RADIATION PROTECTION PROGRAM AUDIT CHECKLIST

US LABS

I. INTRODUCTION

This form documents performance of the annual radiation protection program audit required by U.S. Labs The audit consists of a review of the program's content and implementation, evaluating it's effectiveness in complying with regulatory requirements and keeping radiation exposures to workers and the general public as low as reasonably achievable (ALARA). Records of annual audits must be available for inspection by the U.S. Labs Corporate Radiation Safety Officer.

License Name: U.S. Labs

License No.: 29-30107-01 Expires: 1/31/2014 Date of Audit: May 3-4,2004

Auditor: Ralph E. Silva, Corporate RSO
(name, title)

(signature)

Management Review: Martin B. Lowenthal, Regional Chief Executive
(name, title)

(signature)

II. AUDIT HISTORY

A. Last audit conducted on (date): April 30, 2004

B. Any deficiencies noted?..... Yes

C. Were corrective actions taken?..... Yes
(look for signs of recurrence)

D. Brief description of prior deficiencies, corrective actions taken:

Leak tests not being performed are scheduled to be performed by May 7, 2004

A few gauges were not being signed back in the Daily Utilization Log. As a result the RSO indicated to the technician operating the gauge on a face to face meeting that this was not acceptable and required the user to properly log the gauge info back in.

Rec'd 9/22/04

III. ORGANIZATION AND SCOPE OF PROGRAM

A. If the mailing address or permanent address changed, has the license been amended to reflect the change? ..... N/A Yes No

B. If ownership has changed or bankruptcy has been filed, was the NRC notified? ..... N/A Yes No

C. Does the license authorize all sources & devices possessed? ..... Yes No

D. Do all temporary job sites meet regulatory definition (serve only one contract, open for less than 18 months)? ..... Yes No

E. If no to A., has the NRC been notified? ..... N/A Yes No

F. If the RSO has changed, has the license been amended to identify the new RSO? ..... N/A Yes No

G. Is the RSO meeting the duties & responsibilities for the position? ..... Yes No

H. Is company management appropriately involved with the radiation protection program & oversight of the RSO's activities? ..... Yes No

I. Does RSO have sufficient time to perform all duties/responsibilities? ..... Yes No

J. Staffing sufficient to support to rad. protection program? ..... Yes No

IV. MEMBER OF PUBLIC (MOP) DOSE LIMITS

A. Has a MOP dose compliance study been developed, submitted & approved by the NRC? ..... Yes No

B. Have licensed activities changed during the year to increase likelihood of public dose limits being exceeded? ..... Yes No

C. If yes to B., has a new MOP study been performed to demonstrate compliance with MOP dose limits is still being achieved? ..... N/A Yes No

V. TRAINING PROGRAM

A. All workers likely to exceed 100 mrem/yr provided radiation awareness training ? ..... Yes No

B. All gauge Authorized Users (AUs) completed 8 hrs of NRC approved training (or are supervised by trained AUs)? ..... Yes No

C. Hazmat employee training provided to workers per 49 CFR Part 172? ..... Yes No

D. Field observations of gauges operators demonstrate use of safe work practices & compliance with regulatory requirements? ..... N/A Yes No

