

APPENDIX A  
INDUSTRIAL/ACADEMIC/RESEARCH INSPECTION FIELD NOTES

Region II

Inspection Report No. 97  
98-01

License No. 47-00260-02

Licensee (Name & Address):

Docket No. 030-06652

Union Carbide Corporation  
TECHNICAL CENTER  
BLDG 740 PO BOX 8361  
SOUTH CHARLESTON WV 25303

Licensee Contact Michael Green

Telephone No. 304 747-5314

Amendments Issued Since Last Inspection: (Numbers) 45

Dates of Above Amendments: 8-31-95 Renewal

Priority: 2  
Program Code 3610

Date of Last Inspection 7-16-90 OMS 7-28-92 clear  
Date of This Inspection 10-16-97 7-16-90 clear

Type of Inspection: ( ) Announced ( ) Unannounced  
( ) Routine ( ) Special  
( ) Initial ( ) Reinspection

Next Inspection Date October 1999 (X) Normal ( ) Reduced ( ) Extended

Justification for change in normal inspection frequency:

*Meets  
extension  
criteria  
per  
MC2800*

Summary of Findings and Action:

- (X) No violations cited. Clear NRC Form 591 or regional letter issued
- ( ) Violation(s). NRC Form 591 issued
- ( ) Violation(s). regional letter issued
- ( ) Followup on previous violations

Inspector: Oxygen Masryk Bailey  
(Signature)

Date 10-16-97

Approved: [Signature]  
(Signature)

Date 11/24/97

Issue Date: XX/XX/XX

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87110. Appendix A

A-120

*Field notes are to be used by the inspector to assist with the performance of the inspection. Note that all areas indicated in the field notes are not required to be addressed during each inspection. However, for those areas not covered during the inspection, a notation ("Not Reviewed") should be made in each section where applicable. Additionally, all areas covered during the inspection should be documented in sufficient detail to describe what activities and/or records the inspector observed. For example, the types of records that were reviewed and the time periods covered by those records should be noted. If the licensee demonstrates any practices at your request, describe those demonstrations. The observations and demonstrations you describe in this report, along with measurements and some records review, should substantiate your inspection findings.*

NOTE: For inspections of radioactive drug distributors, ensure that all applicable sections (regarding 10 CFR Part 32) of the radiopharmacy field notes are completed.

1. INSPECTION, LICENSING, AND INCIDENT HISTORY

A. Violations were identified during any of the last two inspections or two years, whichever is longer. (N/A = Initial insp.)      ( ) N/A ( ) Y (  ) N

B. Response letter(s) or 591(s) dated \_\_\_\_\_

C. Violations from previous inspection(s):

<u>REQUIREMENT CITED</u>	<u>STATUS</u>

D. Any repeat violation(s) identified?      ( ) Y ( ) N  
 If "Yes," explain:

E. License amendments issued since last inspection, or program changes noted in the license:

<u>AMENDMENT #</u>	<u>DATE</u>	<u>SUBJECT</u>
45	8-31-95	Renewal

*program deal  
not change*

F. During this inspection, was the licensee's implementation of all of the above amendments or program changes inspected/observed?  N/A  Y  N

G. During this inspection, were any violations identified involving any of the above amendments or program changes?  N/A  Y  N

H. List any incidents or events reported to NRC since the last inspection (Note: "None" indicates that regional event logs, event files, and the licensing file have no evidence of any incidents or events since the last inspection):  None

INCIDENT OR EVENT

I. During this inspection, were the incidents/events reviewed with the licensee, and was the licensee's follow-up to the incidents/events examined?  N/A  Y  N

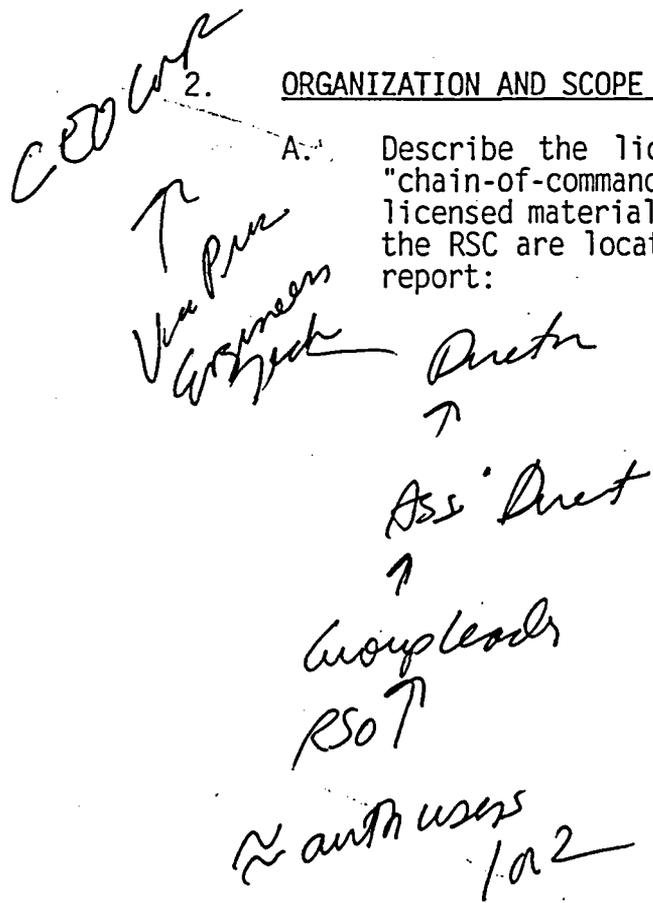
J. Describe the licensee's follow-up in response to the events/incidents listed in 1.H.:

