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**Florida
Power**
CORPORATION

March 22, 1984
3F0384-17

Mr. James P. O'Reilly
Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
Office of Inspection & Enforcement
101 Marietta Street N.W., Suite 3100
Atlanta, GA 30303

Subject: Crystal River Unit 3
Docket No. 50-302
Operating License No. DPR-72
IE Bulletin No. 83-07:
Apparently Fraudulent Products
Sold by Ray Miller, Inc.

Dear Mr. O'Reilly:

In response to Bulletin 83-07, Florida Power Corporation provides the attached response. As requested by the Bulletin, staff time necessary to perform the requested review was approximately 800 man hours; staff time to prepare this documentation was 60 manhours.

G.R. Westafer
Manager, Nuclear Operations
Licensing and Fuels Management

PGH/nsw

Enclosures 3

cc: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555

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ENCLOSURE 1

ACTION 1

Based on a review of the attached lists of Ray Miller, Inc., customers who received apparently fraudulent materials (Attachment 1 and 2), and pertinent information obtained from any of these companies, either directly or indirectly:

- (a) Identify those companies on the lists that supplied materials or services to your facility (include subcontractors as well as major contractors); and
- (b) Determine whether any of the apparently fraudulent Ray Miller, Inc. materials were provided to or used at your facility.
- (c) Determine whether any of the apparently fraudulent material supplied to you was installed in safety-related systems at your facility, or is still in stock.
- (d) If other Ray Miller, Inc. materials not listed in Attachments 2 and 3 have been identified by your own initiative, determine whether any was installed in safety-related systems at your facility, or is still in stock.

RESPONSE

To identify any Ray Miller, Inc. material supplied to Crystal River Unit 3, Florida Power Corporation reviewed all Certified Materials Test Reports in the CR-3 document files. This review identified several materials that were supplied by Ray Miller, however none of these materials were identified as "fraudulent" by Attachments 2 and 3 of the subject Bulletin.

The material that was identified by this search that is currently installed in safety-related systems is listed in Enclosure 2. No Ray Miller material was identified in stock.

ACTION 2

For Ray Miller, Inc. materials, both the NRC-identified apparently fraudulent materials listed in Attachments 2 and 3, and other materials identified by your own initiative, that are installed in safety-related systems of your facility:

- (a) Evaluate the safety significance of the presence of these materials assuming the fraud is as identified in the attachments or assuming material failure.
- (b) Determine the disposition of the installed material; e.g., use as is, remove and replace, etc.

RESPONSE

To determine the safety significance of the presence of the Ray Miller materials, Florida Power Corporation performed a Failure Analysis for each affected safety-related system. The analysis for the Seal Return Coolers, Make-up Tank nozzles, Electrical Penetrations and tubing(3/8 inch) are discussed in Enclosure 3.

ACTION 3

For all material from Ray Miller, Inc. still in stock, whether identified by item 1 or previously identified by your own initiative: (see Bulletin for details).

RESPONSE

Florida Power Corporation did not identify any Ray, Miller, Inc. material still in stock.

ENCLOSURE 2

Safety Related

Material Supplied to Crystal River Unit 3

By Ray Miller, Inc.

Equipment:

Seal Return Coolers; Materials used for Inlet/Outlet Head and Return Head.

Description of Material:

For each Seal Return Cooler

4	10" Caps Schedule 10
1	4" Pipe Schedule 40 Seamless x 3' 0"
1	10" Pipe Schedule 10 Welded x 2' 0" cut

Date of CMTR:

January 10, 1971

Buyer:

Basco Division of American Precision
2777 Walden Ave.
Buffalo, NY

Safety Related
Material Supplied to Crystal River Unit 3
By Ray Miller, Inc.

Equipment: Make-up Tank; Materials used for miscellaneous tank nozzles.

Description of Material:

1	4" Pipe schedule 40 welded x 0' 7"	(SS)
1	4" x 9" Nipple schedule 40 TOE	(SS)
2	1 1/2" Coupling S/W 3000#	(SS)
1	3/4" Pipe schedule 40 welded x 7' 7"	(SS)
1	3/4" Coupling S/W 3000#	(SS)
2	1" Coupling S/W 3000#	(SS)
1	3/4" Cap Scrd. 150#	(SS)
1	1" Schedule 40 Pipe Welded x 0' 7"	
1	1" Welded neck flange ASA 150# RF Sch. 40	

Date of CMTR: July 23, 1970

Buyer: Bethlehem Steel
Bethlehem, PA

Safety Related
Material Supplied to Crystal River Unit 3
By Ray Miller, Inc.

