EA No. 01-244

Mr. John Carroll Manager - Health, Safety & Medical LTV Steel Company, Inc. 3100 East 4th Street Cleveland, OH 44127

SUBJECT: NOTICE OF VIOLATION

(NRC Inspection 99990001/2000009)

Dear Mr. Carroll:

This refers to the inspection conducted by the NRC to review the circumstances associated with a TN Technologies gauge Model 5191 (serial number B1806) that was found abandoned in the State of Alabama in November 2000. The inspection commenced on April 23, 2001, and continued in the Region I office until August 24, 2001, with telephone calls to members of your staff, and included our review of bankruptcy court papers involving Tailings Process Corporation. The enclosed report documents the details of this inspection.

During the inspection, the NRC determined, by reviewing bankruptcy court papers, that the gauge belonged to LTV Steel Company (LTV Steel) in the mid-1980's. On January 11, 2001, Kathy Modes, of this office, sent copies of the bankruptcy papers via facsimile to Mr. Terrence Civic in your corporate office. On July 11, 2001, Mr. Frank Costello and Ms. Modes contacted Mr. Civic via telephone regarding the fact that this gauge had been found in Alabama. Your company agreed to arrange for proper disposal of the gauge, and this agreement was documented in a letter from Mr. Civic dated July 11, 2001. The NRC was notified on August 24, 2001, that the gauge was removed from its temporary storage location and was sent to the manufacturer for proper disposal.

In a telephone conversation on September 24, 2001, Mr. Costello of my staff informed Mr. Ken Griffith of your staff that the NRC had sufficient information regarding an apparent violation of NRC requirements and your company's corrective actions to make an enforcement decision without a predecisional enforcement conference or a written response from your company. Mr. Griffith indicated that LTV Steel did not believe that a predecisional enforcement conference or written response was needed.

Based on the results of this inspection, one violation of NRC requirements was identified and is described in the enclosed Notice of Violation (Notice). The violation involves the transfer of a gauge, that remained in use at the Nemacolin Mine facility (located in McKeesport, Pennsylvania), to J. W. Industrial in 1989 without providing J. W. Industrial a copy of 10 CFR Part 31, and without informing the NRC of the manufacturer's name and model number of the device transferred, the name and address of the transferee, and the name and/or position of

the individual who might constitute a point of contact between the NRC and the transferee. This violation represents a significant concern because it ultimately contributed to loss of control of the gauge which was subsequently abandoned. Although the gauge has since been located and transferred to an authorized recipient, and no known radiation exposures resulted from this occurrence, the potential existed for radiation doses in excess of the limits to members of the public because the abandoned gauge was found buried with the shutter in the open position. Therefore, this violation is classified at Severity Level III in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600 (enclosed). The current Enforcement Policy is included on the NRC's website at www.nrc.gov/OE.

In accordance with the Enforcement Policy in effect at the time of the violation, a base civil penalty is considered for a Severity Level III violation. The NRC considered whether credit is warranted for *Corrective Action* in accordance with the civil penalty assessment process in Section VI.C.2 of the Enforcement Policy. Credit for *Corrective Action* is warranted since your company took appropriate corrective actions after the NRC identified this issue to you. These corrective actions included the proper disposal of gauge B1806 after it was found in Alabama.

Therefore, to encourage prompt and comprehensive correction of violations, I have been authorized to not propose a civil penalty in this case. However, issuance of this Notice constitutes escalated enforcement action and similar violations in the future could result in further escalated enforcement action.

The NRC has concluded that information regarding the reason for the violation, and the corrective actions taken to correct the violation and prevent recurrence, were already described adequately in this letter and the enclosed inspection report. Therefore, you are not required to respond to this letter unless the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to provide additional information, you should follow the instructions specified in the enclosed Notice.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures, and your response, if any, will be available electronically for public inspection in the NRC Public Document Room or from the Publically Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/NRC/ADAMS/index.html (the Public Reading Room).

