

Enclosure 2  
Meeting Summary Handouts  
of the January 19, 2012  
ROP Public Meeting



## Reactor Oversight Process Task Force FAQ Log

Preparation for January 19, 2012 Public Meeting

FAQ No.	PI	Topic	Status	Plant/Co.	Point of Contact
11-10	PP01	Counting of Compensatory Hours for PIDS Upgrade	<b>Tentative Final 12/1/2011.</b> Received NRC final response 1/4/2012. <b>Introduced 9/21/2011.</b> Draft FAQ submitted to NRC via e-mail on 9/8/11. Discussed in closed meeting with NSIR 10/17/11. Further discussion expected in another closed meeting with NSIR scheduled for November.	Generic	Ron Gaston (Exelon)
11-12	IE03	FitzPatrick Downpowers	<b>Tentative Final 12/1/2011.</b> Received NRC final response 1/4/2012. <b>Introduced and discussed 10/26/2011.</b> Revised text to be submitted for 12/1/2011 public meeting.	FitzPatrick	Bryan Ford (Entergy)
11-13	EP03	Suspension of Siren Testing for Weather-Related Issues	<b>To be discussed on 1/19/2012?</b> <b>Introduced 12/1/2011.</b>	Generic	Marty Hug (NEI)

NEI Contact: James E. Slider, 202-739-8015, jes@nei.org

**Tentative NRC Response to  
FAQ 11-12, FitzPatrick Downpowers**

[Rec'd 1/4/12 JES]

**Plant:** James A. FitzPatrick Nuclear Power Plant  
**Date of Event:** June 7, 2011 & June 9, 2011  
**Submittal Date:** Introduced October 26, 2011  
**Licensee Contact:** Gene Dorman 315-349-6810 / [gdorman@entergy.com](mailto:gdorman@entergy.com)  
**NRC Contact:** Ed Knutson 315-349-6667 / [edward.knutson@nrc.gov](mailto:edward.knutson@nrc.gov)  
**Performance Indicator:** Unplanned Power Changes per 7,000 Critical Hours  
**Site-Specific FAQ (Appendix D):**  YES /  NO  
**FAQ requested to become effective when approved or \_\_\_\_\_.**

**Question**

Downpowers were performed on June 7 & 9, 2011 as a result of marine fouling of the main condenser waterboxes during a maintenance activity.

**NEI 99-02 Rev 6 Guidance**

Page 14; lines 42 – 47

Page 15; lines 1 – 15

Anticipated power changes greater than 20% in response to expected environmental problems (such as accumulation of marine debris, biological contaminants, animal intrusion, environmental regulations, or frazil icing) may qualify for an exclusion from the indicator. The licensee is expected to take reasonable steps to prevent intrusion of animals, marine debris, or other biological growth from causing power reductions. Intrusion events that can be anticipated as a part of a maintenance activity or as part of a predictable cyclic behavior would normally be counted, unless the downpower was planned 72 hours in advance or the event meets the guidance below.

In order for an environmental event to be excluded, any of the following may be applied:

If the conditions have been experienced before and the exhibit a pattern of predictability or periodicity (e.g., seasons, temperatures, weather events, animal, etc.), the station must have a monitoring procedure in place or make a permanent modification to prevent recurrence for the event to be considered for exclusion from the indicator. If monitoring identifies the condition, the licensee must have implemented a proactive procedure (or procedures) to specifically address mitigation of the condition before it results in impact to operation. This procedure cannot be a general Abnormal Operating Procedure (AOP) or Emergency Operating Procedure (EOP) addressing the symptoms or consequences of the condition (e.g., low condenser vacuum); rather it must be a condition-specific that directs actions to be taken to address the specific environmental conditions (e.g., jellyfish, gracilaria, frazil ice, etc.)

**Event or Circumstances**

On June 6, 2011, a first time Preventive Maintenance (PM) activity was performed on the traveling water screens. In order to support the PM, gates were installed in the intake structure to isolate the screen being maintained. Based on prior operating experience at the plant, prior to this activity cleaning of the accessible portions of the intake structure was performed and

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the condition of the condenser was monitored in accordance with Circulating Water System Operating Procedure, OP-4 (Reference 1 in transmittal e-mail) to determine if the condenser was being negatively impacted and a contingency downpower was scheduled for condenser flushing if necessary.

