. 4, SIM Rule No. 71-1(2c): Cigarette smoking shall be prohibited in 24 room eating place. (57.5-41M) Abated December 4, 1975.

Notice No. 5, Section 63-28-9, NMSA: Dust condition shall be controlled in 40 room lunch room. Abated December 4, 1975.

Notice No. 6, Section 63-28-9, NMSA: Dust condition shall be controlled in 40 room 7 entry haulage. Abated December 4, 1975.

Notice No. 7, Section 63-28-9, NMSA: Dust condition shall be controlled in 24 room 9 entry haulage. Abated December 4, 1975.

Notice No. 8, Section 63-28-9, NMSA: Dust condition shall be controlled in 40 room 17 entry slusher position. Abated December 4, 1975.

Notice No. 9, Section 63-28-9, NMSA: Dust condition shall be controlled in 24 room slusher position. Abated December 4, 1975.

Notice No. 10, Section 63-28-9, NMSA: Dust condition shall be controlled in 26 raise development slusher position. Abated December 4, 1975.

Notice No. 11, Section 63-27-8, NMSA: The second fan in 20 room shall be provided with frame ground. (57.12-25M) Abated December 4, 1975.

Notice No. 12, Section 63-27-8, NMSA: The fan in 40 room 9 entry shall be provided with frame ground. (57.12-25M) Abated December 4, 1975.

Notice No. 13, Section 63-27-8, NMSA: The electric slusher in 26 raise development shall be provided with frame ground. (57.12-25M) Abated December 4, 1975.

Notice No. 14, SIM Rule No. 71-1(2c): The powerline in 1 track and 2 track intersection shall be well separated from the water line. (57.12-82M) Abated December 4, 1975.

Notice No. 15, SIM Rule No. 71-1(2c): The powerline in 24 room eating place shall be separated from the telephone line. (57.12-82M) Abated December 4, 1975.

Notice No. 16, SIM Rule No. 71-1(2c): The powerline in 40 room 17 entry shall be well separated from the water line. (57.12-82M) Abated December 4, 1975.

Notice No. 17, SIM Rule No. 71-1(2c): The blasting line in 26 raise development shall be well separated from the powerline. (57.6-122M) Abated December 4, 1975.

Notice No. 18, SIM Rule No. 71-1(2c): The blasting line in 24 room 14 entry shall be well supported. (57.6-122M) Abated December 4, 1975.

Notice No. 19, SIM Rule No. 71-1(2c): The first cross-cut to the right in 9 room haulage shall be posted against entry. (57.5-28M) Abated December 4, 1975.

Notice No. 20, Section 63-28-5, NMSA: The 24 room grizzly shall be provided with safety hand line. Abated December 4, 1975.

Notice No. 21, SIM Rule No. 75-3(2a): The air tugger in the M & E station shall be provided with noise control device. (57.5-50M) Abated December 4, 1975.

Notice No. 22, SIM Rule No. 71-2(2c): The high pressure air hose for drill machine in 40 room 13 entry shall be provided with safety chain. (57.13-21M) Abated December 4, 1975.

Notice No. 23, SIM Rule No. 71-2(2c): The high pressure air hose for impact wrench in 40 room 13 entry shall be provided with safety chain. (57.13-21M) Abated December 4, 1975.

Notice No. 24, SIM Rule No. 71-2(2c): The high pressure air hose for drill machine in 24 room 14 entry shall be provided with safety chain. (57.13-21M) Abated December 4, 1975.

Notice No. 25, SIM Rule No. 71-1(2c): The 40 room 20 entry drift shall be posted against entry. (57.5-28M) Abated December 4, 1975.

Notice No. 26, Section 63-25-5, NMSA: The powder storage area in 40 room 13 entry shall be kept free of tools and materials. (57.6-5M) Abated December 4, 1975.

Notice No. 27, Section 63-25-5, NMSA: The primer storage area in 40 room 13 entry shall be kept free of tools and materials. (57.6-5M) Abated December 4, 1975.

Notice No. 28, Section 63-25-5, NMSA: The powder box area in 26 raise development shall be kept free of tools and supplies. (57.6-5M) Abated December 4, 1975.

Notice No. 29, SIM Rule No. 74-1(2c): The powder box in 40 room 13 entry shall be posted with suitable warning signs. (57.6-159M) Abated December 4, 1975.