Equipment: Electrical Penetrations (208, 209, 210, 211, 401, 402, 403, 404)

Description of Material:

16	2" Pipe schedule 40 welded plain end x 6' 6 1/4"	(SS)
51	2" Pipe schedule 40 welded plain end x 7' 10 1/8"	(SS)
16	2" Pipe schedule 40 welded plain end x 6' 8 1/2"	

Date of CMTR: June 1, 1970 and
July 8, 1970

Buyer: Irwin Steel Fabricators
PO Drawer #1388
Station C
Canton, Ohio

Safety Related
Material Supplied to Crystal River Unit 3
By Ray Miller, Inc.

Equipment: Miscellaneous Tubing; Unknown plant location

Description of Material:

78' 3/8" OD 0.065" wall tubing (seamless) (SS)

Date of CMTR: April 21, 1969

Buyer: Capital Pipe and Steel Products
301 City Line Ave.
Bala-Cynyd, PA

ENCLOSURE 3

FAILURE ANALYSIS

Seal Return Coolers 3A & 3B (MUHE-2A, 2B)

The seal return coolers are two full capacity (205 GPM) heat exchangers which transfer the heat from the seal return water (controlled bleedoff from the reactor coolant pump seals) to the nuclear services closed cycle cooling water system.

The materials used to fabricate the tube side inlet/outlet nozzles, tubeside inlet/outlet head, and tubeside return head have been identified as supplied by Ray Miller, Inc. The materials in question serve as integral parts of the seal return cooler and should any of these materials fail, the equipment could not function properly. However, during normal plant operation, only one of the straight tube design coolers is required to be on line at any given time. Since Crystal River Unit 3 has provisions to isolate the seal return coolers (via manual valves MUV-77, 78, 79, & 80), either heat exchanger can be lined up. Therefore, should a failure of the subject material occur, the redundant cooler can be aligned and normal plant operation can continue without any effect on public health or safety.

All materials listed in Enclosure 2 for the seal return coolers shall remain in service. Should any of these materials fail, the standby seal return cooler will be placed in service and the failed material will then be replaced.

Makeup Tank (MUT-1)

The makeup tank serves as a surge tank for the makeup system and provides NPSH for the makeup pumps. The tank also serves as a receiver for letdown flow from the reactor coolant system, reactor coolant pump seal return, chemical addition, and introduces hydrogen and nitrogen into the makeup system. Due to the fact that temporary changes in the primary system coolant volume are seen in the tank, the tank inventory varies. However, the normal water inventory is 2250 gallons.

The materials used to fabricate miscellaneous nozzles on this tank have been identified as being supplied by Ray Miller, Inc. The nozzles which are affected by the Ray Miller material study are as follows:

System Piping Connections:

- | | | |
|----|--|--------------------------|
| a) | MU system inlet and outlet conns. | 4", BW, Pipe Neck |
| b) | N ₂ & H ₂ Gas Vent Inlet | 3/4", 3000#, SW Coupling |
| c) | Tank Vent | 1", 3000#, SW Coupling |
| d) | Tank Relief | 1", 150#, RF Flange; |
| | | 1", BW, Pipe Neck |

Alarms & Interlock:

- | | | |
|----|--------------------------------|----------------------------|
| a) | High & Low Level Indication | 1 1/2", 3000#, SW Coupling |
| b) | High & Low Pressure Indication | 1", 3000#, SW Coupling |

Considering the effects of failure in any of the above referenced nozzles, it has been determined that the worst case failure will occur at the makeup system outlet connection. A failure occurring at this nozzle will have detrimental effects on the entire makeup system.

