ENCLOSURE 2

U.S. NUCLEAR REGULATORY COMMISSION REGION IV

Docket: License:	030-31876 35-27045-01
Report:	030-31876/97-01
Licensee:	Law Engineering, Inc.
Facility:	Tulsa, Oklahoma office
Location.	Tuisa, Oklahoma
Dates:	August 27-28, 1997
Inspector:	R. A. Brown, Sr. Radiation Specialist
Approved:	D. B. Spitzberg, Ph.D., Chief Nuclear Materials Inspection and Fuel Cycle/Decommissioning Branch Division of Nuclear Materials Safety
Attachment:	Supplemental Inspection Information

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EXECUTIVE SUMMARY

Law Engineering, Inc. Tulsa, Oklahoma NRC Inspection Report 030-31876/97-01

This reactive inspection was conducted in response to the licensee's August 25, 1997, notification of the NRC Headquarters Operations Officer of an incident involving loss of a portable moisture/density gauge at a temporary job site in Tulsa, Oklahoma (Event Number 32816).

Program Overview

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The licensee is authorized to possess and use portable moisture/density gauges at temporary job sites where the NRC maintains jurisdiction and at the licensee's office in Tulsa, Oklahoma. At the time of the inspection, the licensee possessed seven portable gauges and had trained several individuals in proper use of the gauge.

Use of Portable Moisture/Density Gauge at a Temporary Job Site

The inspection included a review of circumstances associated with an incident involving the loss of a portable moisture/density gauge from a temporary job site on August 25, 1997. The failure to maintain surveillance of licensed material left in an unrestricted area was identified as an apparent violation of 10 CFR 20.1802.

Corrective Actions

The licensee's representative stated that a review of gauge handling procedures would be conducted. In addition, a radiation safety meeting was held on August 28, 1997, with all gauge users to review the circumstances of this event and solicit input to prevent future such incidents.

Report Details

1 Program Overview

1.1 Inspection Scope (IP 87100, 83822, 87103)

The inspector reviewed the license application and supporting documents, as well as pertinent records maintained by the licensee. Collectively, these documents describe the licensee's radiation safety program. Interviews with the licensee's office manager and other personnel concerning the August 25, 1997, incident were also conducted.

1.2 Observations and Findings

Law Engineering, Inc.(Law) is authorized under NRC License No. 35-27045-01 to possess and use portable moisture/density gauges at temporary job sites in areas where the NRC maintains jurisdiction for regulating the use of byproduct material. The licensee's office is located in Tulsa, Oklahoma, and is used as a permanent storage location.

One engineer had been designated as radiation safety officer (RSO) and reported to the office manager. This employee is specifically named in License Condition 11. The RSO left the services of Law on April 19, 1997, and no replacement was named. It was noted that the office manager had been previously named as RSO. Law has several employees trained and authorized to use portable moisture/density gauges. At the time of the inspection, Law possessed seven portable moisture/density gauges at it's Tulsa office for use at temporary job sites in Oklahoma. A review of records indicated that all gauge users had been trained by the gauge manufacturer in accordance with the procedures submitted with the license application.

The failure to have an individual designated as Radiation Safety Officer is a violation of License Condition 11B.

2 Use of Portable Moisture/Density Gauges at Temporary Job Sites

2.1 Inspection Scope (IP 87100, 83822)

The inspector's review included the preliminary information concerning the loss of a portable moisture/density gauge reported telephonically to NRC on August 25, 1997, discussions with licensee personnel, and a review of pertinent records.