Within 24 hours of installing the gates the condenser water box differential temperature increased to a point where a downpower was initiated to perform a backwashing operation in accordance with Circulating Water System Operating Procedure, OP-4 Section G.6. The initial backwashing operation was conducted on June 7, 2011. Because fouling had been recognized as a possibility when the work was planned, based on past experience with inserting the gates, and contingency plans and monitoring were in place the activity continued. As the PM activity continued, a second backwashing operation was required on June 9, 2011, based on the condenser differential temperature.

The Resident Inspector agrees with the facts of the FAQ but believes that the downpowers should count against the indicator.

**Background:**

Past experience with installing gates in the intake structure has demonstrated that condenser fouling may occur. This has been attributed to changes in the flow characteristics in the forebay resulting in debris in the forebay being transported to the condensers resulting in condenser fouling. In order to minimize the probability of fouling, divers cleaned the accessible portions of the forebays the week before the PM in question was scheduled.

Because past experience with installing flow gates in the intake structure had resulted in biological fouling of the condenser OP-4 was revised to include system monitoring parameters and specific guidance on addressing the fouling. As noted above this guidance is contained in Section G.6 of the procedure. Since fouling of the condenser is not certain and is not absolutely predictable a contingency for down power was included in the weekly work schedule.

The travelling water screens were replaced in 2008 and 2009 to address a problem with cladophora algae in Lake Ontario. Since replacement there has been no carryover observed through the windows on the north side (Lake Ontario side) of the screens. Therefore, debris was thought to have been effectively removed by the sprays.

The travelling water screens have a cement filled boot below the screens that runs down to the intake bay (see Diagram 1 below). Due to this design, the annual PM now includes a boot inspection. It was to support this inspection that the gates were inserted.

The PM work order, MP-036.03 (Reference 2 in transmittal e-mail), includes a step that addresses cleaning of the intake bay. Step 7.8 states, "IF the intake canal is scheduled for cleaning, THEN PRIOR to lowering gates to isolate screen, intake bay must be cleaned of debris that can wash into circulating water pumps and main condensers." The vendor information provided with the new traveling water screens, that was used to develop the PM, did not include any information related to potential build-up of marine debris downstream of the screens. Review of industry Operating Experience did not identify any industry OE relative to this condition.

Based on the need to downpower the unit JAF performed an apparent cause evaluation and determined that the fouling observed was from a previously unidentified source. Based on the design of the boot and the cement, it appears that a low flow area may be forming just past the

boot. There is a possibility for small debris such as silt, sand, and broken zebra mussel shells to settle in this area south of the screens (pump suction side). In this area, the silt may settle out past the boots and build up to a level to meet up with the process flow. This condition would only take a short period of time to build-up and then would remain in the condition until cleaning could remove the debris.

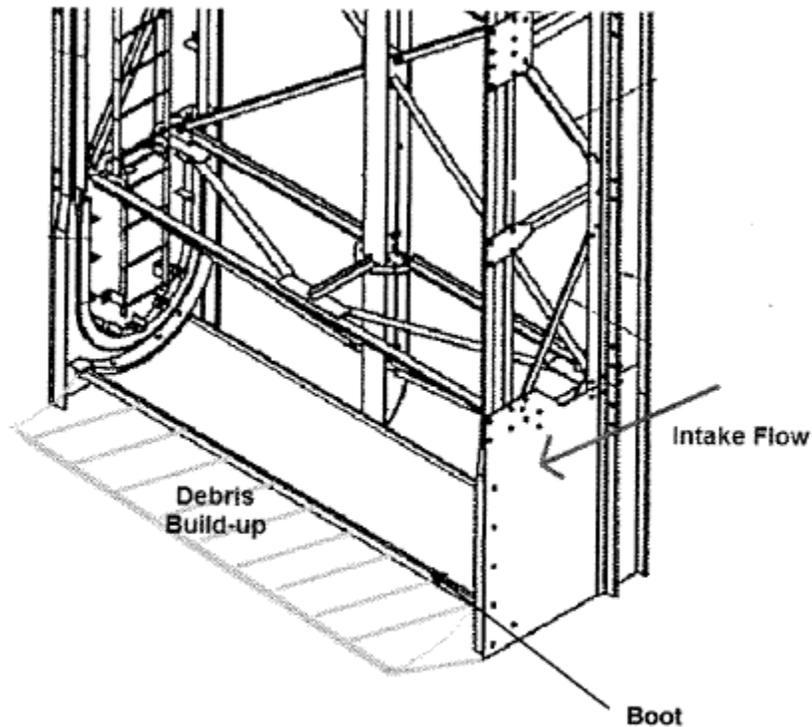


Diagram 1: Low flow area with debris build-up behind Boot

During normal operation, this debris build-up is not a significant threat to fouling because the debris is settled. However, this area becomes vulnerable when the gates are installed because of the change in flow patterns and increased velocity.