N/A

Comments:

2. ORGANIZATION AND SCOPE OF PROGRAM

A. Describe the licensee's organizational structure to indicate the "chain-of-command" from senior management to authorized users of licensed material. Show or describe where the RSO and Chairperson of the RSC are located in the licensee's organization and to whom they report:



B. Identify licensee personnel contacted during the inspection (including those individuals contacted by telephone).

- # ★ Jay H Brubaker Principal Eng
- # ★ Dale Chapman Electronic Tech
- # ★ Manhar Patel - Ste Ind Hggs

*KSO not available  
Chapman acting KSO  
Brubaker - previous KSO*

*Other licensee locations  
with Matt Avenue 1/31/97  
Passes material,  
Taj Chaves,  
Burg Electronics  
file equipment documentation*

(Use the following identification symbols:)

- # Individuals present at entrance meeting
- \* Individuals present at exit meeting
- + Individuals contacted by telephone

Authorized for multiple locations of use  
If yes, may use ATTACHMENT A as a guide  
for inspecting laboratories.

Y  N

D. Authorized for multiple permanent field office locations

- (1) Inspection performed at multiple field offices
- (2) If "Yes," list office locations inspected:

Y  N  
 Y  N

*no fop job sts at This time  
inspection at other locs  
few days*

*to examine in piece equip  
Taj factory*

E. Authorized for temporary job site locations

- (1) Inspection performed at temporary job site(s)
- (2) If not, describe why not:

Y  N  
 Y  N

*none at this time*

*Source at Tpt.*

license not all in of sources - monitor none

26. 1 gauge in place no use if unsealed not at this time

F. Briefly describe scope of activities, including types and quantities of use involving licensed material, frequency of use, staff size, etc.

prim: Cs137 - people piping gamma emitters  
Am241 Be - test equip sort of radiograph  
locate carbon dioxide in reaching shell tube reactors  
heat exchangers  
medical reactors  
chemical reactors  
leaks in tanks  
plutonium

source & detector

H3/C14 -> KPO not used

3. MANAGEMENT OVERSIGHT

- A. Radiation Safety Committee (RSC) required [L/C]<sup>1</sup>
  - (1) RSC fulfills license requirements [L/C]  Y  N
  - (2) Records maintained [L/C]  Y  N
- B. Radiation Safety Officer (RSO)
  - (1) Authorized on license [L/C]  Y  N
  - (2) Fulfills duties as RSO  Y  N
- C. Audits, Reviews, or Inspections
  - (1) Audits are required [L/C]  Y  N
  - (2) Audits or inspections are conducted  Y  N
  - Audits conducted by \_\_\_\_\_
  - Frequency \_\_\_\_\_
  - (3) Content and implementation of the radiation protection program reviewed annually by the licensee [20.1101(c)]<sup>2</sup>  Y  N
  - (4) Records maintained [20.2102]  Y  N
- D. Use by authorized individuals [L/C]  Y  N
- E. If supervision permitted by the license or by regs, authorized users supervise adequately [L/C]  Y  N

- Mahumud  
- Kabeer  
- Park  
- Singh

done during RSC at least once

<sup>1</sup> Here and throughout the field notes, "L/C" means "license condition."

<sup>2</sup> Here and throughout the field notes, sections of 10 CFR are referenced only by their section numbers.