Sincerely,

/RA/

James T. Wiggins
Deputy Regional Administrator

Docket Nos. 030-29510, 030-35098 (terminated) License Nos. 34-00811-04, 34-00811-05 (terminated)

Enclosures

1. Notice of Violation

2. NRC Inspection Report 99990001/2000009

cc w/encl: State of Ohio

State of Alabama

Commonwealth of Pennsylvania

Distribution w/encl:

ADAMS (PARS)

SECY

CA

OEMail

- W. Travers, EDO
- C. Paperiello, DEDMRS
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- M. Virgilio, NMSS
- D. Cool, NMSS
- M. Weber, NMSS
- K. Ramsey, NMSS
- D. Dambly, OGC
- L. Chandler, OGC

Enforcement Coordinators

RII, RIII, RIV

- B. Beecher, OPA
- H. Bell, OIG
- P. Lohaus, OSTP
- G. Caputo, OI
- L. Tremper, OC
- B. Letts, OI-RI
- G. Pangburn, RI
- F. Costello, RI
- J. Kinneman, RI
- J. Fewell, RI
- D. Screnci, PAO-RI
- N. Sheehan, PAO-RI
- D. Holody, RI
- J. Nick, RI
- G. Matakas, RI

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NAME	Jnick (JLN)	Dholo		dy (DJH)		Bfewell (JBF)			Gpangburn (FMC for))	Hmiller (JTW for)	
DATE	9/26/01	9/26/01 10/02		01 10/0		10/02/0	0/02/01		10/02/01			10/03/01	
OFFICE	OE												
OFFICE NAME	OE Fcongel (JLN	l fo	r) *										

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^{*} Concurrence per John Lubinski via e-mail 10/5/01.

ENCLOSURE

NOTICE OF VIOLATION

LTV Steel Company, Inc. Cleveland, Ohio

Docket No. General License (10 CFR 31.5) License No. 999-90002 EA 01-244

During an NRC inspection conducted on April 23, 2001, and continued in the Region I office until August 24, 2001, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the violation is listed below:

10 CFR 31.5(c)(9) requires, in part, that any person who acquires, receives, possesses, uses or transfers byproduct material in a device pursuant to the general license in 10 CFR 31.5(a) shall transfer the device to another general licensee only where the device remains in use at a particular location. In such cases, the transferor shall give the transferee a copy of 10 CFR Part 31, and, within 30 days of the transfer, report to the Director of the Office of Nuclear Materials Safety and Safeguards, USNRC, the manufacturer's name and model number of the device transferred, the name and address of the transferee, the name and/or position of an individual who may constitute a point of contact between the NRC and the transferee.

Contrary to the above, in January 1989, LTV Steel Company (LTV Steel), a general licensee, transferred a device in accordance with 10 CFR 31.5(c)(9) and failed to provide the transferee a copy of 10 CFR 31.5 and failed to report the transfer to the NRC. Specifically, LTV Steel sold its Nemacolin Mine facility in McKeesport, Pennsylvania to J. W. Industrial Services, Inc. (J. W. Industrial), and in so doing, transferred to J. W. Industrial a gauge (containing 1 curie of Cesium-137), which was a device generally licensed by the NRC. Although the gauge remained in use at that location, LTV Steel did not give J. W. Industrial a copy of 10 CFR Part 31, and, did not report the transfer to the NRC and provide the manufacturer's name and model number of the device transferred, the name and address of the transferee, and the name and/or position of an individual who would constitute a point of contact between the NRC and the transferee.

This is a Severity Level III violation (Supplement VI).

The NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence, and the date when full compliance was achieved, is already adequately addressed on the docket in the referenced inspection report, as well as the letter transmitting this Notice. However, you are required to submit a written statement or explanation pursuant to 10 CFR 2.201 if the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to respond, you should clearly mark your response as a "Reply to a Notice of Violation," and send it to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555 with a copy to the Regional Administrator, Region I, within 30 days of the date of the letter transmitting this Notice of Violation (Notice).

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

If you choose to respond, your response will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/NRC/ADAMS/index.html (the Public Electronic Reading Room). Therefore, to the extent possible, the response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

Dated this 9th day of October 2001

U.S. NUCLEAR REGULATORY COMMISSION REGION I

INSPECTION REPORT

Inspection No.	99990001/2000009	
Docket No.	99990001	
General Licensee:	Tailings Process Company	
Non-Licensee:	Design Fuels Corporation	
Inspected Location:	14170 Easy Street North Huntington, PA 15642	
Inspection Dates:	April 23, 2001 and August 24, 2001	
Inspectors:	/RA/ John D. Kinneman Acting for Keith Brown Health Physicist	<u>10/01/2001</u> date
	/RA/	10/01/2001
	Kathy Dolce Modes Health Physicist	date
Approved Du		
Approved By:	<u>/RA/</u>	10/01/2001