As noted above to minimize the impact of the marine debris buildup in the forebay, the annual cleaning and inspection of the intake canals was performed the week prior to the annual PM to inspect the travelling water screen boot. The cleaning included the areas of the forebay from the tempering gate to the trash racks and the area between the trash racks and the screens. However, due to the configuration of the traveling screens, pump bays, and isolation gates (see Diagram 2 below), the area south of the screens was not cleaned because it is not accessible during operation.

During the maintenance activities beginning on 6/6/2011, the south gate was inserted to provide protection for the divers. The installation of the gate caused an increase in flow, which apparently caused the settled debris in the vicinity of the gate to be picked up by localized turbulence, resulting in fouling of the condenser. The apparent cause evaluation postulated

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that the turbulence could be reduced by inserting the gate north of the travelling water screens prior to installing the gate south of the travelling water screens.

Based on the apparent cause evaluation corrective actions have been proposed to  
1) incorporate additional guidance in OP-4, Circulating Water System regarding the sequence for installing gates; and 2) to evaluate the PM task for scheduling optimization.

### **Potentially Relevant FAQs**

FAQ #469 – 3/18/2010, Page 19

Anticipated power changes greater than 20% in response to expected environmental problems (such as accumulation of marine debris, biological contaminants, or frazil icing) which are proceduralized but cannot be predicted greater than 72 hours in advance may not need to be counted unless they are reactive to the sudden discovery of off-normal conditions. However, unique environmental conditions which have not been previously experienced and could not have been anticipated and mitigated by procedure or plant modification, may not count, even if they are reactive. The licensee is expected to take reasonable steps to prevent intrusion of marine or other biological growth from causing power reductions. Intrusion events that can be anticipated as part of a maintenance activity or as part of a predictable cyclic behavior would normally be counted unless the down power was planned 72 hours in advance. The circumstances of each situation are different and should be identified to the NRC in a FAQ so that a determination can be made concerning whether the power change should be counted.