6. MATERIALS RECEIPT, USE, TRANSFER, AND CONTROL

- A. Isotope, chemical form, quantity, and use, as authorized [L/C]  Y ( ) N
- B. Licensed materials secured to prevent unauthorized removal or access [20.1801-1802]  Y ( ) N
  - (1) Licensed material in storage in controlled or unrestricted areas is secured from unauthorized removal or access [20.1801]  Y ( ) N
  - (2) Licensed material in controlled or unrestricted areas and not in storage is controlled and under constant surveillance [20.1802]  Y ( ) N
  - (3) Access to restricted areas is limited [20.1003]  Y ( ) N
- C. Describe how packages are received and by whom: ( ) N/A  
*material usually purchased at other sites for permanent installation  
 no receipts past couple years at this facility*
- D. Written package opening procedures established and followed [20.1906(e)] ( ) Y ( ) ~~N/A~~
- E. All incoming packages with DOT labels wiped, unless exempted (gases and special form) [20.1906(b)(1)] ( ) Y ( ) ~~N/A~~
- F. Incoming packages surveyed [20.1906(b)(2)] ( ) Y ( ) ~~N/A~~
- G. Monitoring in (E) and (F) above, performed within time specified [20.1906(c)] ( ) Y ( ) ~~N/A~~
- H. Transfer(s) between licensees performed [30.41] ( ) Y ( ) ~~N/A~~
- I. All sources surveyed before shipment and transfer [20.1501(a), L/C] ( ) Y ( ) ~~N/A~~
- J. Records of surveys and receipt/transfer maintained [20.2103(a), 30.51] ( ) Y ( ) ~~N/A~~
- K. Transfers among licensee's authorized users or locations performed as required [L/C] ( ) N/A ( ) Y ( ) N
- L. Arrangements made for packages containing quantities of radioactive material in excess of Type A quantity [20.1906(a)] ( ) N/A ( ) Y ( ) N
- M. Package receipt/distribution activities evaluated for compliance with 20.1301 [20.1302] ( ) N/A ( ) Y ( ) N

*packages no receive in*

Basis for Findings:

*possibly could be done if take a source to site, but in practice some are maintained at sites + electronic gear is not*

*yes by procedures not by practice*

*by discuss + procedure not by practice*

7. TRAINING, RETRAINING, AND INSTRUCTIONS TO WORKERS

- A. Instructions to workers/students [10 CFR 19.12]  Y  N  
 B. Training program required [L/C]  Y  N

(1) If so, briefly describe training program:

*40 hr course  
 3 day course  
 Jesh  
~~sub~~ ~~sub~~  
 11 day  
 Jesh  
 Jesh*

- (2) Training program implemented  Y  N  
 (3) Periodic training program required *X3yrs*  Y  N  
 (4) Periodic training program implemented  Y  N  
 (5) Records maintained  Y  N

C. Individual's understanding of procedures and regulations is adequate  Y  N

- (1) Current operating procedures  Y  N  
 (2) Emergency procedures  Y  N  
 (3) Use of survey instrumentation  Y  N

D. Revised Part 20  
 Workers cognizant of requirements for:

- (1) Radiation safety program [20.1101]  Y  N  
 (2) Annual dose limits [20.1301-1302]  Y  N  
 (3) New NRC Forms 4 and 5  N/A  Y  N  
 (4) 10% monitoring threshold [20.1502]  Y  N  
 (5) Dose limits to embryo/fetus and declared pregnant worker [20.1208]  Y  N  
 (6) Grave danger posting [20.1902]  N/A  Y  N  
 (7) Procedures for opening packages [20.1906]  N/A  Y  N  
 (8) Sewer disposal limits [20.2003]  N/A  Y  N

Basis for Findings:

8. AREA RADIATION SURVEYS AND CONTAMINATION CONTROL

A. Briefly describe area survey requirements [20.1501(a), L/C]:

*Doing test / strip if materials - monitor  
 limits exp -  
 Wgts > 50g  
 area + P. new*

- B. Performed as required [20.1501(a), L/C]  Y  N
- (1) Contamination found *mrem*  Y  N
- (2) Corrective action taken and documented  Y  N
- C. Records maintained [20.2103, L/C]  Y  N
- D. Handling and use of radioactive materials [L/C]
- (1) Protective clothing worn  Y  N
- (2) Personnel routinely monitor or frisk themselves after procedures or before leaving  Y  N
- (3) No eating/drinking/smoking in use/storage areas  Y  N
- (4) No food, drink, or personal effects stored in use/storage areas  Y  N
- (5) Proper dosimetry worn  Y  N
- (6) Radioactive waste disposed in proper containers  Y  N
- (7) No pipetting by mouth  Y  N
- (8) Use of shielding/distance while using/storing material  Y  N

Basis for Findings:

- E. Protection of members of the public
- (1) Licensee made adequate surveys to demonstrate either: (1) that the TEDE to the individual likely to receive the highest dose does not exceed 100 mrem in a year; or (2) that if an individual were continuously present in an unrestricted area, the external dose would not exceed 2 mrem in any hour and 50 mrem in a year [20.1301(a)(1), 1302(b)]  Y  N
- (2) Unrestricted area radiation levels do not exceed 2 mrem in any one hour [20.1301(a)(2)]  Y  N
- (3) Records maintained [20.2103, 20.2107]  Y  N