EXECUTIVE SUMMARY

Design Fuels Corporation NRC Inspection Report No. 99990001/2000009

On November 8, 2001, a one curie cesium-137 generally licensed TN Technologies Model 5191 gauge was found in a wooded area, on private property not accessible to the general public, in Hueytown, Alabama. The gauge had been transported to Alabama, in the early 1990's, by a company called Design Fuels Corporation of Pennsylvania. A gauge service representative locked the gauge shutter in the closed position, leak tested the gauge, supervised the movement of the gauge, chained the gauge to a more secure location, and placed the appropriate postings on the gauge and surrounding area. The leak test results were negative. Because it was suspected the gauge came from Pennsylvania, Region I became involved. On August 24, 2001, the gauge was properly disposed.

Based on manufacturer's records, three gauges were sold to Tailings Process Corporation in Pennsylvania, in September of 1982. This report provides the history of these gauges, accounts for two of the three gauges, and surmises the whereabouts of the third gauge, which has not been accounted for. The missing gauge is a TN Technologies Model 5191 gauge containing 2 curies of cesium-137. The inspector reviewed bankruptcy court records, records from Alabama where the one curie gauge was found and interviewed individuals who were involved in the sale of the gauges. Not all involved individuals could be located and records are conflicting.

Based on this inspection, LTV Steel and Design Fuels violated 10 CFR 31.5. LTV transferred material to an unlicensed company. Design Fuels contracted with an unlicensed company to remove and transport the gauge to another location.

There are two possible scenarios for the whereabouts of the missing 2 curie gauge:

If Mr. Karsnak's (President of Design Fuels Corporation) letter dated January 21, 1992 is correct, then both gauges were sold to Design Fuels and the missing gauge was last known to be in Alabama on the Rosa Site.

If the inventory list supplied to Mr. Karsnak from J. W. Industrial Services, Inc. is correct, then Mr. Karsnak may have only received one gauge. J.W. Industrial Services may have sold the other gauge to another company. Without more information and with no contact with those involved, we cannot conclude what actually happened to the gauge.

Based on the dose rate estimates, the missing 2 curie gauge would produce 0.4 R/hr at 1 meter if the shutter was open. A radiation survey would be able to detect this activity. Surveys at locations where the gauge was suspected to be did not detect this; it is concluded that the gauge shutter is closed, buried, or not at the location surveyed. If the gauge's shutter is closed or if the gauge is buried, there is little risk to the public if the gauge remains where it is.

The NRC has exhausted all leads, with regards to the missing gauge and this matter is closed. If new information develops, the NRC will re-open this case.

REPORT DETAILS

a. <u>Inspection Scope</u>

The NRC Region I Office, with assistance from the State of Alabama, gathered information about where the one curie cesium-137 gauge located in Alabama came from, how many gauges were involved, and how the gauge(s) got to Hueytown, Alabama from Oneonta, Alabama (Rosa site).

b. Observations and Findings

On November 8, 2001, a one curie cesium-137 generally licensed TN Technologies Model 5191 gauge was found attached to a piece of piping, in a wooded area, on private property not accessible to the general public, in Hueytown, Alabama. The gauge was transported to Alabama, in the early 1990's, by a company called Design Fuels Corporation of Pennsylvania. Because it was suspected the gauge came from Pennsylvania, Region I became involved.

The gauge found at Hueytown was Gauge serial number B1806 and contained only 1 curie of cesium-137. This conformed to Sealed Source and Device Registration No. TX-643-D-105-B which stipulated these gauges may contain up to two (2) curies of cesium-137.

Based on the gauge manufacturer's sales records, Gauge B1806 was sold to Tailings Process Corporation on September 29, 1982, along with two other generally licensed gauges (B1807 and B1808). B1807 contained one (1) curie of cesium-137 and B1808 contained two (2) curies of cesium-137.

Tailings Process Corporation was in the business of processing coal tailings at the Nemacolin coal mine site in McKeesport, Pennsylvania. However, in 1984 Tailings Process Corporation declared bankruptcy.

