

AUG 19

Licenses: 35-00502-03  
35-00502-04G

Dockets: 30-05901/88-02  
30-05902/88-01

EA: 88-218

Halliburton Company  
Halliburton Services  
ATTN: Alan A. Baker, President  
P.O. Box 1431  
Duncan, Oklahoma 73536

Gentlemen:

This refers to the routine, unannounced radiation safety inspection conducted by Mr. Lorenzo Wilborn of this office on August 4 and 5, 1988, of the activities authorized by NRC Byproduct Material Licenses 35-00502-03 and 35-00502-04G and to the discussion of our findings held by the NRC inspector with a member of your staff at the conclusion of the inspection and with other members by telephone on August 9, 1988.

The inspection was an examination of activities conducted under the licenses as they relate to radiation safety and to compliance with the Commission's rules and regulations, and the conditions of the licenses. The inspection consisted of selective examinations of procedures and representative records, interviews of personnel, independent measurements, and observations by the NRC inspector.

During this inspection, certain of your activities appeared to be in violation of NRC requirements. We are releasing this report at this time for your information and you are encouraged to review our findings and take corrective action as you believe appropriate. You will be notified by separate correspondence of our decision regarding enforcement action based on the findings of this inspection. No written response is required at this time; however, you may provide a response if you wish to describe any corrective actions taken.

This letter also confirms the telephone conversation between Mr. Alan A. Baker and Dr. Dale A. Powers on August 9, 1988, concerning an enforcement conference. The date agreed upon was August 24, 1988, at 1 p.m., in our Arlington office for this enforcement conference, which will address the findings of the NRC inspection referenced above and your response to these findings.

RIV:NMIS  
LWilborn;dp  
8/11/88

C:NMIS *DP*  
DAPowers  
8/19/88

C:NMSB *WLF*  
WLFisher  
8/19/88

D:DRSS *WLF*  
RLBangart  
8/19/88

*B*  
*11*  
*1007*

Should you have any questions concerning this letter, we will be pleased to discuss them with you.

Sincerely,

Original Signed By:  
**William L. Fisher**  
William L. Fisher, Chief  
Nuclear Materials Safety Branch

Enclosure:  
Appendix - NRC Inspection Report  
30-05901/88-02  
30-05902/88-01

cc w/enclosure:  
Oklahoma Radiation Control Program Director

bcc:  
DMB - Original (IE07)  
RDMartin  
JMMontgomery  
RLBangart  
VLMiller  
WLFisher  
DAPowers  
LShea, RM/ALF (AR-2015)  
LWilborn  
NMSB  
MIS System  
RIV Files (2)  
RSTS Operator  
GFSanborn  
JLieberman, OE

w/766 held pending enforcement conference

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

NRC Inspection Report: 30-05901/88-02  
30-05902/88-01

Licenses: 35-00502-03  
35-00502-04G

Dockets: 30-05901  
30-05902

Licensee: Halliburton Company  
Halliburton Services  
P.O. Box 1431  
Duncan, Oklahoma 73536

Inspection At: Duncan, Oklahoma

Inspection Conducted: August 4 and 5, 1988

Inspector: *Lorenzo Wilborn*  
Lorenzo Wilborn, Radiation Specialist

*8/14/88*  
Date

Approved: *Dale A. Powers*  
Dale A. Powers, Chief, Nuclear Materials  
Inspection Section

*8/19/88*  
Date

Inspection Summary

Inspection Conducted August 4 and 5, 1988 (Report 30-05901/88-02; 30-05902/88-01)

Areas Inspected: A routine, unannounced inspection was performed of activities conducted under NRC Byproduct Material Licenses 35-00502-03 and 35-00502-04G. The inspection included a review of the associated radiation safety programs, including management organization, interviews with personnel, materials and equipment, review of records and reports, independent measurements, transportation activities, and observations by the NRC inspector.

Results: The following apparent violations were identified:

License 35-00502-03

1. Failure to perform leak tests at the required intervals. (Section 5)
2. Failure to conduct physical inventories at the required 6-month intervals. (Section 5)

DETAILSPersons Contacted

\*Richard Leonardi, Radiation Safety Officer  
Ron Coon, Chemical Research Department  
Ron Buchanan, Electrical Research Department  
Bob Randolph, Tools Research and Engineering Department  
Dick Bailey, Engineering Manufacturing Department  
Roger Ledford, Raytrac Plant  
David Gray, Densometer Assembly

\*\*Alan A. Baker, President

\*\*Ronald Bechtel, Manager, Government Regulations

\*Denotes presence at exit interview.

\*\*Denotes those contacted by telephone on August 9, 1988.

Management Organization

The organizational structure remained basically unchanged since the last routine NRC inspection conducted February 8, 1985; however, extensive management personnel turnover had occurred within the structured positions.