A catastrophic failure (worse case) of the MUT-1 outlet nozzle will immediately result in destruction of the operating makeup pump. Due to the loss of the operating pump the entire makeup system will be temporarily out of service. During normal plant operation the main functions of the makeup system are to provide for purification and recirculation of the reactor coolant and also provide seal injection water for the reactor coolant pumps (RCPs). Should the makeup system be lost, the primary concern will be loss of RCP seal injection water. However, preliminary evaluation indicates that even if the seal(s) fail (i.e., leakage through seals), this will have minor effects on immediate availability of the reactor coolant pumps.

The makeup system will remain out of service until the operator realizes what has occurred via the makeup tank low-low level alarm and takes action by aligning the backup makeup pump to an alternate makeup water supply (i.e., borated water storage tank). Once the backup makeup pump is started and has come up to its rated capacity, the makeup system functions will be restored.

All materials listed in Enclosure 2 for the makeup tank shall remain in service. A review of the material specifications indicates that fraud on this type of material is unlikely. Specifically, the materials were not required to be low carbon content or sold as "seamless" thus the types of fraud already attributed to Ray Miller are not applicable. Furthermore, this is a low pressure, low temperature system and thus, catastrophic failure is very unlikely.

Electrical Penetrations (P-208, 209, 210, 211, 401, 402, 403, 404)

The materials used to fabricate the penetration feedthroughs have been identified as supplied by Ray Miller, Inc. The subject penetrations contain the power supply wiring for the RCP motors as well as provide a leak tight containment atmosphere boundary. Upon evaluation of the penetration layout, it has been determined that the feedthrough needs to fail in two different, exact locations to cause loss of containment function. No failure(s) of penetration electrical function are likely to result from mechanical nonconformances.

All materials listed in Enclosure 2 for the electrical penetrations shall remain in service. In order to breach containment, the feedthroughs must have two failure points which occur at the penetration end plates. Since a double failure at specific locations is very unlikely to occur, continued service of these materials is justifiable by engineering judgement and required testing per 10CFR50 Appendix J.

3/8" Tubing

The 78 feet of 3/8" tubing identified as supplied by Ray Miller, Inc. can not be specifically located in Crystal River Unit 3. However, there is no documented evidence of any 3/8" tubing failures since plant startup.

A large percentage of the tubing utilized during construction of Crystal River Unit 3 serves as instrument air line connections for pneumatically operated valves. All valves which receive emergency safeguard signals have provisions built into them for system protection. These safety provisions are in the form of either accumulators or failsafe valve design. Therefore, should an instrument air line break occur, the valve will still perform its safety function.

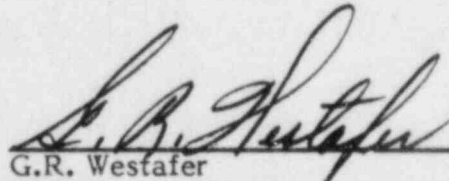
If the tubing was utilized in the primary fluid system, Crystal River Unit 3 has the capability to control the reactor coolant system inventory (via the makeup system) for up to a 3/8" line break. Therefore, should the tubing fail, the primary fluid system can still perform its safety function.

All materials listed in Enclosure 2 for miscellaneous tubing shall remain in service. Since there is no documented evidence of any similar tubing failures, the continued use of the subject tubing is justified by engineering judgement.

STATE OF FLORIDA

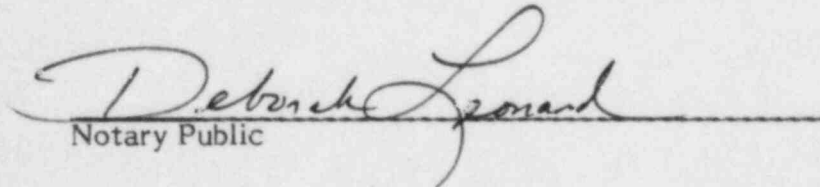
COUNTY OF PINELLAS

G.R. Westafer states that he is the Manager, Nuclear Operations Licensing and Fuel Management for Florida Power Corporation; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission the information attached hereto; and that all such statements made and matters set forth therein are true and correct to the best of his knowledge, information, and belief.



G.R. Westafer
Manager, Nuclear Operations Licensing and Fuel
Management

Subscribed and sworn to before me, a Notary Public in and for the State
and County above named, this 22th day of March, 1984.



Notary Public

Notary Public, State of Florida at Large,

My Commission Expires: November 19, 1986