On March 19, 1986, the NRC made a telephone inquiry to Tailings Process Corporation. The NRC inspector at the time contacted Mr. W.B. Thomson, President of Tailings Process, and confirmed that Tailings Process was in bankruptcy proceedings, but still possessed three (3) TN Technology gauges Model 5191at the Nemacolin mine site. The documentation of this inquiry indicated that the gauges were all one (1) curie gauges. It appears most likely that one of the gauges contained 2 curies because the gauge manufacturer's records more clearly reflect the facts than the notes recorded during a telephone conversation.

According to the gauge manufacturer's records, on April 14, 1986, Gauge B1807 was transferred to Saturn Fuels Corporation of Uniontown, Pennsylvania. Saturn Fuels later transferred the gauge to Diversified Energy Ventures Inc. who possess a specific NRC Licensee No. 37-30206-01. Inspection records confirm this gauge is currently in Diversified Energy Ventures' possession.

This apparently left gauges B1806 and B1808 with the bankrupt Tailings Process Corporation. Bankruptcy Case No. 84-1553 records for Tailings Process were reviewed at the National Archives Trust Fund and Record Center in Philadelphia, Pennsylvania. According to these records, while in bankruptcy, Tailings Process owned and operated equipment at the Nemacolin Mine. The Nemacolin Mine was owned by Jones & Laughlin Steel Incorporated (now LTV Steel Company, Inc. as successor by merger). A list of property owned by Tailings Process, at the time of the bankruptcy filing, included 2 nuclear density meters valued at \$17,000.00 (Attachment 1). On October 8, 1986, the court ordered the sale of the equipment, inventory and other personal property located at the Nemacolin Mine and owned by Tailings Process (Attachment 2). According to the bankruptcy records the equipment, inventory, and other property were sold to LTV Steel Company, Inc. and the sale was consummated on December 31, 1986. Between 1986 and April 1989, there is no information to indicate that mining was ongoing or if the gauge(s) were placed in storage.

The NRC sent a letter dated April 9, 2001 to the Corporate Radiation Safety Officer for LTV Steel Company, Inc. of Cleveland, Ohio, requesting any records associated with these gauges. In LTV's reply dated April 19, 2001 (Attachment 3), they indicated they made a thorough search of records and contacted former employees. No records were found and no persons were aware of the 1986 bankruptcy court transaction. In addition, LTV's Law Department conducted a search of legal files and contacted individuals; however, no records could be found.

The State of Alabama had records showing the gauge B1806 came from Design Fuels Corporation. The NRC contacted Mr. George Karsnak, president of Design Fuels Corporation, McKeesport, Pennsylvania. Design Fuels is currently not a viable company. Mr. Karsnak indicated that he had performed work for Tailings Process as a consultant in the 1980's. He provided documentation that LTV Steel Company sold the equipment to J. W. Industrial Services, Inc. of Somerset, Pennsylvania on January 16, 1989 (Attachment 4). The Surplus Material Sales Form between LTV Steel Company and J. W. Industrial Services, Inc. included removal of all equipment by June 1, 1989. Then on April 11, 1989, James Wolfe, President of J. W. Industrial Services Inc. sold the equipment to Mr. Karsnak (Attachment 5) with the intent to dismantle the plant. Mr. Karsnak showed the inspectors an inventory list dated January 9, 1989 that he obtained from Mr. Wolfe about the equipment he was purchasing (Attachment 6). This list starts on page 58 and goes to page 64. A density meter is listed on page 63. However, it is listed as a model 5363. According to TN Technologies, this model number is not a gauge model number.

The inspectors attempted to contact Mr. Wolfe and obtain a complete inventory list in order to determine if Mr. Wolfe sold both gauges to Design Fuels Corporation. All attempts to contact Mr. Wolfe were unsuccessful. Even though Mr. Karsnak stated he bought the entire Tailings Process site, there is confusion based on the two different inventory lists. There is the possibility that Mr. Wolfe sold some equipment (including the 2 curie gauge) to another company. There is an apparent discrepancy between the list from the bankruptcy court which states 2 nuclear density gauges back in 1986 and the J. W. Industrial Services inventory list from 1989 which states one density meter.

Since Mr. Karsnak did not visit the Tailings Process site after he bought it and before it was dismantled, there is no way to reconcile this discrepancy.

