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STATE OF ALABAMA DEPARTMENT OF  
**PUBLIC HEALTH**

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Donald E. Williamson, MD  
State Health Officer

P-3

January 9, 2001

IR 999-90001/2000-009

Mr. George Karsnak, President  
Design Fuels Corporation  
2605 O'Neil Boulevard  
McKeesport, PA 15132

Re: TN Technologies Source Holder Model TN 5191, S/N B1806

Dear Mr. Karsnak:

**NOTICE OF VIOLATION**

On October 27, 2000, the above referenced source holder, containing a 1,000 millicurie cesium 137 source (assay date June 14, 1982) was found in a wooded area near a settling pond in Hueytown, Alabama. The gauge shutter was locked in the opened position.

Upon investigation it was found that this gauge was a general licensed device originally sold and shipped in September, 1982, to Tailing Products Corporation in McMurray, PA. The device remained at this location until Design Fuels Corporation acquired the plant out of bankruptcy.

When the plant was dismantled and moved to Rosa, Alabama in 1989 by Design Fuels Corporation, the source holder was apparently transported with the shutter still locked in the open position. The device remained at the Rosa site (near, Oneonta, Alabama) until it was transported to Hueytown, Alabama with other equipment from the site. When the sale of this equipment fell through, Design Fuels Corporation arranged to retrieve the equipment. For unknown reasons the gauge was not picked up.

In addition to the above gauge, a second general licensed gauge (Model TN5191, S/N B1808 containing a 2,000 millicurie cesium 137 source with an assay date June 10, 1981) was shipped to the same Tailing Products Corporation plant in McMurray, PA. The location of this second gauge is, at present, unknown.

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During this investigation it was found that certain areas of your activities appear to be in noncompliance with Chapter 420-3-26, Radiation Control, Alabama Administrative Code. These items along with the pertinent section of the rules are as follows:

1. Abandonment of radioactive material. 420-3-26-.02(7)(b)vi. Severity Category I - Health Physics.

The referenced rule states a general licensee "Shall not abandon the device containing radioactive material".

Contrary to the above, Design Fuels Corporation knew that at least one source of radioactive material was in Alabama, and made no appreciable effort to maintain control over it. This lack of control over the radioactive material is evidenced by the fact the the TN5191 source holder located in Rosa, Alabama was sold by Olympia Crusher Corporation without Design Fuels Corporation's approval. When the source holder was lost, Design Fuels Corporation did not make any reasonable effort to locate the device. The severity of this violation is increased by the fact that the device shutter was locked in the open position, presenting a very real health and safety hazard.

As a result of the investigation that ensued with the discovery of the abandoned TN 5191 source holder, a number of other apparent noncompliance items were discovered. These additional violations are described below.

2. Failure to maintain exposures in unrestricted areas less than 2 mrem in any one hour. 420-3-26-.03(14)(a)2. Severity Category III- Health Physics.

The referenced rule requires the licensee to conduct operations so that the dose in any unrestricted area does not exceed 2 mrem in any one hour.

Contrary to the above, Design Fuels Corporation stored the TN 5191 source holder at the Rosa, Alabama location (an unrestricted area) with the source shutter locked in the open position, resulting in exposures exceeding 2,600 mrem/hr.

3. Illegal transfer of a general license device. 420-3-26-.02(7)(b)3.(vii). Severity Category III- Radioactive Materials Operations.

The referenced rule requires a general licensee to "transfer or dispose of the device

containing radioactive material only by transfer to a specific licensee of the Agency, the U.S. Nuclear Regulatory Commission, Licensing State, or an Agreement State...”.

Contrary to the above, Design Fuels Corporation transferred the general licensed TN5191 gauge (S/N B1806) from its facility in McMurray, PA, to Rosa, Alabama without a proper license.

4. Improper transportation of radioactive material. 420-3-26-.02(24)(b). Severity Category III - Transportation.

The referenced rule requires a licensee “...to assure that prior to the delivery to a carrier for transport, each package is properly closed for transport.”

Contrary to the above, Design Fuels Corporation offered the TN5191 source holders for shipment without properly closing and locking the shutter mechanism.

5. Unauthorized possession of radioactive material. 420-3-26-.02(2). Severity Category II

The referenced rule states “No person shall receive, possess, use, transfer, own, or acquire radioactive material except as authorized in a specific or general license issued pursuant to this rule...”.

Contrary to the above, Design Fuels Corporation possessed a TN Technologies Model TN5191 device containing 1,000 millicuries of cesium 137 within the boundaries of the State of Alabama without a required license from the Agency.