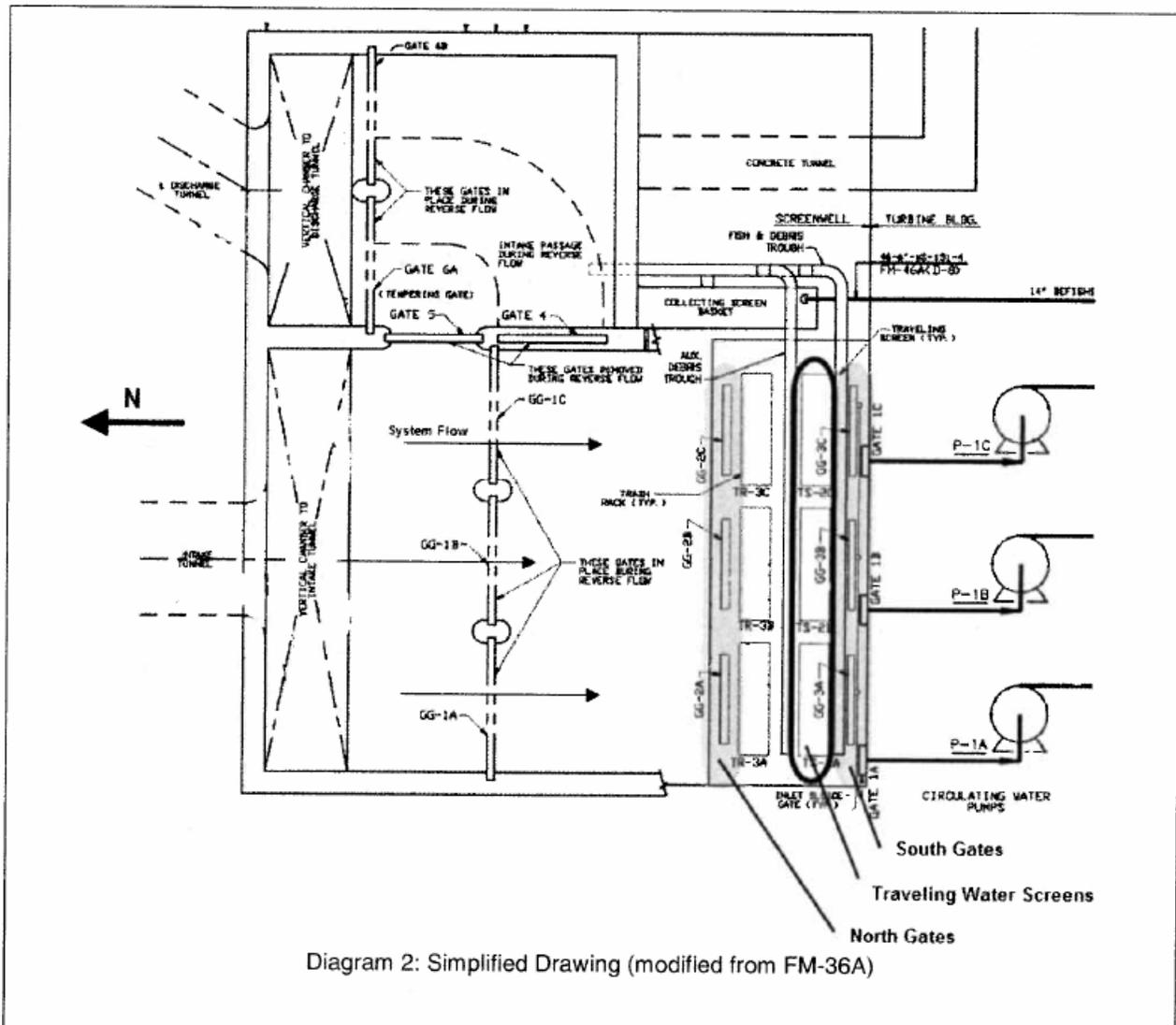
### **Response**

As stated in NEI 99-02 on page 15 lines 4 – 15 “If the conditions have been experienced before and the exhibit a pattern of predictability or periodicity (e.g., seasons, temperatures, weather events, animal, etc.), the station must have a monitoring procedure in place or make a permanent modification to prevent recurrence for the event to be considered for exclusion from the indicator. If monitoring identifies the condition, the licensee must have implemented a proactive procedure (or procedures) to specifically address mitigation of the condition before it results in impact to operation. This procedure cannot be a general Abnormal Operating Procedure (AOP) or Emergency Operating Procedure (EOP) addressing the symptoms or consequences of the condition (e.g., low condenser vacuum); rather it must be a condition-specific that directs actions to be taken to address the specific environmental conditions (e.g., jellyfish, gracilaria, frazil ice, etc.)”

These downpower events should be excluded from the indicator. The licensee had experienced condenser fouling with the original traveling water screen design and although the travelling water screens had been replaced with a new design that previous operating experience was considered in planning the work on the new screens. The licensee took reasonable steps to prevent intrusion by cleaning the forebays and provided normal operating procedural guidance for monitoring condenser differential temperatures and backwashing the condenser water boxes. Since this was the first time the boot inspections had been performed, there was no way to reasonably anticipate that the debris south of the travelling water screens would have been sufficient to cause the observed condenser fouling. In addition, the on-line schedule for that week had a contingency action to perform a downpower in order to support backwashing activities. This was shown as a contingency because there is no way to accurately predict if the condenser will foul or the speed with which it will reach a point requiring a downpower.

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**Tentative NRC Response:**

NEI 99-02, Rev. 6, page 14, beginning with line 36, states, "Intrusion events that can be anticipated as a part of a maintenance activity or as part of a predictable cyclic behavior would normally be counted, unless the downpower was planned 72 hours in advance or the event meets the guidance below."

Although the licensee may have been aware that condenser fouling during the maintenance or inspection activity could potentially cause a downpower, the licensee was not planning to downpower to conduct the maintenance/inspection. The licensee stated in the FAQ that it could not reasonably anticipate that the debris south of the travelling water screens would have been sufficient to cause the observed condenser fouling. This statement indicates that the licensee was not planning to downpower. Therefore, the staff considers the downpowers to be unplanned.

