

**Florida
Power**
CORPORATION

March 3, 1983
3F-0383-09

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Crystal River Unit 3
Docket No. 50-302
Operating License No. DPR-72
Environmental Reports

Dear Mr. Denton:

Pursuant to Crystal River Unit 3 Technical Specifications, Appendix B - Part II, Section 3.2, attached is a copy of the Florida Power Corporation (FPC) response to a show cause order from the Environmental Protection Agency (EPA). The show cause order is a result of FPC notifying EPA of violations of NPDES Permit FL0000159 following recent ordered changes to the permit by EPA.

Should you have any further questions concerning this matter, please contact this office.

Sincerely,

G. R. Westafer
Manager
Nuclear Licensing and Fuel Management

DVH:mm

cc: Mr. J. P. O'Reilly, Regional Administrator
Office of Inspection & Enforcement
U.S. Nuclear Regulatory Commission
101 Marietta Street N.W., Suite 2900
Atlanta, GA 30303

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S PDR

bcc: N. B. Spake
J. A. Hancock
G. C. Moore
H. A. Evertz
G. R. Westafer
D. A. Shantz
G. A. Becker
B. J. Hickie
R. E. Parnelle

THIS COPY FOR

**Florida
Power**
CORPORATION

CERTIFIED/RETURN RECEIPT REQUESTED

February 28, 1983

Mr. Gilbert W. Wallace, Chief
Industrial Operations Section
Facilities Performance Branch
Water Management Division
U. S. Environmental Protection Agency
345 Courtland Street
Atlanta, Georgia 30365

Subject: Crystal River Units 1, 2, & 3
NPDES Permit No. FL0000159
Administrative Order No. 83-17 (wCAB)

Dear Mr. Wallace:

In response to your letter of February 4, 1983, we submit the following information for your consideration at the meeting scheduled for March 8, 1983, in Atlanta.

On January 21, 1983, we reported to EPA that on January 10, 1983, the discharge from outfall 007, Regeneration Waste neutralization Tank (SDT-1), exceeded the 20 mg/l daily limit for oil and grease. In the report we indicated that a thorough assessment of this incident had taken place to determine the cause and to develop means to avoid similar future discharges and that it was concluded that no equipment malfunction or operational action could be identified that contributed to the high oil and grease discharge. We indicated that we suspected either a contaminated sample or analytical error. Subsequent review has not uncovered any new information, i.e., we still believe that a measurement error occurred instead of an actual discharge of oil and grease above the prescribed limit. As was discussed with representatives of EPA during their inspection of the Crystal River 1, 2, and 3 facilities on February 8, 1983, the laboratory procedure associated with the determination of oil and grease is easily subject to gross error. It was further explained that sampling and laboratory procedures have been changed to require splitting of the sample in case a backup analysis is necessary to confirm a suspected value.

Another possible explanation is that a spurious source of emulsified oil was present in the discharge. The oil/water separator system is designed to remove oil based upon the fact that oil floats on water. Emulsified oil does not behave in that manner and would consequently pass through the oil/water separator system. We do experience emulsified oil and grease in other waste streams but we do not believe they are present in any quantity in this stream.

Mr. Gilbert W. Wallace
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Our letter indicated we had experienced several non-compliances via outfall 007 due to oil and grease since the installation of the oil/water separator system in late 1981. We have implemented specific corrective actions to reduce the potential for non-compliance and are studying both short term and long term solutions. These are described in Attachment A. Some of these were discussed with the EPA inspection team during their visit. We will be prepared to discuss these in more detail at the March 8, 1983, meeting.

On January 21, 1983, we also reported five instances on four specific days where the pH of discharge from outfall 007 exceeded the maximum value of 9.0 allowed by the subject order. The values of these exceedances ranged from 9.07 to 9.1.

We were concerned with pH requirements placed on both outfall 003 and 007 when we received the administrative order on January 3, 1983. The reason for this reaction is the fact that Florida Power has been working with EPA since May, 1980, on an program to mitigate the discharge of oil and grease and total suspended solids (TSS) from these discharges. At no time during conversations did EPA express concern with pH from these two outfalls. To the contrary, we were assured that pH was not of concern from 003 and 007 since these streams were diluted by more than 10,000 gallons/minute of seawater prior to release to the environment at outfall 006. Review of our records and correspondence confirm this EPA position. For example, attached is a letter dated October 12, 1982. You will note that discussion in this correspondence pertains to oil and grease and TSS, not pH.

We do not believe that pH should be regulated from either outfall 003 or outfall 007 in as much as these small waste streams are greatly diluted by the 10,000 gallon/minute flow of the nuclear service and decay heat seawater system prior to release to the waters of the United States at outfall 006. This, coupled with the fact that measured values for the pH of seawater range from 8.6 to 9.3, leads us to the conclusion that there is no impact whatsoever on the environment.