- F. Leak tests and Inventories [L/C]
- (1) Performed as required  N/A  Y  N
- (2) Adequate analysis methodology and sensitivity  N/A  Y  N
- (3) Records maintained [L/C]  Y  N

Basis for Findings: *records*

*July 27  
Jan*

*7/22/94  
7/23/94  
mrem  
7/28/97  
7/31/97*

9: RADIATION PROTECTION

- A. Licensee performed exposure evaluation [20.1501]  Y  N
- B. Licensee incorporated ALARA considerations in the radiation protection program [20.1101(b)]  Y  N
- C. External Dosimetry  N/A
- (1) Licensee monitors workers [20.1502(a), L/C]  Y  N
- (2) External exposures account for contributions from airborne activity [20.1203]  N/A  Y  N
- (3) Processor Jordan Frequency monthly
- (4) Processor is NVLAP-approved [20.1501(c)]  Y  N
- (5) Dosimeters exchanged at required frequency [L/C]  Y  N
- D. Internal Dosimetry  N/A
- (1) Licensee monitors workers [20.1502(b), L/C]  Y  N
- (2) Briefly describe licensee's program for monitoring and controlling internal exposures [20.1701-1702, L/C]:
- (3) Air sampling performed  Y  N
- (4) Monitoring/controlling program implemented  Y  N
- (5) Respiratory protection equipment [20.1703, L/C]  Y  N
- E. Reports  N/A
- (1) Reviewed by KSO Frequency MM
- (2) Inspector reviewed personnel monitoring records for period October 95 to July 97
- (3) Prior dose determined for individuals likely to receive doses [20.2104]  Y  N
- (4) Maximum exposures TEDE \_\_\_\_\_ Other \_\_\_\_\_
- (5) Maximum CDEs \_\_\_\_\_ Organs \_\_\_\_\_
- (6) Maximum CEDE \_\_\_\_\_
- (7) Licensee sums internal and external [20.1202]  Y  N
- (8) TEDEs and TODEs within limits [20.1201]  Y  N

1/96  
1/96  
4/96  
8/96  
10/96

4/97 fax 40

7/97  
M  
annual 1/1/96-  
all 0 12/31/96

some dose on form for fluency

no response

(9) NRC Forms or equivalent [20.2104(d), 2106(c)]

(a) NRC Form 4  Y  N Complete:  Y  N  
(b) NRC Form 5  Y  N Complete:  Y  N

(10) Worker declared her pregnancy in writing during inspection period (review records)  N/A  Y  N

If "yes," licensee in compliance with dose to embryo/fetus [20.1208]  Y  N  
and records maintained [20.2106(e)]  Y  N

F. Who performed PSEs at this facility (number of people involved and doses received)? [20.1206, 20.2104-2105, 20.2204]  N/A

G. Records of exposures, surveys, monitoring, and evaluations maintained [20.2102-2103, 20.2106, L/C]  Y  N

H. Licensee advises each worker annually of worker's dose [19.13(b)]  Y  N

Basis for Findings:

10. RADIOACTIVE WASTE MANAGEMENT

*not currently*

A. Disposal  N/A

(1) Decay-in-storage  N/A

(a) Procedures approved [20.2001(a)(2), L/C]  Y  N  
(b) In accordance with [L/C]  Y  N  
(c) Labels removed or defaced [20.1904(b)]  Y  N

(2) Special procedures performed as required [L/C]  Y  N

(3) Liquid scintillation (LS) media and animal carcasses [20.2005]  N/A  Y  N

(4) Improper/unauthorized disposals [20.2001]  Y  N

(5) Records maintained [20.2103(a), 20.2108, L/C]  Y  N

B. Effluents

( ) N/A

- (1) Release into sanitary sewer [20.2003] ( ) N/A ( ) Y ( ) N
  - (a) Material is readily soluble or readily dispersible [20.2003(a)(1)] ( ) Y ( ) N
  - (b) Monthly average release concentrations do not exceed Appendix B values [20.2003] ( ) Y ( ) N
  - (c) No more than 5 Ci of H-3, 1 Ci of C-14, and 1 Ci of all other radionuclides combined released in a year [20.2003] ( ) Y ( ) N
  - (d) Procedures to ensure representative sampling and analysis properly implemented [20.1501(a)(2), L/C] ( ) Y ( ) N
- (2) Release to septic tanks [20.2003] ( ) N/A ( ) Y ( ) N
  - (a) Within unrestricted limits [App B, Table 2] ( ) Y ( ) N
- (3) Waste incinerated ( ) N/A ( ) Y ( ) N
  - (a) License authorizes [20.2004(a)(3)] ( ) Y ( ) N
  - (b) Licensee directly monitors exhaust ( ) Y ( ) N
  - (c) Airborne releases evaluated and controlled [20.1501, 20.1701] ( ) Y ( ) N
- (4) Control of effluents and ashes [20.1201, 20.1301, 20.1501, 20.2001, L/C] ( ) Y ( ) N  
 {See also IP 87102, PG 8.37}