VI. PERSONNEL MONITORING (PM)

A. If PM is conducted:

1. PM badges worn properly & protected from heat, light, moisture & chemicals when not being worn? ..... Yes No
2. PM badges consistently stored with the control badge in a protected location when not in use? ..... Yes No
3. Are badges exchanged in a timely fashion to ensure accurate dosimetry reports? ..... Yes No ?
4. Any badges lost or damaged? ..... Yes No ✓
5. If yes to 4., was RSO immediately notified & record of worker's estimated dose provided to badge vendor and kept on file? ..... Yes No ?
6. Any spare badges assigned to workers? ..... Yes No ✓
7. If yes to 6., were spare badges marked to identify worker it was assigned to, & vendor notified to add spare badge dose to worker's *occupational exposure total*? ..... Yes No ✓ ?
8. Are dosimetry reports reviewed by the RSO upon receipt? ..... Yes No ✓ ?
9. Upon hiring, female workers provided instructions regarding radiation risk to embryo/fetus and procedure for declared pregnancies, and documentation of receipt of instructions maintained on file? ..... N/A Yes No ✓ ?
10. Female workers declaring pregnancy document their declaration, are provided instructions regarding monitoring and limiting the dose to the embryo/fetus, and receipt of instructions documented? ..... N/A Yes No N/A ✓ ?
11. For workers that have declared pregnancies, records kept demonstrating embryo/fetus dose < 50 mrem for gestation period? .. N/A Yes No N/A ✓ ?
12. Annual & termination reports provided to workers? ..... Yes No
13. PM records reviewed from (*dates*): _____ to 2003 ✓ ?
14. Highest annual dose: 725 mR Date: 2003 ✓ ?
15. Occupational exposures within limits? ..... Yes No ✓
16. Do PM records indicate that worker doses are being kept ALARA? ..... Yes No

No Female Workers @ Present

VII. POSTING AND LABELING

A. Following documented posted at permanent facility:

1. Emergency procedures ..... Yes No
2. "Notice to Employees" ..... Yes No

B. Above documents posted in conspicuous location(s) to permit workers to observe them on way to/from work? ..... Yes No

C. Radiation signs:

1. "Caution (or Danger), Radioactive Material" signs: posted at permanent facility & job sites where gauges are stored? ..... Yes No
2. "Caution (or Danger), Radiation Area" signs: Is manufacturers' information kept on file to demonstrate that gauge radiation levels are too low to require posting of radiation area signs around gauge storage areas? ..... Yes No

D. Gauges bear durable, clearly visible labels w/ radiation symbol, "Caution (or Danger), Radioactive Material" warning, & sufficient information to permit individuals to avoid/minimize exposures? ..... Yes No

VIII. SECURITY

A. Each gauge provided a storage/transport container equipped w/ lock/seal? ..... Yes No

B. Minimum of two locks always used to prevent access to gauges? ..... Yes No

C. Gauges kept secured against unauthorized access/removal when not under direct surveillance? ..... Yes No

D. Extra precautions used to deter theft (e.g., concealing gauges from view during transport/storage, maintaining elevated level of awareness in high crime areas? ..... Yes No

IX. OPERATING AND EMERGENCY (O&E) PROCEDURES

A. Any revisions to O&E procedures made that have not been reviewed & approved by the NRC? ..... Yes No

B. O&E procedures list correct phone numbers for RSO & NRC? ..... Yes No

C. O&E procedures accompany portable gauges at all times? ..... Yes No

X. GAUGE TRANSPORTATION

A. Gauges transported to job sites are prepared & transported in same manner as when offered to third party for shipment? ..... Yes No

B. Only DOT-7A or other authorized packages used to transport gauges? ..... Yes No

C. Packages used to ship gauges properly marked & labeled per 49 CFR Part 172, Subparts D & E? ..... Yes No

D. Shipping containers properly locked, blocked & braced prior to transport? ..... Yes No

E. Prior to shipment, transport containers inspected to ensure proper packaging, unimpaired physical condition of container & closure devices? ..... Yes No

F. Properly completed bill of lading & emergency response information provided for each gauge shipment? ..... Yes No

G. Shipping papers & emergency response information immediately accessible to driver during shipment of gauges? ..... Yes No

XI. GENERAL RULES OF USE

A. Management & RSO emphasize to workers importance of maintaining doses ALARA? ..... Yes No

B. Field observations of workers conducted to evaluate performance? ..... Yes No

C. Good work practices used by workers to minimize doses (i.e., time, distance, shielding, general use rules)? ..... Yes No