Notice No. 30, SIM Rule No. 74-1(2c): The primer box in 40 room 13 entry shall be posted with suitable warning signs. (57.6-159M) Abated December 4, 1975.

Notice No. 31, SIM Rule No. 74-1(2c): The powder box in 40 room 20 entry shall be posted with suitable warning signs. (57.6-159M) Abated December 4, 1975.

Notice No. 32, SIM Rule No. 74-1(2c): The powder box in 26 raise development shall be provided with suitable warning signs. (57.6-159M) Abated December 4, 1975.

Notice No. 33, SIM Rule No. 71-1(2c): The compressed gas cylinder in the maintenance shop shall be secured in a safe manner. (57.16-5M) Abated December 4, 1975.

Notice No. 34, SIM Rule No. 71-1(2c): The oil storage area in the station supply room shall be provided with proper warning signs against open flames. (57.4-2M) Abated December 4, 1975.

Notice No. 35, SIM Rule No. 71-1(2c): The oil storage area in 24 room 25 cross-cut shall be provided with adequate warning signs. (57.4-2M) Abated December 4, 1975.

Notice No. 36, SIM Rule No. 71-1(2c): The oil storage area in 40 room supply area shall be provided with warning signs. (57.4-2M) Abated December 4, 1975.

Notice No. 37, SIM Rule No. 71-1(2c): A specific escape and evacuation plans shall be established and kept current. (57.4-50M) Abated December 4, 1975.

Notice No. 38, Section 63-28-1, NMSA: The 40 room 9 entry haulage shall be supported with timber when the width of the drift is more than fifteen (15) feet and wire mesh when the ground is not well consolidated and the width of the drift is less than fifteen (15) feet. (57.3-20M) Abated December 4, 1975.

Notice No. 39, Section 63-28-1, NMSA: The 24 room area around the 24 eating place need ground support. (57.3-20M) Abated December 4, 1975.

Notice No. 40, Section 63-28-16, NMSA: The intake end of the fan in 40 room 9 entry shall be guarded. (57.14-1M) Abated December 4, 1975.

Notice No. 41, Section 63-28-16, NMSA: The 3 drum slusher in 40 room 17 entry shall be provided with bottom cable guard. (57.14-1M) Abated December 4, 1975.

Notice No. 42, SIM Rule No. 71-1(2c): Radon-daughter concentrations in 40 room lunchroom shall be kept below 1.0 working level. (57.5-39M) Abated December 4, 1975.

Notice No. 43, SIM Rule No. 71-1(2c): Radon-daughter concentrations in 40 room 14 entry haulage shall be kept under 1.0 working level. (57.5-39M) Abated December 4, 1975.

Notice No. 44, Rules Governing Diesel Equipment in Underground Mines for the State of New Mexico, Rule No. 4(b): The 400 room 13 entry drill position and haulage was not provided with enough quantity of air for use of diesel equipment. Abated December 4, 1975.

Notice No. 45, Rules Governing Diesel Equipment in Underground Mines for the State of New Mexico, Rule No. 4(b): The 40 room 20 entry working place was not provided with enough quantity of air for use of diesel equipment. Abated December 4, 1975.

Notice No. 46, Rules Governing Diesel Equipment in Underground Mines for the State of New Mexico, Rule No. 4(b): The 40 room Dosco development was not provided with enough quantity of air for use of diesel equipment. Abated December 4, 1975.

Notice No. 47, Rules Governing Diesel Equipment in Underground Mines for the State of New Mexico, Rule No. 4(b): The 40 room 18-B entry working place was not provided with enough quantity of air for use of diesel equipment. Abated December 4, 1975.

Notice No. 48, Rules Governing Diesel Equipment in Underground Mines for the State of New Mexico, Rule No. 4(b): The 40 room 14 entry working place was not provided with enough quantity of air for use of diesel equipment. Abated December 4, 1975.


The above Cease Work Orders and notices were discussed with Mr. Jack Farley and during the inspection with Messrs. John Visarraga and Roger Siegman.

ACKNOWLEDGEMENT

The courtesy and cooperation of Messrs. John Visarraga, Roger Siegman, staff and personnel of the Sandstone Mine during this inspection are hereby gratefully acknowledged.

Inspected and Reported by:
L. A. Quirones
Dust and Mine Gas Engineer
Deputy Inspector of Mines

jmz

Approved: 
JOE D. LONGACRE, SR.
State Inspector of Mines