(a) Compliance with air emissions requirements in Part 20:

Licensee has demonstrated compliance with air emission requirements in Part 20 ( ) Y ( ) N

Basis for compliance determination (check one or more; provide basis below)

- (i) Measured concentrations of radionuclides in air effluents are below Appendix B, Table 2 concentrations (and external dose < 50 mrem/yr)
- (ii) Bounding calculations show that air effluents could not exceed Appendix B, Table 2 concentrations (and external dose < 50 mrem/yr)
- (iii) Dose modeling shows that dose equivalent to the individual likely to receive the highest dose does not exceed 10 mrem/yr
- (iv) Licensee does not possess sufficient radioactive material to exceed Part 20 requirements

Basis for Determination: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(b) Description of effluent monitoring program

- (i) Monitoring-system hardware equipment adequate ( ) Y ( ) N
  - (ii) Equipment calibrated as appropriate ( ) Y ( ) N
  - (iii) Air samples/sampling technique (charcoal, HEPA, etc.) analyzed with appropriate equipment ( ) Y ( ) N
- (5) EPA referral form for air effluents sent to appropriate EPA regional office per IP 87102 ( ) N/A ( ) Y ( ) N

Basis for Findings:

C. Waste Management

- (1) Waste compacted [L/C] ( ) Y ( ) ~~N~~  N/A
- (2) Storage area(s) ( ) N/A
  - (a) Protection from elements and fire [L/C] ( ) Y ( ) N
  - (b) Control of waste maintained [20.1801] ( ) Y ( ) N
  - (c) Containers properly labeled and area properly posted [20.1902, 20.1904] ( ) Y ( ) N
  - (d) Package integrity maintained [L/C] ( ) Y ( ) N

*Return to Source for Ambr*

- (3) Packaging, Control and Tracking  
 [Part 20, App. F.III.] [20.2006(d)]:  
 Note: The licensee's waste is likely to be Class A.
- (a) Not packaged for disposal in cardboard or fiberboard boxes [61.56(a)]  Y  N
  - (b) Liquid wastes solidified, (i.e., less than 1% freestanding liquid) and void spaces minimized [61.56(a), (b)]  Y  N
  - (c) Does not generate harmful vapors [61.56]  Y  N
  - (d) Structurally stable (will maintain its physical dimensions and form under expected disposal conditions) [61.56(b)]  Y  N
  - (e) Packages properly labeled [App. F.III.A.2]  Y  N
  - (f) Licensee conducts a QC program to ensure compliance with [61.55-56] and includes management evaluation of audits [App. F.III.A.3]  Y  N
  - (g) Shipments not acknowledged within 20 days after transfer are investigated and reported [App. F.III.A.8]  N/A  Y  N
- (4) Transfers to land disposal facilities  N/A
- (a) Transferred to person specifically licensed to receive waste [30.41, 20.2001(b)]  Y  N
  - (b) Each shipment accompanied by a manifest prepared as specified in Section I of Appendix F [20.2006(b), App. F.III.A.4]  Y  N
  - (c) Manifests certified as specified in Section II of Appendix F [20.2006(c)]  Y  N
- D. Records of surveys and material accountability are maintained [20.2103, 2108]  Y  N

Basis for Findings:

