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Attached

☐ Appendix A☐ Appendix B☐ Appendix C☐ Memo5-341-3000Licensee contact: G. DietzTelephone no. 201-887-4700License no. 29-15364-01Last amendment and date: Category: E, and Priority: 4, as of last amendment.Inspection date(s): July 27, 1979Type of inspection: Special

SUMMARY OF FINDINGS AND ACTION

☐ No noncompliance, clear 591 issued☒ Noncompliance, Appendix A☐ Action on previous noncompliance, Appendix B☐ Noncompliance, 591 issued☐ Regional action Hq action☐ Supplemental info, Appendix C

RECOMMENDATIONS

See basis in Appendix C or attached memo.

☐ Change Category to: ☐ Change Priority to: ☐ Next inspection date:

PERSONS CONTACTED

G. Dietz, PresidentC. Ronk, General ManagerInspector: J. Glenn / M. Campbell7/28/79Approved:

Plan approved: _____ Date: _____

Licensee: _____

License no: _____

Inspection Items	Scheduled for inspection	Post-inspection status	Module no.	755 Time Info
Management meeting - Entrance and Exit Interviews [REQUIRED]	✓	Done	307038	
Initial Management Meeting				
Program requirements, MC 28 <u>50</u> [REQUIRED]	✓	Done	777108	3.0
Licensee Event Followup			927008	
Followup on Inspector-identified problems			927018	
Followup on Noncompliance and Deviations			927028	
IE Bulletin/Immediate Action Letter Followup			927038	
Followup on Headquarters Requests			927048	
Followup on Regional Requests			927058	
Independent Inspection Effort [REQUIRED]	✓	Done	927068	3.0
Inspector Dispatched to Site			937008	
Followup on Significant Event Occurring During Inspection			937018	

1. Persons Contacted:

- * Charles Rock, Isomedix
- * George Dietz, President, Isomedix
- Bob Toutaint, Chem-Nuclear, Health Physicist
- Greg Garlock, Chem-Nuclear, Health Physicist
- * at exit

2. Decontamination Activities

Isomedix plans to vacate the section of their present building housing Cells 1 & 2 and the adjacent storage pool. All sources were pulled from the storage pool after leakage was detected from one or more cobalt-60 pencils in 1976. All Sr-90, Cs-137, and Cobalt sources have been transferred to shipping casks. The Sr-90 and Cs-137 have been shipped while the Co-60 is being held in-house until the cask is approved. The cells have been decontaminated but will be cleaned and resurveyed prior to request for release.

Licenses representatives stated that Cobalt-60 contamination in the pool has imbedded in the first inch of the concrete walls of the pool. Isomedix has begun chipping the walls to remove the contamination.

3. Exposures

Radiation levels at the bottom of the pool were stated to have exceeded 1 Rem per hour when the pool was first drained. Exposures of 500 to 800 mrem were noted for individuals during the third week of July when the bottom was initially decontaminated. Individuals are assigned pocket dosimeters and film badges and doses are recorded daily. Two Isomedix employees had exposures in excess of 1250 mrem per quarter. Completed NRC-4 forms were on file and reviewed by the inspectors. An individual who received 2300 mrem the 2nd quarter had signed his form on May 9, 1977 prior to beginning

decontamination work.

Doses are being controlled on the basis of pocket chamber data. Good agreement between pocket chambers and film badges - had been noted as of the last film badge report.

4. Airborne Concentrations

Grab samples are taken daily at various locations during the work day. Early samples taken during hot cell decontamination indicated levels upto 10 times MPCa. During these periods, respirators were worn and times of exposure were limited. Currently levels in the pool area while working have been measured at 0.1 to 0.5 of MPCa after decay of naturally occurring radon daughters. Supplied air hoods are being worn but protection factors have not been applied since the 10CFR 20, 103 program for respirators has not been established. An air sample taken during pool chipping on 7/27/77 showed 1.5×10^{-9} $\mu\text{Ci/ml}$ or 17% of MPCa for insoluble Co-60.

Isomedix had not established a bioassay program as of July 27, 1979. During discussions at the close of the inspection Isomedix representatives agreed to establish a bioassay program to demonstrate compliance with 10CFR 20.103. This is considered an unresolved item.

5. Contamination Control

The inspectors observed that a tent had been erected over the pool air to contain airborne contamination. A control perimeter had been established and persons entering the area were required to wear protective clothing. A step-off zone had been established for removal of protective clothing. A remote check point in a low radiation area had been established. Representatives stated that employees were required to check for contamination when leaving the controlled area. Employees were observed to check for contamination during the inspection.

Wipes of the area are taken at least daily and recorded. ~~the~~ Records indicate that contamination is being restricted to the controlled area. Independent measurements by the inspectors on July 27 were in agreement with the licensee's findings. Levels as high as 20,000 dpm per 300 cm^2 were identified in the protective clothing area. Levels outside the controlled area were less than 100 dpm / 300 cm^2 . (See Appendix A.

The inspectors noted that smoking and drinking of soft beverages was being permitted inside the check point but outside the protective clothing area. Licensee representatives stated that employees always checked themselves for contamination before smoking or drinking beverages. However, the area behind the check point is considered to be potentially contaminated. This is considered to be a deviation.

6. Unrestricted Areas

The inspectors measured radiation levels in the unrestricted areas surrounding the facility. Along the outside wall of the area where waste and a cobalt-60 cask were being stored, the inspectors measured levels in excess of 2mR/hr.

The licensee representatives stated that their own surveys showed levels in excess of 2mR/hr. They had concluded that the ~~low~~ low occupancy of the area would make such levels permissible.

This finding represents noncompliance with the requirements of 10CFR 20.105b.

Appendix A

Independent Measurements

I. Air Sample in tent during chipping

Elapsed Time 15 min

Flow 4.8 liters/min

Activity $1.08 \times 10^{-4} \mu\text{Ci}$

Concentration $1.5 \times 10^{-9} \mu\text{Ci/ml}$

II. Waste tank water and sludge

Volume 200 ml

Activity $1.12 \times 10^{-2} \mu\text{Ci}$

Concentration $5.6 \times 10^{-5} \mu\text{Ci/ml}$

III Wipes (opr 300 cm^2)

1. Tent Area	23,900 dpm
2. Edge of Control Zone	19,500 dpm
3. Waste Storage Area	739 dpm
4. Entry From plant to RA	95 dpm
5. H.P. records area	45 dpm
6. Clothing Change Area	104 dpm
7. Path to Check Point	63 dpm
8. Step off area	68 dpm