

Report No. 90-03

EA No. 90-196

License No. 53-23288-01

Licensee: Fewell Geotechnical Engineering Ltd.  
96-1416 Waihona Place  
Pearl City, Hawaii 96782

Conference at: Fewell Geotechnical Engineering Ltd. Office  
96-1416 Waihona Place  
Pearl City, Hawaii

Conference Conducted: November 20, 1990

NRC Personnel:

Allen D. Johnson  
Allen D. Johnson  
Enforcement Coordinator

12/10/90  
Date Signed

Robert J. Pate  
Robert J. Pate, Chief  
Nuclear Materials and Fuel Fabrication  
Branch

12/10/90  
Date Signed

Approved by:

Robert J. Pate  
Robert J. Pate, Chief  
Nuclear Materials and Fuel Fabrication  
Branch

12/10/90  
Date Signed

Summary:

Enforcement Conference on November 20, 1990 (Report No. 90-03)

The following matters were discussed:

1. Description of inspection findings and apparent violation identified during the inspection of October 4, 1990 and the special safety inspection between October 23 and November 8, 1990.
2. NRC Concerns
3. NRC Enforcement Policy and options.

Results

The licensee accepted responsibility for and did not dispute any of the apparent violations. The licensee had no disagreement with the facts as presented in the inspection reports 90-01 and 90-02. The licensee provided a proposed corrective action program that is being considered for implementation.

ENFORCEMENT CONFERENCE  
DETAILS

1. Enforcement Conference Attendees

Richard Fewell, President, Fewell Geotechnical Engineering  
Gary Martin, RSO, Fewell Geotechnical Engineering  
Robert Pate, Chief, Nuclear Material and Fuel Fabrication Branch,  
Region V  
Allen Johnson, Enforcement Coordinator, Region V

2. Apparent Violations

The inspectors discussed with the licensee's representatives the facts and circumstances associated with the apparent violations of NRC requirements as set forth in the NRC inspection reports nos. 030-30870/90-01 and 90-02 dated October 25, 1990 and November 16, 1990, respectively. Subsequent to the discussion, the licensee's representatives stated that neither the facts as set forth in the inspection reports nor the associated apparent violations were contested or disputed.

3. Corrective Actions

Upon being informed by the NRC on October 26, 1990 of the apparent violations identified in inspection report 90-02, the licensee suspended radiographic operations. On November 2, 1990, the NRC issued an Order Modifying License No. 53-23228-01 prohibiting utilization of the involved radiographer for licensed activities for a period of three years.

The licensee discussed the attached proposed independent monitoring and audit program by a consultant and the attached proposed revisions to his Radiation Safety Manual. The revised pages provided are for the licensee's nuclear density gage, but he said similar changes would be provided for the radiographic exposure device. The licensee indicated that the proposed revisions to Radiation Safety Program will be put in final form and implemented prior to resuming radiographic operations.

4. NRC Enforcement Policy

The enforcement officer discussed the enforcement options under the NRC enforcement policy and answered the licensee's questions on the matter. The licensee was provided a copy of the enforcement policy, 10 CFR Part 2, Appendix C.

5. NRC Concerns

The NRC representatives advised that the major concerns were (1) the actions by the radiographer that could have caused serious health effects to himself and the public due to his disregard for FGE and NRC requirements and (2) the lack of management oversight of the radiation safety program by the FGE President and RSO. Additionally, the licensee was advised that the proposed corrective actions would be reviewed in regard to these concerns.

# DRAFT

## Procedures for Consultant Health Physicist Review of Licensed Operations

### 1. Consultant Health Physicist

(a) The position of Consultant Health Physicist is established. The position is a independent consultant position, with no direct responsibility for operating activities of FGE. The Consultant Health Physicist is responsible for ensuring to FGE and to the NRC that FGE operates its licensed activities in compliance with NRC regulations and with license conditions. In carrying out these responsibilities, the Consultant Health Physicist will perform whatever audits, radiographer interviews, on-site inspections, or other activities he considers necessary. Certain minimum activities are outlined below.