11. RECORDKEEPING FOR DECOMMISSIONING

*RSO  
not  
available  
for detailed  
questions*

- A. Records of information important to the safe and effective decommissioning of the facility maintained in an independent and identifiable location until license termination.  Y  N
- B. Records include all required information [30.35(g)]  Y  N
  - (1) List of restricted areas [30.35(g)(3)] indicates that laboratories or other rooms have been released since the last inspection  Y  N
  - (2) Confirmatory measurements show that each room is within release limits, and licensee records adequately document the basis for releasing each room  Y  N
- C. Copies of the licensee's decommissioning cost estimates and funding methods on file  Y  N
- D. If the licensee uses a parent company guarantee or a self-guarantee as funding method, does the file contain a copy of the financial test performed for the licensee's most recently completed fiscal year?  N/A  Y  N
- E. If "Yes" to D., do the financial test ratios meet the criteria in 10 CFR Part 30, Appendix A, Section II for parent company guarantees and Appendix C, Section II for self guarantees?  Y  N
- F. Date that licensee's financial assurance instrument was submitted to NRC, if applicable: \_\_\_\_\_  N/A
- G. Date that licensee's decommissioning plan was submitted to NRC, if applicable: \_\_\_\_\_  N/A
- H. Have radiological conditions at the licensee's facility changed since the financial assurance mechanism and/or decommissioning plan was submitted due to:
  - (1) Incidents or events?  N/A  Y  N
  - (2) Unplanned process upsets or changes?  N/A  Y  N
  - (3) Unauthorized material, form, or possession limit changes?  N/A  Y  N
  - (4) Any other changes?  N/A  Y  N

If "Yes" to any of the above (1)-(4), notify regional management.

Basis for Findings (include comments and measurements on any areas the licensee released for unrestricted use):

12. COMPLIANCE WITH DECOMMISSIONING TIMELINESS RULE

- A. License to conduct a *principle activity* has expired or been revoked ( ) Y ( ) N
- B. Licensee has made a decision to permanently cease *principal activities*, at the entire site, or any separate buildings, or any outdoor areas, including inactive burial grounds ( ) Y ( ) N
- C. A 24-month duration has passed in which no *principal activities*, have been conducted under the license at the site, or at any separate buildings, or any outdoor areas, including inactive burial grounds ( ) Y ( ) N
- D. If "Yes" to either A or B or C:  
(1) Identify Site/Bldg/Area: \_\_\_\_\_  
(2) Date of occurrence of A, B, or C: \_\_\_\_\_

NOTE: If "No" to A and B and C, decommissioning timeliness rule does not apply. If "Yes" to either A or B or C, then complete Attachment B, "Decommissioning Timeliness Field Notes," for this licensee.

Basis for Findings:

13. TRANSPORTATION (10 CFR 71.5(a) and 49 CFR 170-189) ( ) N/A

- A. Licensee Transports: [complete sections (1) - (4), as applicable]
- (1) Limited Quantities, and/or Instruments and Manufactured Articles: (Radioactive Material, excepted package, [additional info], 7. UN 2910) ( ) N/A
- (a) Package meets general design requirements [173.410] ( ) Y ( ) N
- (b) Radiation level  $\leq 0.005$  mSv/hr (0.5 mrem/hr) (Exclusive use instruments and articles, 2 mrem/hr) ( ) Y ( ) N
- (c) Contamination less than 173.443 limits, QC examination/test performed prior to each shipment [173.475(I)] ( ) Y ( ) N
- (d) Limited Quantity Package marked "Radioactive" [173.421(a)(4)] ( ) Y ( ) N
- (e) 173.422 certification statement attached/enclosed ("This package conforms to the conditions and limitations specified in...") ( ) Y ( ) N

- (2) Type A Quantities (Radioactive Material, nos. 7, UN 2982) ( ) N/A
- (a) Packaging:
- (i) Packaging is proper for contents (i.e., DOT 7A), is unimpaired, and is prepared correctly [173.475(a)-(f)] ( ) Y ( ) N
  - (ii) All packages meet general design requirements [173.410] ( ) Y ( ) N
  - (iii) DOT 7A Package meets additional Type A design requirements [173.412, 178.350] ( ) Y ( ) N
- (b) Recordkeeping:
- (i) Special Form source records [173.476(a)] ( ) Y ( ) N
  - (ii) DOT 7A performance/design documentation [173.415(a)] ( ) Y ( ) N
- (c) Hazards communications requirements (consult the "NRC field reference charts" that correspond to elements (i) through (v), below):
- (i) Shipping Papers [172.200-205] ( ) Y ( ) N
  - (ii) Marking Packages [172.300-338] ( ) Y ( ) N
  - (iii) Labeling Packages [172.400-450] ( ) Y ( ) N
  - (iv) Placarding Vehicles [172.500-560] ( ) Y ( ) N
  - (v) Emergency Response information and guidance [172.600-604] ( ) Y ( ) N
- (d) Radiation level/Contamination limits [173.441, 173.443]
- (i) Package levels within limits ( ) Y ( ) N
  - (ii) QC examination/test performed prior to each shipment [173.475(I)] ( ) Y ( ) N
- (3) Type B Quantities (Radioactive Material, nos. 7, UN 2982) ( ) N/A
- (a) Packaging is proper for contents (i.e., Type B), is unimpaired, and is prepared correctly [173.475(a)-(f)] ( ) Y ( ) N
- (b) Inspector must complete Section 2 of NRC Inspection Procedure (IP) 86740
- (c) Sections 2.c. and 2.d., shown in the previous section for Type A Quantities, also apply. Complete those sections.