2.2 Observations and Findings

Interviews with the RSO and the gauge user indicated that on August 25, 1997, a Law employee was using a portable moisture/density gauge at a temporary job site in Tulsa, Oklahoma. The gauge was identified as a Troxler Model 3411B, Serial No. 7230, containing 8.0 millicuries of cesium-137 and 40.0 millicuries of americium-241. Law representatives described the job site as a residential construction project in Tulsa, Oklahoma. At approximately 3:30 p.m., after performing tests with the gauge, the gauge user collected his equipment and placed them in the bed of his pick up truck next to the gauge shipping case. Seeing the Troxler shipping case closed he padlocked it and drove back to the shop, arriving at 4:30 p.m. The gauge was not in the case however, but had been left at its last use area at the site with the source rod still in the extended position into the ground. When interviewed by the inspector, the gauge user had no explanation as to why he forgot to retrieve the gauge. When the gauge user unloaded his truck at approximately 6:00 p.m., he realized by the lightness of the shipping case that the gauge was not inside. The chief engineer was notified immediately and directed the gauge user to return to the construction site to locate the gauge. The construction site was deserted when the gauge user arrived with no sign of the gauge. Upon return to the office the gauge user notified the office manager who contacted the NRC Headquarters Operations Center, at 7:30 p.m., to report the gauge missing. At the same time attempts were being made to locate the contractor who had been working at the construction site. At approximately 8 p.m. the licensee called the NRC Headquarters Operations Center to report that the gauge had been located and a licensee representative was enroute to retrieve it. The gauge was returned to the licensee's facility at approximately 8:30 p.m. Thus the gauge was out of the licensee's control for a period of time of 4.5 to 5 hours.

10 CFR 20.1802 requires that a licensee shall control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage. The failure to secure or provide control and surveillance of licensed material was identified as an apparent violation of 10 CFR 20.1802.

The inspector interviewed the contractor who stated that he had seen the gauge in use and was surprised when he noticed the gauge had been left when the gauge user departed the site. When the contractor was ready to depart the site at 5:30 p.m. he decided that the gauge should not be left unattended. He approached the gauge noting the source rod was in the down position (indicating the source was in the ground). The contractor picked the gauge up by the handle, thus positioning the source rod in the shielded position, and carried it 20 feet and placed it in the back of his pick up truck. Arriving at his residence, he placed the gauge in the passenger side of the truck cab and locked the vehicle. It remained there until the licensee retrieved it. The contractor also stated that during the 2 hours the gauge was at the construction site, no one approached the gauge or spent any time near it. The contractor's exposure from the gauge was limited to the short period of time he spent carrying the gauge to the truck.

Radiation level measurements performed by the inspector indicated readings of 1 millirem per hour at the handle of the gauge with the source in the shielded position. Therefore, any exposure to the contractor or other members of the public was insignificant compared to the dose limits for individual members of the public specified in 10 CFR 20.1301.

2.3 Conclusions

Basad on the inspector's observations, it appears the licensee did not have the gauge under his immediate control or surveillance as required by 10 CFR 20.1801 and 20.1802 for a period of 4.5 to 5 hours. This event did not involve any significant exposure to members of the general public.

3 Corrective Actions

3.1 Inspection Scope (IP 87103)

The inspector discussed proposed corrective actions with the company president during a telephone conversation on September 11, 1997.

3.2 Observations and Findings

The inspector interviewed the office manager concerning previous training provided to gauge users. The office manager stated that all gauge users had been trained by the gauge manufacturer as required by Condition 11 of Law's NRC license. Training certificates documenting the training had been maintained by the office manager. During interviews with the inspector, the gauge user stated that he had been instructed in maintaining security and surveillance of the gauge at temporary job sites and had attended the manufacturers training in 1981. Law provides refresher training on an annual basis.

The licensee stated that a review of gauge handling procedures would be conducted with all gauge users. Additional training was also proposed by the office manager.

3.3 Conclusions

Training provided to gauge users was conducted in accordance with the license application and supporting documents.

4 Exit Meeting Summary

The inspection findings, as noted in the report, were discussed with the licensee during a telephonic exit briefing conducted on September 11, 1997. Licensee representatives acknowledged the findings as presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

ATTACHMENT

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SUPPLEMENTAL INSPECTION INFORMATION

INSPECTION PROCEDURES USED

IP 87100: Licensed Materials Program IP 87103: Inspection of Incidents at Nuclear Materials Facilities IP 83822: Radiation Protection

ITEMS OPENED

030-31876/9701-01	Failure to secure or maintain control and constant surveillance of licensed material was identified as an apparent violation of 10 CFR 20.1802.
030-31876/9701-02	Failure to appoint a Radiation Safety Officer was identified as a

violation of License Condition 11B.

PARTIAL LIST OF PERSONS CONTACTED

Michael H. Homan, Office Manager Lamberto Laxamana, gauge user Daniel A. Mofor, Senior Engineer David Crawford, Contractor