(b) The Consultant Health Physicist will report directly to the President, Fewell Geotechnical Engineering, Ltd.

(c) The Consultant Health Physicist has the authority to stop any work in progress, should he determine that regulations or license conditions are not being followed. He shall file a report of any stop work order within 24 hours to the President, FGE.

(d) The President, FGE, will notify all employees of the establishment of the position of Consultant Health Physicist, and the duties and responsibilities of the Consultant Health Physicist.

(e) Should the Consultant Health Physicist terminate his employment relationship with FGE, or should he be terminated by FGE, he shall report this fact within 24 hours to Region V, NRC.

### 2. On-site Radiation Safety Officer (RSO)

(a) An on-site Radiation Safety Officer (RSO) will be assigned for each job involving SOURCE R/T. The on-site RSO must be a qualified radiographer.

(b) The on-site RSO will be responsible for ensuring that all NRC regulations and license conditions are followed during the radiography procedures, and all required records are kept.

(c) The on-site RSO will maintain all necessary records in the Job Control Folder. At the end of the job, the on-site RSO will be responsible for turning the Job Control Folder in for review by the Consultant Health Physicist. For jobs lasting more than a week, copies of all records will be turned in on a weekly basis.

3. Radiographic Source Time Schedule

(a) A time schedule will be maintained for each radiography source in use. This schedule will show the job assigned to and the duration of the job.

(b) Once a job involving "SOURCE R/T" has been assigned a number, a radiography source will be assigned to that job for the duration of the job, and a record of the job number and duration will be made in the source time schedule.

(c) The Consultant Health Physicist will be provided with a copy of the source schedule on a weekly basis, in advance of the work to be done. If there are any changes to the schedule, he will be provided with a copy of those changes within 4 hours.

(d) Records of time schedules for each source in use shall be maintained for at least two years.

4. Field Audits

(a) The Consultant Health Physicist will perform field audits on an unannounced basis at least once per week. He will use the source time schedules for information on the work being performed.

(b) A report of the results of the field audit will be provided to the President, FGE. Any discrepancies found will be noted in the audit report.

(c) The President, FGE, will take the necessary corrective action to correct the discrepancies and record the corrective action taken at the end of the audit report.

(d) A copy of the audit report, along with the corrective action taken, will be provided to Region V, NRC.

5. Personnel Training

(a) Prior to the start of any radiographic work involving by-product material, the Consultant Health Physicist will assess the knowledge and understanding by each radiographer and radiographer's assistant in the NRC regulations and license conditions. Such an assessment may be performed by administering examinations, conducting personnel interviews, or observing operations involving by-product radiography

devices.

(b) The Consultant Health Physicist will provide a record of his evaluation to the President, FGE, with a copy to Region V, NRC. Based on his evaluation, personnel may be assigned to work as radiographers or radiographers' assistants.

(c) No individual may be assigned to work at a level higher than he or she previously had based on the Consultant Health Physicist's evaluation. The requirements of FGE training program and any NRC regulations must still be followed for qualification of any individual as radiographer or radiographer's assistant.

#### 6. Records Checks

(a) The Consultant Health Physicist will perform a monthly records check of all required records. This check will include, but not be limited to, checks of

- \* training records
- \* exposure device inspection records
- \* survey records
- \* personnel dosimetry records
- \* instrument and dosimeter calibration records
- \* utilization records
- \* job control folders
- \* shipping records

(b) The Consultant Health Physicist will submit a report of his records check to the President, FGE, outlining the records reviewed and the discrepancies found.

(c) The President, FGE, will take the necessary corrective action and record the action taken.

(d) A copy of the records check report, along with the corrective action, will be forwarded to Region V, NRC.

#### 7. Employee Reports

(a) The President, FGE, will notify all employees that the Consultant Health Physicist will be available to hear any unsafe practice or suspected violations of NRC regulations or license conditions by an employee. The President, FGE, will also notify all employees that reporting of any suspected unsafe practice or violation of regulations will not be cause for discrimination or firing.