Notwithstanding this conclusion, there are actions that Florida Power could take to bring the pH within the range of 6.0 to 9.0 specified in the administrative order. Attachment B describes actions that have been implemented to mitigate these non-compliance as well as a potential near term solution. EPA representatives on the inspection team were shown how we are attempting to comply. Basically, the method now being used is to sample the contents of SDT-1 and manually add through a manhole in the top of the tank the quantity of acid calculated to bring the tank contents to the proper pH range. Admittedly, this process is somewhat crude. Our engineering staff has investigated more precise, sophisticated methods which we will be prepared to discuss with you on March 8, 1983. These involve pumps, tanks, control systems, etc., all of which are expensive and time consuming to engineer, procure, and install. We do not believe the expenditures of these efforts and funds are warranted.

Mr. Gilbert W. Wallace
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Florida Power Corporation has acted responsibly by identifying these waste streams, bringing them to EPA's attention, and implementing actions necessary to bring them into compliance. We are no less anxious than EPA to bring these efforts to a successful conclusion.

Sincerely,

William S. O'Brien

William S. O'Brien
Director
Environmental & Licensing Affairs

WSO/gr

Attachments

cc: V. J. Tschinkel, FDER w/attachment

**OIL AND GREASE CONTROL
REGENERATION WASTE NEUTRALIZATION TANK (SDT-1)**

PHASE I IMMEDIATE ACTIONS COMPLETED

The following actions have already been initiated and combined they will significantly reduce the probability of future EPA violations associated with dumping low level waste into the CR-3 discharge canal.

1. Auxiliary steam transferred from CR 1&2 is a major source of waste water during startup and shutdown modes. Operational procedure changes have been made to minimize the use of auxiliary steam.
2. Automatic actuation of the turbine building sump pumps has resulted in bypassing the Oily Water Separator. These pumps are now administratively limited to manual control.
3. An engineering project team has been created to develop and implement near term plans to preclude future violations.
4. Stone and Webster, an Architectural Engineering firm, has been contracted to develop an Engineering Study for a "final" solution to the problem.

OIL AND GREASE CONTROL
REGENERATION WASTE NEUTRALIZATION TANK (SDT-1)
(continued)

PHASE II NEAR TERM ACTIONS

The following represents near term action which will provide additional protection against future violations.

<u>ITEM</u>	<u>COMPLETION DATE</u>
1. Storage of low level waste water is currently at a premium and contributes to the situation where waste water must be discharged. A large reserve capacity storage system is planned utilizing an existing fuel storage tank at CR 1&2.	Mid July 1983

PHASE III LONG TERM MODIFICATIONS

The Phase III action item will result in a final problem solution. It will assure complete compliance with existing EPA regulations in the long term.

<u>ITEM</u>	<u>COMPLETION DATE</u>
1. In order to completely understand all the factors associated with low level waste handling, an Engineering Study is required. Stone and Webster will perform this study. Their recommendations as agreed upon by FPC Nuclear Engineering will be implemented by design modifications.	February, 1984

PH CONTROL SDT-1 AND LSST

PHASE I IMMEDIATE ACTIONS COMPLETED

The potential for a violation of pH limits associated with processing waste water through SDT-1 and the Laundry Shower Sump Tank (LSST) has been significantly reduced. The following action items describe relevant facts and recent developments which support this conclusion.

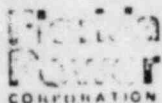
1. At this time there are no means available to control pH in SDT-1. However, plant procedures have recently been modified to include manual adjustment of pH prior to discharge from SDT-1.
2. A gross cost estimate was made by Nuclear Engineering regarding automatic pH control of SDT-1 and LSST at approximately \$500,000.

PHASE II NEAR TERM ACTIONS

<u>ITEM</u>	<u>COMPLETION DATE</u>
1. In emergency situations excessive low activity level waste water will be sent to a reserve capacity storage system utilizing a fuel oil storage tank at CR 1&2. pH restrictions are not applicable during this mode.	Mid July 1983
2. Representatives from Environmental Licensing and Affairs will meet the EPA on March 8, 1983. Florida Power will present a case that the relatively small quantities of discharge low level waste water will be effectively neutralized (pH) when added to the circulating discharge water.	March 8, 1983

PHASE III LONG TERM MODIFICATIONS

<u>ITEM</u>	<u>COMPLETION DATE</u>
1. No long term modifications or studies have been planned pending the March 8, 1983 meeting with the EPA.	



CERTIFIED MAIL

October 12, 1981

Mr. Howard D. Zeller
Acting Assistant Regional Administrator
U.S. Environmental Protection Agency
345 Courtland Street NE
Atlanta, GA 30365

Dear Mr. Zeller:

Subject: Crystal River Unit 3
NPDES Permit FLO000159
Serial No. 006

In response to your September 18, 1981, request for information regarding Florida Power Corporation's progress in mitigating certain discharges into the Nuclear Services and Decay Heat System (Serial No. 006), enclosed is Mr. R. C. Widdell's memo to me dated October 6, 1981, which outlines the latest status on this project. After Florida Power has received and reviewed the TTI Engineering information regarding mitigation of oil and grease in the Laundry and Shower Sump Tank (LSST), we will update you. A meeting may be in order at that time.