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NEI 99-02 has guidance for allowing contingency downpowers under certain conditions (page 14, lines 6-8) and anticipatory downpowers in response to certain external events (page 14, lines 38-40) and environmental events (page 14, lines 42-47, and page 15, lines 1 – 29). The external and environmental event guidance reflects situations that are not caused by the licensee and for which the licensee cannot predict or control the timing. Although marine debris is environmental matter, the licensee's action of closing the gates created new flow patterns that transported the debris into the condenser, which has happened at this site in the past. NRC staff does not consider this situation to qualify for the contingency or external or environmental event exclusions in NEI 99-02.

NEI 99-02 also states that the licensee is expected to take reasonable steps to prevent intrusion of animals, marine debris or other biological growth from causing power reductions. Although the licensee cleaned the intake structure area prior to the maintenance, the NRC resident inspector identified licensee condition reports that indicated that several inches of debris were south of the traveling screens some time after installation of the new screens. Based on similar occurrences of this amount of debris causing condenser fouling in the past, the staff believes the condenser fouling could reasonably have been anticipated.

NEI 99-02 states that intrusion events that can be anticipated as a part of a maintenance activity would normally be counted. The staff believes these events could have been anticipated and that the exclusions provided in NEI 99-02 were not applicable. The staff's decision is that the downpowers should have been counted in the PI.

**FAQ 11-13 (Proposed)**  
**Suspension of Siren Testing for Weather Related Issues**

**Plant:** Generic  
**Date of Event:** Spring, 2011  
**Submittal Date:** 12/01/2011  
**Licensee Contact:** Marty Hug **Tel/email:** 202-739-8129/mth@nei.org  
**NRC Contact:** **Tel/email:**

**Performance Indicator:** EP03, Alert and Notification System Reliability

**Site-Specific FAQ (Appendix D)?** No

**FAQ requested to become effective:** At least one full calendar quarter after approval

## Question Section

**NEI 99-02 Guidance needing interpretation (include page and line citation):**

ANS page 57 lines 6 through 10

6 If a siren is out of service for maintenance or is inoperable at the time a regularly scheduled test  
7 is conducted, then it counts as both a siren test and a siren failure. Regularly scheduled tests  
8 missed for reasons other than siren unavailability (e.g., out of service for planned maintenance or  
9 repair) should be considered non opportunities. The failure to perform a regularly scheduled test  
10 should be noted in the comment field.

**Event or circumstances requiring guidance interpretation:**

Certain conditions could result in intentional down-powering of equipment for safety reasons (e.g. flooding or significant damage to AC power grid) resulting generally from weather-related issues. In the spring of 2011, flooding on the Missouri River resulted in evacuation of residents around the Fort Calhoun and Cooper nuclear power plants. The plants followed their emergency plans but conditions remained well below a General Emergency which would have required evacuation. Specific areas were evacuated due to high water rather and EPZ sirens in those areas were intentionally de-energized due to rising water and a concern for downed power lines. The sirens were not needed since those areas had already been evacuated. State and local governments identified the areas as inaccessible to the public and uninhabited. Backup route alerting remained available (via water craft). Testing of sirens in areas that are uninhabited would not result in validation of the siren's performance as individuals were not in the areas to report possible failures.

**If licensee and NRC resident/region do not agree on the facts and circumstances explain**

N/A

**Potentially relevant existing FAQ numbers**

None

## Response Section

**Proposed Resolution of FAQ**

Revise NEI 99-02, page 57, to read as indicated below:

**FAQ 11-13 (Proposed)**  
**Suspension of Siren Testing for Weather Related Issues**

6 If a siren is out of service for maintenance or is inoperable at the time a regularly scheduled test  
7 is conducted, then it counts as both a siren test and a siren failure. Regularly scheduled tests  
8 missed for reasons other than siren unavailability (e.g., out of service for planned maintenance or  
9 repair) should be considered non opportunities. The failure to perform a regularly scheduled test  
10 should be noted in the comment field. *Additionally, If sirens are not available for operation due to  
intentional actions to disable them, and the area is deemed uninhabitable by State and/or Local  
agencies, the siren(s) in question will not be counted in the numerator or denominator of the  
Performance Indicator for testing throughout the ~~period~~ event. The conditions causing the suspension  
of testing, its duration and restoration ~~is~~ are to be noted in the comment field for the Indicator.*