The various departments in which licensed material was used or stored had designated individuals responsible for supervising and controlling the use of licensed material associated with their respective departments. They would forward the results to the radiation safety office in Duncan, Oklahoma, for review and maintenance. This raised concern because the Radiation Safety Officer was located in an office in Kilgore, Texas. The licensee stated that plans were under way to transfer the Radiation Safety Officer to the radiation safety office in Duncan, Oklahoma.

No violations or deviations were identified.

Interviews with Personnel

The NRC inspector interviewed certain licensee personnel to determine their knowledge of the hazards associated with their respective departmental use of licensed material. The interviews revealed sufficient knowledge of hazards and understanding of the rules and regulations.

No violations or deviations were identified.

#### 4. Materials and Equipment

The NRC inspector reviewed the acquisition, receipt, possession, use, and transfer of radioactive materials and associated equipment and noted compliance with NRC rules and regulations and the conditions of the license.

No violations or deviations were identified.

#### 5. Review of Records and Reports

The NRC inspector reviewed the licensee's records and reports to determine compliance with NRC rules and regulations and with licensee commitments specified in documents incorporated into the license by reference and amendments thereto.

The NRC inspector noted on August 4, 1988, that a cesium-137 source, Serial Number Y-060, was last tested for leakage and/or contamination on February 20, 1985. Also, a nickel-63 gas chromatograph source was last tested for leakage and/or contamination on June 30, 1987. License Conditions 12.A.(1) and 12.A.(2) of License 35-00502-03 require that these sources be tested at intervals not to exceed 3 years and 6 months, respectively. Failure to do so is considered an apparent violation of that license. This is also considered an apparent repeat violation.

The NRC inspector noted during the inspection that the licensee had not conducted physical inventories every 6 months during the period June 1987 to August 1988 to account for all sealed sources and/or devices received and possessed under License 35-00502-03 as required by License Condition 18. Failure to conduct physical inventories is considered an apparent violation of that license. This is also considered an apparent repeat violation.

The NRC inspector noted that the licensee initially transferred devices for use under the general license provisions of 10 CFR 31.5 to clientele and to other Halliburton Divisional Offices. The inspector also noted that the licensee's material transfer reports submitted to the Commission under License 35-00502-04G included only the clientele and not the other Halliburton Divisional Offices. Each person licensed under 10 CFR 32.51 to initially transfer devices to generally licensed persons shall report to the Commission all initial transfers of such devices to persons for use under the general license provisions of 10 CFR 31.5. "Initially Transferred Devices" refers to the device regardless of the licensed material it contains. The initial transfer of the device shall be included in the report required by 10 CFR 32.52. This report shall identify each general licensee by name and address, an individual by name and/or position who may constitute a point of contact between the Commission and the General Licensee, the type and model number of device transferred, and the quantity and type of byproduct material contained in the device. The

failure to report the initial transfers of devices to other Halliburton Divisional Offices for use under the general license provisions of 10 CFR 31.5 is considered an apparent violation of 10 CFR 32.52.

Three apparent violations were identified by the NRC inspector.

6. Independent Measurements

The NRC inspector made independent measurements, in basically all areas where licensed material was used or stored, using a Technical Associates Model IBM-35, Serial No. 122112, calibrated February 9, 1988, and Xetex Model 305B, Serial No. 11225, calibrated June 10, 1988. Independent measurements were made separately by the licensee in certain areas. Independent measurements made both by the licensee and the NRC inspector were noted to be consistent. Measured exposure rates for unrestricted and restricted areas were within the regulatory limits.

No violations or deviations were identified.

7. Transportation Activities

The NRC inspector reviewed the transportation activities of the licensee to determine compliance with 10 CFR Part 71 and the applicable regulations of the Department of Transportation. The inspector determined that the licensee had delivered radioactive material to common carriers for transport in accordance with the provisions of the regulations.

No violations or deviations were identified.

8. Observations

The NRC inspector observed that licensed activities in several departmental areas were being conducted generally in accordance with good radiation safety practices and the licensee's radiation safety program. However, several density gauging devices containing up to millicurie amounts of licensed material were observed in unrestricted areas of the Chemical Research Department, Electrical Research Department, and Tools Research and Engineering Department without being tended under the constant surveillance and immediate control of the licensee. This is considered an apparent violation of 10 CFR 20.207(b) under Licenses 35-00502-03 and 35-00502-04G. Also, a container housing cesium-137 source Serial No. Y-060, located in the Tools Research and Engineering Department, did not bear a durable, clearly visible label identifying the radioactive material and bearing the radiation caution symbol and the words, "CAUTION RADIOACTIVE MATERIAL" or "DANGER, RADIOACTIVE MATERIAL." This is considered an apparent violation of 10 CFR 20.203(f) under License 35-00502-03.

Three apparent violations were identified by the NRC inspector.

9. Exit Meeting

The NRC inspector met and summarized the scope and findings of the inspection with licensee management identified in paragraph 1 at the conclusion of the inspection on August 5, 1988, and subsequently by telephone on August 9, 1988.