(4) LSA Material and SCO (Radioactive Material, LSA, nos. 7, UN 2912) or (Radioactive Material, SCO, nos. 7, UN 2913) ( ) N/A

- (a) If licensee makes significant LSA/SCO shipments, inspector should complete Inspection Requirement 03.02 of Temporary Instruction (TI) 2515/133 (issued 3/15/96)
- (b) Otherwise, if licensee has a minor LSA/SCO program:

- (i) Licensee properly characterizing material as LSA/SCO [173.403] ( ) Y ( ) N
- (ii) All packages meet general design requirements [173.410] ( ) Y ( ) N
- (iii) Proper LSA/SCO packaging selected and used [173.475, 173.427] ( ) Y ( ) N
- (iv) Placarding exclusive use vehicles, marking package "Radioactive-LSA" or "Radioactive-SCO," as appropriate [173.427(a)(6)] ( ) Y ( ) N
- (v) Shipping Papers [172.200-205] (see "NRC field reference chart" for content and exceptions) ( ) Y ( ) N

B. DOT HAZMAT Employee Training Program [49 CFR 172.700-704]:

- (1) Each HAZMAT employee receives training and is tested [172.702] ( ) Y ( ) N
- (2) Recurrent training at least every 2 years [172.704(c)(4)] ( ) Y ( ) N
- (3) HAZMAT employee training includes general awareness, function-specific, and safety training [172.704] ( ) Y ( ) N
- (4) HAZMAT employer recordkeeping includes employee name, completion date, description/copy/location of training materials, name and address of training provider, and certification [172.704(d)] ( ) Y ( ) N

C. Carrier Modal Specific Requirements, Highway Transportation [49 CFR Part 177]: ( ) N/A

- (1) Driver Training, or CDL w/ HAZMAT endorsement [177.800, 177.816] ( ) Y ( ) N
- (2) Incident Reporting to DOT [177.807, see also 177.15 and 171.16] ( ) Y ( ) N
- (3) Shipping Paper Accessibility (on seat or in driver's side door pocket, readily visible) ( ) Y ( ) N
- (4) Placarded Vehicles Routing and Driver Training requirements [177.825 and 49 CFR 397 Subpart D (i.e., the motor carrier regs)] ( ) Y ( ) N
- (5) Sum of total package TIs on non-exclusive use vehicle < 50 [177.842(a)] ( ) Y ( ) N
- (6) Packages blocked/braced for transport [177.842(c)] ( ) Y ( ) N

D. Miscellaneous Requirements

- (1) No labeled packages carried in passenger compartments [173.448(c)]  Y  N
- (2) Overpack requirements observed, if packages are offered in overpack. Overpack marked w/ proper shipping name and number, package and overpack labeled as needed, marked "inner package complies ...." [173.24]  Y  N
- (3) Expanded and changed A1/A2 values from the 4/1/96 rule changes have been implemented [173.435] (verify only once per licensee)  Y  N
- (4) Written instructions included with exclusive use shipments [173.403]  Y  N

Basis for Findings:

13. POSTING AND LABELING

- A. NRC Form 3 "Notice to Workers" is posted [19.11]  Y  N
- B. Parts 19, 20, 21, Section 206 of Energy Reorganization Act, procedures adopted pursuant to Part 21, and license documents are posted or a notice indicating where documents can be examined is posted [19.11, 21.6]  Y  N
- C. Other posting and labeling per 20.1902 and 20.1904, respectively, and the licensee is not exempted by 20.1903 or 20.1905  Y  N

Basis for Findings:

14. GENERIC COMMUNICATION OF INFORMATION

- A. Bulletins, information notices, NMSS Newsletters, etc., received by the licensee
- B. Licensee took appropriate action in response to bulletins, generic letters, etc.

Y  N

Y  N/A

Basis for Findings:

15. NOTIFICATION AND REPORTS

- A. Licensee in compliance with 19.13, 30.50 (reports to individuals, public and occupational, monitored to show compliance with Part 20)  N/A  Y  N
- B. Licensee in compliance with 20.2201, 30.50 (theft or loss)  None  Y  N
- C. Licensee in compliance with 20.2202, 30.50 (incidents)  None  Y  N
- D. Licensee in compliance with 20.2203, 30.50 (overexposures and high radiation levels)  None  Y  N
- E. Licensee aware of NRC Ops Center phone number [(301)-816-5100]  Y  N

Basis for Findings:

16. SPECIAL LICENSE CONDITIONS OR ISSUES

N/A

- A. Special license conditions or issues to be reviewed:
  
- B. Evaluation:

17. OBSERVATIONS/DEMONSTRATIONS OF LICENSED ACTIVITIES

Briefly describe the activities and procedures observed and/or demonstrated during the inspection. For example, if you observed licensee personnel working in radiation areas using licensed material or performing functions associated with radiation safety such as receiving or transporting licensed material; conducting or receiving training; disposing of radioactive waste; conducting surveys; or making measurements, then describe what you saw. If the licensee demonstrated any practices at your request, describe those demonstrations. The observations and demonstrations you describe here, and elsewhere in the "Basis for Findings" sections of this report, along with measurements and some records review, should substantiate your inspection findings.