Mr. Karsnak indicated that he accepted a bid Mr. Wolfe negotiated with Beitzel Welding & Construction Inc. of Grantsville, Maryland to dismantle the plant. The plant was dismantled and moved to Oneonta, Alabama (near Rosa, AL) in late 1989. Attempts to contact Beitzel Welding were unsuccessful.

Mr. Karsnak further indicated that in the early 1990's it became apparent that the plant would not be rebuilt and Design Fuels subleased the property (but not the equipment on the property) to Olympia Crusher of Oneonta, Alabama. Olympia Crusher thought they had also purchased the equipment that was on the land and sold some of Design Fuel's equipment to K-Lee Processing, Inc. (K-Lee) of Hueytown, Alabama. Olympia Crusher's lease was solely for the land and not the equipment on the land. The equipment sold to K-Lee included the 1 curie cesium-137 gauge (B1806). When Design Fuels learned of the sale, they contacted K-Lee, explained the problem, and offered to sell the equipment to K-Lee at a higher price then Olympia Crusher had sold it. In a letter dated January 21, 1992 (Attachment 7), Design Fuels also offered K-Lee additional equipment including another gauge that was at the Rosa site. K-Lee turned down both offers, and Design Fuels arranged to have the equipment picked up. Apparently, when the equipment was picked up, gauge model B1806 was left behind.

Gauge B1806 was found late last year because in October of 2000, U.S. Steel issued a directive to all of their companies, which includes K-Lee, to clean up all scrap located on its property. During this cleanup, K-Lee found several pieces of pipe in the woods, over a hill, behind their settling pond. K-Lee had a forklift drag these items out and placed in a yard to be sent to a junkyard on October 27, 2000. Tom Bryan of K-Lee noticed what looked like a nuclear gauge among this material, similar to the Kay-Ray units he was familiar with at their facility. On October 27, 2000, a gauge manufacturer service representative (rep) happened to be on site to calibrate one of K-Lee's gauges. K-Lee asked the service rep to look at the unit they found. The service rep advised K-Lee to keep people away from the gauge. The rep locked the gauge shutter in the closed position, leak tested the gauge, supervised the movement of the gauge, chained the gauge to a more secure location, and placed the appropriate postings on the gauge and surrounding area. The leak test results were negative. K-Lee was able to locate paperwork that confirmed the gauge belonged to Design Fuels Corporation.

Because the two (2) curie cesium-137 gauge B 1808 has not been accounted for and was apparently last known to be in Alabama (per letter dated January 21, 1992), the State of Alabama surveyed the K-Lee site and the former Olympia Crusher site, interviewed individuals from these two companies, and visited recycling centers and scrap metal dealers in both areas. No information could be found regarding this missing 2 curie gauge.

The State of Alabama issued a Notice of Violation to Design Fuels Corporation and to K-Lee. Design Fuels has not responded as of the date of this report. K-Lee's response indicated that the gauge was brought on site before K-Lee had a license with Alabama and before they were aware of their responsibilities as a licensee. The NRC sent a letter dated January 24, 2001 to Mr. Karsnak of Design Fuels Corporation requesting a written reply regarding (1) the actions, planned or taken, to secure the gauge which is in Alabama and to ensure that it gets into the possession of a person authorized to possess it and (2) the actions taken or planned to find the missing two curie gauge. On April 18, 2001, the NRC sent a second letter to Mr. Karsnak requesting a written reply. No reply to either letter has been received.

On April 23, 2001, the inspectors met with Mr. Karsnak at his home in North Huntington, Pennsylvania. During discussions with Mr. Karsnak he recalled a time, at Nemacolin when a mining dredge sunk after a retaining wall collapsed. A gauge was normally on the dredge. Mr. Karsnak recalled the recovery of the dredge, but not the gauge. Mr. Karsnak said that when he purchased the equipment from J. W. Industrial Services, Inc. he never went to the Nemacolin site, never conducted an inventory of the items, and could not recall if he purchased one or two gauges. Mr. Karsnak indicated that he would send the NRC a letter in response to our two letters. As of the date of this report, no reply has been received.