(b) Upon report to the Consultant Health Physicist by an employee of a suspected unsafe practice or violation of regulations, the Consultant Health Physicist will make an investigation into the reported condition and report the results of his investigation to the President, FGE.

(c) If the investigation identifies an unsafe practice or violation of the regulations, the President, FGE, will take the necessary corrective action and record the steps taken.

# DRAFT

FEWELL GEOTECHNICAL ENGINEERING, LTD.

NUCLEAR DENSITY GAUGES  
RADIATION SAFETY MANUAL  
PART I

APPENDIX 3

DATE

November 19, 1990

REVISION

APPROV.

GWM/

## TRANSFER OF NUCLEAR DENSITY GAUGE

DATE: \_\_\_\_\_

Transferred To: Customer \_\_\_\_\_  
Location \_\_\_\_\_

Transferred From: Customer \_\_\_\_\_  
Location \_\_\_\_\_

Manufacturer \_\_\_\_\_ Model No. \_\_\_\_\_ S/N \_\_\_\_\_

Source Activities \_\_\_\_\_ AM241/BE \_\_\_\_\_ MC1 CE137 \_\_\_\_\_ MC2

Leak Test Due Date \_\_\_\_\_

Radiation Levels - Acceptable \_\_\_\_\_ Sat \_\_\_\_\_ Unsat \_\_\_\_\_ MR/HR

Survey Meter - Model \_\_\_\_\_ S/N \_\_\_\_\_ Calibration Due \_\_\_\_\_

PACKAGING Check these before transporting \_\_\_\_\_

1. Transport package proper for gauge \_\_\_\_\_
2. Transport Index & Radioactive material category II label on package \_\_\_\_\_
3. Danger/Pellegro label attached \_\_\_\_\_
4. Shippers Certification with Driver \_\_\_\_\_
5. Unit is Safely secured in vehicle \_\_\_\_\_

\_\_\_\_\_  
Operator's Signature

\_\_\_\_\_  
Verifying Signature

**DRAFT**

**FEWELL GEOTECHNICAL ENGINEERING, LTD.**

NUCLEAR DENSITY GAUGES  
RADIATION SAFETY MANUAL  
PART 1

APPENDIX 3

DATE  
November 19, 1990

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**FEWELL GEOTECHNICAL ENGINEERING, LTD.**

SOURCE SERIAL NO. \_\_\_\_\_

TROXIER SERIAL NO. \_\_\_\_\_

SOIL TEST SERIAL NO. \_\_\_\_\_

DATE	CURIES	TIME OUT	SURVEY MIN/HR	WORK LOCATION	TIME IN	SURVEY MIN/HR	STORAGE LOCATION	RESPONSIBLE OPERATOR

**SAMPLES**



# DRAFT

## FEWELL GEOTECHNICAL ENGINEERING, LTD.


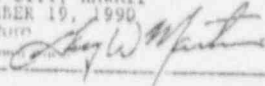
NUCLEAR DENSITY GAUGES  
RADIATION SAFETY MANUAL  
PART I  
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### SHIPPER'S DECLARATION FOR DANGEROUS GOODS