6. Failure to perform leak tests at required intervals. 420-3-26-.03(16). Severity Category III- Health Physics.

The referenced rule states a licensee shall test sealed sources of radiation for leakage or contamination at intervals approved by the Agency, an Agreement State, a Licensing State or the U.S. Nuclear Regulatory Commission.

Contrary to the above, there is no evidence that the sealed source in the TN5191 source holder had been tested for leakage and/or contamination by Design Fuels Corporation since it was transferred into Alabama.

7. Failure to maintain security of stored sources of radiation. 420-3-26-.03(25). Severity Category III Health Physics.

The referenced rule requires a licensee to secure from unauthorized removal or access sources of radiation that are stored in controlled or unrestricted areas.

Contrary to the above, Design Fuels Corporation failed to secure the TN5191 source holder from unauthorized access or removal from the Rosa, Alabama plant site.

8. Failure to post a high radiation area. 420-3-26-.03(28)(b). Severity Category III - Health Physics.

The referenced rule requires the licensee to post each high radiation area with a conspicuous sign or signs bearing the radiation symbol and the words 'CAUTION, HIGH RADIATION AREA' or 'DANGER, HIGH RADIATION AREA'.

Contrary to the above, Design Fuels Corporation maintained the TN5191 source holders with the shutter locked in the open position, which resulted in exposure rates of at least 2.6 R/hr, without posting the area.

9. Failure to post a radiation area. 420-3-26-.03(28)(a). Severity Category III - Health Physics.

The referenced rule requires the licensee to post each radiation area with a conspicuous sign or signs bearing the radiation symbol and the words 'CAUTION, RADIATION AREA'.

Contrary to the above, Design Fuels Corporation maintained the TN5191 source holders with the shutter locked in the open position, which resulted in exposure rates in excess of 0.05 rem in one hour, without posting the area.

10. Failure to control access to a high radiation area. 420-3-26-.03(19). Severity Category III - Radioactive Materials Operations.

The referenced rule requires a licensee to ensure that each entrance or access point to a high radiation area has one or more control devices to limit exposure rates to less than 100 millirem in any one hour.

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Contrary to the above, Design Fuels Corporation did not control access to the model TN5191 device while the shutter was in the open position, resulting in exposure rates greater than 2.6 R/hr.

11. Failure to report to the Agency a stolen lost or missing source of radiation. 420-3-26-.03(51). Severity Category II - Health Physics.

The referenced rule requires the licensee to report to the Agency by telephone "Immediately after its occurrence becomes known to the licensee, stolen, lost, or missing licensed radioactive material ... under such circumstances that it appears to the licensee that an exposure could result to individuals in unrestricted areas...". The rule also requires the licensee to make a written report to the Agency within thirty (30) days after making the telephone report.

Contrary to the above, Design Fuels Corporation did not notify the Agency by telephone or file a written report with the Agency regarding the loss of the TN5191 source holder.

12. Failure to maintain legible warning signs. 420-3-26-.03(30). Severity Category IV-Health Physics..

The referenced rule requires the licensee to "...ensure that each container of licensed or registered material bears a durable, clearly visible label bearing the radiation symbol and the words "CAUTION, RADIOACTIVE MATERIAL...."

Contrary to the above, the caution label on the TN5191 source holder is not legible.

Please provide us in writing, within thirty (30) days, comments concerning the causes of these alleged items together with steps taken or planned to correct and prevent a recurrence of these items of noncompliance. If actions are not completed within thirty (30) days, please notify this office of the date when such actions will be completed, and compliance achieved.

You will note that each item of noncompliance has been assigned a severity category and supplement name. An explanation of these categories may be found in Appendix A-General Statement of Policy and Procedure for Enforcement Actions, in Chapter 420-3-26, Radiation Control, Alabama Administrative Code.

The above items of noncompliance pertain only to the discovered TN Technologies Model TN5191 source holder (S/N B1806). As stated earlier in this correspondence, there may also be a

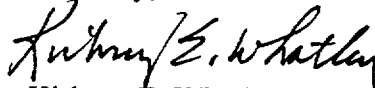
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second model TN5191 source holder (S/N B1808) in Alabama that is the responsibility of Design Fuels Corporation. Design Fuels Corporation should immediately conduct a search for this source holder, and notify this office of their intent regarding this source holder.

Please be aware that the severity of these noncompliance items require the Agency to consider civil penalties. The Agency is considering civil penalties and will notify Design Fuels Corporation of our determinations.

Should you have any questions concerning this investigation, please contact this office at 334-206-5391 and we will be glad to discuss them with you.

Sincerely,



Kirksey E. Whatley, Director  
Office of Radiation Control  
Alabama Department of Public Health

KEW/KDW/jsm

cc: Kathy Modes, NRC Region I