XII. LEAK TESTS

A. Gauge sealed sources leak tested at required intervals? ..... Yes No

B. Leak tests conducted by authorized personnel following procedures approved by the NRC? ..... Yes No

C. Leak test records include all information required by NRC? ..... Yes No

D. Any sources found leaking, & if so, was the NRC notified? ..... Yes No

XIII. GAUGE INVENTORY

A. Gauge receipt & transfer/disposal records maintained? ..... Yes No

B. Gauges physically inventoried at 6-month intervals? ..... Yes No

C. Gauge inventory records document all necessary information? ..... Yes No

XIV. GAUGE MAINTENANCE

A. Copies of the manufacturer's operation/maintenance manuals maintained on file for reference? ..... Yes No

B. Manufacturer's procedures referenced & followed for routine cleaning & lubrication of gauges? ..... Yes No

C. Non-routine gauge maintenance performed in-house? ..... Yes No

D. If yes to C., is non-routine gauge maintenance conducted by authorized personnel following procedures approved by the NRC? ..... N/A Yes No

XV. RADIATION SURVEY INSTRUMENTS

A. If a survey meter is not possessed, are specific plans in place to have one available when needed? ..... N/A Yes No

B. If a survey meter is possessed:

1. Has the meter been approved by the NRC? ..... Yes No
2. Is there access to an equivalent back-up meter when the primary meter is out for calibration/repair? ..... Yes No
3. Is the meter calibrated annually & after repair by a licensed vendor, & are calibration records maintained? ..... Yes No

XVI. RECORD KEEPING, NOTIFICATIONS & REPORTS

A. All required documents maintained on file at permanent facility for duration specified by the NRC? ..... Yes No

B. Did any incidents/emergencies occur since last audit? ..... Yes No

C. If yes to B., was the response appropriate? (i.e., operator followed emergency procedures, required notifications/reports timely filed, cause of incident investigated, corrective actions taken & documented? ..... Yes No N/A

XVII. INDEPENDENT AUDITS/INSPECTIONS

A. Any independent audits/inspections conducted since last internal audit (e.g., consultant or NRC inspection)? ..... Yes No

B. If yes to A., summary of deficiencies identified & corrective actions taken: _____

XVIII. AUDIT DEFICIENCIES AND CORRECTIVE ACTIONS

A. Summary of problems/deficiencies identified during this audit:

1. Review of the Rahway office Daily Utilization Log revealed that several employees did not completely sign out or sign back in the Nuclear Density Gauges (NDG). This is a major violation of existing standard operating procedures that can lead to NRC fines, sanctions and if it's a recurring problem, it could lead to the revoking of the radioactive materials license by the NRC.

2. Periodic internal audits have been performed at the Rahway facility revealing a variety of violations, however, a review of the corrective actions taken revealed an incomplete pattern of resolution. Such non-conformances must be addressed promptly, resolved within a reasonable time frame and adequately documented. Failure to do so violates the ALARA policy and its commitment by the company's management organization. This is a serious violation that may result in fines by the NRC.

3. Review of the Rahway office Daily Utilization Log revealed that some employees which had not been issued dosimetry badges (personal or spares) were allowed to operate the NDGs. This is also a major violation of existing standard operating procedures within the radiation safety program that can lead to NRC fines and/or the revoking of the radioactive materials license by the NRC.

XVIII. AUDIT DEFICIENCIES AND CORRECTIVE ACTIONS (contd.)

B. Description of corrective actions planned or taken: _____

- **It is highly recommended that an assistant RSO be designated at the Rahway, Atlantic City and Broomall U.S. Labs facilities. These assistant RSOs should be sent to an 8-hour formal Radiation Safety Officer training course provided by Troxler (NDG Manufacturer). These individuals should be selected by the RSO and also trained on the existing in-house radiation safety program requirements.**

C. Description of other recommendations for improvement: _____

- **The RSO name, emergency contact number and emergency procedures must also be clearly posted on the door of the radioactive materials storage area at the Broomall facility.**

✓?

- **All gauges (actual metal housing housing of the device) at the Rahway, Atlantic City and Broomall facilities should bear durable, clearly visible labels w/ radiation symbol, "Caution (or Danger), Radioactive Material" warning of & sufficient information to permit individuals to avoid/minimize exposures.**

A SRO has assigned @ Sam's office
Item's A & C have been addressed
and a VAST improvement has been MOT
STILL working.
Why? Please call
Ed.