Describe what activities or procedures were observed and/or demonstrated by the licensee during the inspection:

- reviewed Rad Safety Manual + Procedures
- reviewed records / leak tests, inventory, calibrations
- no work in progress
- observed fixed gauges, alt ASD explained wipe test + shutter test

The following sections should be completed in a narrative format by the inspector to briefly describe the measurements performed by the inspector, inspection findings, and any post-inspection communications with regional staff.

18. NRC INSPECTOR'S MEASUREMENTS

( ) N/A

A. Survey instrument                      Serial No.                      Date of calibration  
*Xetex 305A*                                      *005693*                                      *1-27-97*

B. Inspector performed CONFIRMATORY measurements                      ( ) Y (  ) N  
 C. Inspector performed INDEPENDENT measurements                      (  ) Y ( ) N

D. Briefly describe the types of measurements performed (i.e., exposure rates, wipe tests, soil samples, air flow measurements, etc.), locations where measurements were taken, the results of these measurements (mR/hr, dpm, etc.), and whether inspector's results conflicted with the licensee's measurements. If independent measurements were not made, justify why they were not performed on this inspection:

*- measured at fix gauge - 5-7 mR on contact  
 .1-.2 at 1 meter*  
*- measured storage vault - 0-1 mR at  
 surface outside block*

19. CONTINUATION OF REPORT ITEMS

(  ) N/A

20. VIOLATIONS, NON-CITED VIOLATIONS (NCVs), AND OTHER ISSUES

N/A

NOTE: Briefly state (1) the requirement and (2) how and when the licensee violated the requirement. For non-cited violations (NCVs), indicate why the violation was not cited. Attach copies of all licensee documents needed to support the violation.

21. DEBRIEF WITH REGIONAL STAFF

A. Was inspection feedback provided to regional licensing staff?

Y  N

If "Yes," name of individual on the licensing staff: \_\_\_\_\_

If "Yes," describe issues discussed:

B. Briefly describe post-inspection communications with other regional staff (inspector's supervisor, Agreement State officer, State liaison officer, etc.):

22. PERFORMANCE EVALUATION FACTORS (PEFs)

- A. Lack of senior management involvement with the radiation safety program and/or Radiation Safety Officer (RSO) oversight ( ) Y (  ) N
- B. RSO too busy with other assignments ( ) Y (  ) N
- C. Insufficient staffing ( ) Y (  ) N
- D. Radiation Safety Committee fails to meet or functions inadequately (  ) N/A ( ) Y ( ) N
- E. Inadequate consulting services or inadequate audits conducted (  ) N/A ( ) Y ( ) N

Remarks (consider the above assessment and/or other pertinent PEFs with regard to the licensee's oversight of the radiation safety program):

Regional follow-up on above PEFs citations:

END

Attachments:

- A. "Laboratory Inspection Field Notes"
- B. "Decommissioning Timeliness Inspection Field Notes"

APPENDIX A - ATTACHMENT A  
LABORATORY INSPECTION FIELD NOTES

1. Date \_\_\_\_\_ Authorized User(s) \_\_\_\_\_

2. Location(s) Building \_\_\_\_\_ Room(s) \_\_\_\_\_

3. Person(s) Contacted \_\_\_\_\_

4. Describe scope of lab use (nuclides, form, frequency, purpose, etc):

5. Training

A. Frequency: \_\_\_\_\_ Conducted by: \_\_\_\_\_

B. Individuals interviewed understand safety practices ( ) Y ( ) N

Basis for Findings:

6. Surveys

A. Types of surveys performed (daily, weekly, monthly, etc.)

B. Instrumentation properly calibrated and used ( ) Y ( ) N

C. Efficiency of counting system(s) determined ( ) Y ( ) N

D. Hood airflow adequate and checked as required ( ) N/A ( ) Y ( ) N

E. Records maintained: trigger levels established, area diagram, instrument used, individual performing survey, results in proper units, decontamination performed as necessary, etc. ( ) Y ( ) N

F. Inspector performed independent and/or confirmatory measurements ( ) Y ( ) N

Basis for Findings:

*No work in progress during inspection -*