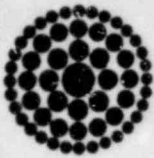
Sincerely,

William S. O'Brien

William S. O'Brien
Director
Environmental and Licensing Affairs

WSO/kd

cc Ms. V. J. Tschinkel, FDER W/Attachments



**Florida
Power**
CORPORATION

INTEROFFICE CORRESPONDENCE

Nuclear Engineering
(Office)

H-1
(Mail Code)

SUBJECT: Crystal River Unit #3
Plant Discharges to NSSW System-NPDES-000159
Outfall Serial 006
File: MAR 80-05-03

TO: W. S. O'Brien

DATE: October 6, 1981

Nuclear Engineering has reviewed the EPA Request for Information dated September 18, 1981, concerning NPDES Permit FL000159 Discharges Through Outfall Serial 006 and offers the following:

1. The evaporator condensate storage tank (ECST) - The effluent from the ECST's is distilled demineralized water. This liquid is recirculated in the tanks, sampled for activity and discharged to the NSSW system through a radiation monitor. Florida Power Corporation analyzed each batch released from these tanks from January through May 1980, approximately 50 batches, for oil, grease, and total suspended solids and pH. The only discrepancies found involved pH. This discharge was reviewed with the EPA on May 16, 1980. The EPA agreed that FPC could discontinue monitoring this source since the only problem was pH and dilution in the NSSW system was adequate to eliminate any concern. FPC plans no further action on this item.
2. The laundry and shower sump tank (LSST) - This tank collects the waste from the contaminated laundry and hot shower. This waste is collected, recirculated, sampled for activity and discharged to the NSSW system through radiation monitors. Monitoring of this source was begun in January 1980 for oil, grease, and total suspended solids and pH. Following the May 16, 1980 meeting with the EPA monitoring for pH was discontinued. Monitoring for oil, grease, and total suspended solids still continues. A modification to the system was completed in January 1981 which added filters in the flow path from the sump tank. After several months of evaluation it was determined that the total suspended solids problem had been corrected and further action was required for the oil and grease contamination. Florida Power Corporation contracted with TTI Engineering, a waste engineering consultant, to help resolve the problem. TTI was at the Crystal River plant on September 23, 24, and 25, 1981. During this visit, TTI reviewed the system hardware, operation, sampling procedures and techniques, investigated for possible sources of contamination and talked with the operators and technicians. The information collected will be used to provide a total assessment of the problem and to develop options for corrective action. This information is due to Florida Power Corporation by October 15, 1981. FPC will review the options, choose the best balanced approach which will achieve resolution and

W. S. O'Brien
October 6, 1981
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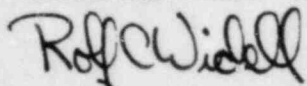
plan and initiate implementation. A description of the chosen action and implementation schedule will be submitted by November 13, 1981. Florida Power Corporation is continuing administrative efforts to minimize the oil and grease contaminents in the LSST discharges.

3. The Regeneration Waste Neutralization Tank (SDT-1) - The effluent from this tank originates in the Turbine Building sump and is routed to this tank prior to discharge through radiation monitors. Florida Power Corporation is continuing to monitor this discharge for oil, grease, and total suspended solids and is continuing the administrative effort to minimize the oil and grease contamination of this discharge. By letter dated December 2, 1980 (O'Brien/Zeller) FPC outlined the plan to install a cleanup system between the turbine building sump and SDT-1 which would remove the oil, grease, and solids to within 40 CFR423 limits. Operation was scheduled for November 1981. Florida Power Corporation has maintained this schedule and presently is making every effort to have the new equipment installed by November 1, 1981. A FACET 400 gpm oil/water separator system has been purchased on FPC Purchase Order F11109. Shipment is scheduled from Tulsa Oklahoma on October 15, 1981, receipt at Crystal River 3 should be by October 19, 1981. All miscellaneous pipe, valves, hangers, electrical and control equipment has been purchased and received. The engineering design package to install the system was issued on August 17, 1981. Prefabrication and installation of piping is presently in progress. Attached for your information are the following documents related to the turbine building sump modification:

- a. Florida Power Corporation Specification SP-5059 dated January 19, 1981
- b. FACET Proposal No. 81-11-SE dated February 24, 1981.
- c. Florida Power Corporation Purchase Order F11109 with three (3) amendments.
- d. FACET drawing No. 677311 Sheet 1 and 2.
- e. Engineering Design package MAR 80-05-03 without attachments.

W. S. O'Brien
October 6, 1981
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If any additional information is required, please contact me at extension 4738. Thank you.



R. C. Widell
Nuclear Mechanical Engineer

Widell(T05)D1-1

cc: G. A. Becker (w/o attach)
P. Y. Baynard (w/o attach)
File
Readers