Because of the possible sunken gauge, representatives from the Commonwealth of Pennsylvania, Department of Environmental Resource visited the old Tailings Process Site in the first quarter of 2001. The site does not have a dredging pond anymore. If the gauge was at the bottom of this barren dredging pond, the inspectors would have found it. However, there is still the possibility that the gauge is covered in mud and earth and may be well below the ground. A reclamation project is currently underway at this site by LTV Steel Company. Representatives from Pennsylvania surveyed the area, did not find the missing gauge, but offered assistance to LTV for further surveying if they uncovered any other suspect material.

c. Conclusions

Based on this information, when LTV Steel sold generally licensed material to J. W. Industrial Services, they violated 10 CFR 31.5. 10 CFR 31.5(c)(9) requires, in part, that any person who acquires, receives, possess, uses or transfers byproduct material in a device pursuant to the general license in 10 CFR 31.5(a) shall transfer the device to another general licensee only when the device remains in use at a particular location. In such cases, the transferor shall give the transferee a copy of 10 CFR Part 31, and, within 30 days of the transfer, report to the Director of the Office of Nuclear Materials Safety and Safeguards, USNRC, the manufacturer's name and model number of the device transferred, the name and address of the transferee, the name and/or position of an individual who may constitute a point of contact between the NRC and the transferee. On January 16, 1989, LTV transferred a generally licensed TN Technologies Model 5191 gauge to J. W. Industrial Services, Inc.. LTV did not give J. W. Industrial a copy of 10 CFR Part 31, and, did not inform the NRC of the manufacturer's name and model number of the device transferred, the name and address of the transferee, and the name and/or position of an individual who would constitute a point of contact between the NRC and the transferee.

When Design Fuels transferred the equipment, they were in violation of 10 CFR 31.5. 10 CFR 31.5(c)(3) requires that any person who acquires, receives, possesses, uses, or

transfers generally licensed devices shall assure that removal from installation of the radioactive material, its shielding or containment, is performed in accordance with the instructions provided by the labels; or by a person holding a specific license pursuant to 10 CFR Parts 30 and 32 or from an Agreement, to perform such activities. On February 27, 1989, Design Fuels contracted with an unlicensed company (Beitzel Welding & Construction Company) to remove from installation one, and possibly another, gauge (containing 1 and 2 curies of Cesium-137), which are devices generally licensed by the NRC, to a new location. The gauges were removed from the McKeesport, Pennsylvania facility and moved, along with other parts of the facility, to a new location in Oneonta, Alabama. Neither Design Fuels nor their subcontractor, Beitzel Welding & Construction Company, held a specific license from the NRC or from an Agreement State for removal of the gauges. Since gauge B1806 was found attached to a piece of cut piping, it is assumed that the plant was dismantled without regard to securing the gauges for transport and without following the instructions for removal from service.

There are two possible scenarios for the whereabouts of the missing 2 curie gauge:

If Mr. Karsnak's letter dated January 21, 1992 is correct, then both gauges were sold to Design Fuels and the gauge was last known to be in Alabama on the Rosa Site.

If the inventory list supplied to Mr. Karsnak from J. W. Industrial Services, Inc. is correct, then Mr. Karsnak may have only received one gauge. J.W. Industrial Services may have sold the other gauge to another company. Without more information and with no contact with those involved, we cannot conclude what actually happened to the gauge.

Based on the dose rate estimates, the missing 2 curie gauge would produce 0.4 R/hr at 1 meter if the shutter was open. A radiation survey would be able to detect this activity. Surveys at locations where the gauge was suspected to be did not detect this; it is concluded that the gauge shutter is closed, buried, or not at the location surveyed. If the gauge's shutter is closed or if the gauge is buried, there is little risk to the public if the gauge remains where it is.

The NRC has exhausted all leads, with regards to the missing gauge and this matter is closed. If new information develops, the NRC will re-open this case.

Regarding the recovered gauge (B1806) in Alabama, the NRC contacted LTV Steel Company on July 11, 2001, to discuss the proper disposal of Gauge B1806. LTV agreed to properly dispose of this gauge in their letter dated July 11, 2001. On August 24, 2001, the NRC was notified by the State of Alabama that this gauge had been removed and was in transit for proper disposal.

PARTIAL LIST OF PERSONS CONTACTED

George E. Karsnak, President of Design Fuels Corporation David Walter, State of Alabama Jon George, Service Engineer for TN Technology Ken Eller, President of Diversified Energy Ventures, Inc. David Allard, Commonwealth of Pennsylvania DER Dwight Shearer, Commonwealth of PADER Terence M. Civic, Corporate RSO for LTV Steel Company