Shipper FEWELL GEOTECHNICAL ENGINEERING, LTD. 96-1416 WAIHONA AVE PEARL CITY, HAWAII 96782		AVIATION No. Page 1 of 1 Pages Shipper's Reference Number			
Consignee FOR EXCLUSIVE USE VEHICLE TRANSPORT TO TEMPORARY JOBSITES		 <h2>FLYING TIGERS</h2>			
These completed and signed copies of this Declaration must be retained by the shipper.		<b>WARNING</b> Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, forwarder or an IATA cargo agent.			
<b>TRANSPORT DETAILS</b>					
This shipment is within the limitations prescribed for:		Airport of Departure			
(Indicate any applicable)		Airport of Destination			
<input type="checkbox"/> HAZARDOUS MATERIALS <input type="checkbox"/> LIMITED QUANTITIES <input type="checkbox"/> EXCEPTIONAL HANDLING	<input type="checkbox"/> SPECIAL PERMIT <input type="checkbox"/> AIRCRAFT CARGO	<input type="checkbox"/> <del>EXCEPTED QUANTITIES</del> <input type="checkbox"/> <del>EXCEPTED LIQUIDS</del>			
<b>NATURE AND QUANTITY OF DANGEROUS GOODS</b>					
(Complete in duplicate)					
Proper Shipping Name	Class or Division	UN or ID No.	Quantity and Type of Packing	Packing Inst.	Authorization
RADIOACTIVE MATERIALS SPECIAL FORM NOS	7	UN2974	Cs137/Ac241:Be Metal Solid, 1 Type A Package X .0080 Ci .040 Ci	I1 Yellow Cert. T1-0.6 DIM 7ix33x 51 CM	Spec. Form GB 140/S GB 7/S
Additional Handling Information				(OPTIONAL) This shipment is prepared in accordance with: IATA/ICAO <input type="checkbox"/> 49 CFR <input type="checkbox"/>	
I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labelled, and are in all respects in the proper condition for transport by air according to the applicable international and National Government Regulations.				Name/Title of Signatory <b>GARY W. MARTIN</b> RADIATION SAFETY OFFICER Place and Date PEARL CITY, HAWAII NOVEMBER 19, 1990 Signature 	

13 73000 (Rev. 11/83)

FORM 6500

FEWELL GEOTECHNICAL ENGINEERING, LTD.

NUCLEAR DENSITY GAUGES  
RADIATION SAFETY MANUAL  
PART I

APPENDIX 3

DATE

November 19, 1990

REVISION

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FEWELL GEOTECHNICAL ENGINEERING, LTD.

INVENTORY DATE 11-19-90

NUCLEAR DENSITY GAUGES

MODEL NO. <u>424-9</u> SERIAL NO. <u>2812</u>	MODEL NO. _____ SERIAL NO. _____
LOCATION <u>FGE LAB</u>	LOCATION _____
RADIOACTIVITY AT PRESENT <u>42 c/L</u>	RADIOACTIVITY AT PRESENT _____
LEAK TEST DUE DATE <u>FEB 24 1991</u>	LEAK TEST DUE DATE _____
MODEL NO. <u>223</u> SERIAL NO. <u>S-349</u>	MODEL NO. _____ SERIAL NO. _____
LOCATION <u>FGE LAB</u>	LOCATION _____
RADIOACTIVITY AT PRESENT <u>125 c/L</u>	RADIOACTIVITY AT PRESENT _____
LEAK TEST DUE DATE <u>DEC. 17 1990</u>	LEAK TEST DUE DATE _____
MODEL NO. <u>3440</u> SERIAL NO. <u>18947</u>	MODEL NO. _____ SERIAL NO. _____
LOCATION <u>FGE LAB</u>	LOCATION _____
RADIOACTIVITY AT PRESENT <u>0480 c/L</u>	RADIOACTIVITY AT PRESENT _____
LEAK TEST DUE DATE <u>MARCH 18, 1991</u>	LEAK TEST DUE DATE _____
MODEL NO. <u>3440</u> SERIAL NO. <u>18948</u>	MODEL NO. _____ SERIAL NO. _____
LOCATION <u>FGE LAB</u>	LOCATION _____
RADIOACTIVITY AT PRESENT <u>0480 c/L</u>	RADIOACTIVITY AT PRESENT _____
LEAK TEST DUE DATE <u>MARCH 18, 1991</u>	LEAK TEST DUE DATE _____
MODEL NO. _____ SERIAL NO. _____	MODEL NO. _____ SERIAL NO. _____
LOCATION _____	LOCATION _____
RADIOACTIVITY AT PRESENT _____	RADIOACTIVITY AT PRESENT _____
LEAK TEST DUE DATE _____	LEAK TEST DUE DATE _____
MODEL NO. _____ SERIAL NO. _____	MODEL NO. _____ SERIAL NO. _____
LOCATION _____	LOCATION _____
RADIOACTIVITY AT PRESENT _____	RADIOACTIVITY AT PRESENT _____
LEAK TEST DUE DATE _____	LEAK TEST DUE DATE _____

FORWARD

*Sing W. Martin*