

**Outline of technical specification non-conformances judged to be “monitoring required” as a result of FY 2012 3rd quarter safety inspection and safety investigation (Fukushima Daiichi Nuclear Power Station)**

**1. Procedure of relegating the management of newly installed or improved facilities to the power generation division**

Outline

Since the procedure of relegating the management of newly installed or improved facilities to the departments in charge of managing the facilities was not clearly defined (No unified rules were in place) at Fukushima Daiichi Stabilization Center, the status management of the facilities necessary for ensuring safety was insufficient.

Article/clause of the technical specification to be applied

Chapter 12 (Quality assurance plan)

Article 122-2, 7.1 Operation plan

Countermeasure

Safety activities for relegating facility management were being implemented separately by departments in charge of construction and operation with no unified rules in place. As it is deemed critical to have unified rules to follow in the case of relegating facility management in order to continuously ensure safety, an operational flow has been developed.

**2. Inadequate judgment of non-conformances to be managed**

Outline

Non-conformances are categorized into those managed by the entire organization (hereafter “non-conformances to be managed”) and “other non-conformances” to be managed by each responsible GM. Cause investigation, corrective action/recurrence prevention implementation are required for the “non-conformances to be managed”, while for “other non-conformances”, it is stated in the quality assurance plan operation manual to “report the non-conformances to the GM in charge and implement necessary countermeasures”. However, the criteria to follow when determining “non-conformances to be managed” are not stipulated in the manual, etc. and thus it is all up to the GM’s judgment which sometimes causes critical non-conformances to be judged as “other non-conformances” due to inconsistent and inappropriate GM judgment. Therefore, the current management of non-conformances was considered insufficient.

Article/clause of the technical specification to be applied

Chapter 12 (Quality assurance plan)

Article 122-2, 8.3 Management of non-conformances

### Countermeasure

Though previously, the non-conformances to be managed were determined based on the judgment of the GM in charge, the judgment did not take into consideration the purpose of CAP (Corrective Action Program). As a countermeasure, the criteria used for determining the non-conformances to be managed have been clearly defined in the guide book.

### **3. Inadequate selection of alarms to be monitored in order to fulfill the operational requirements stipulated by the technical specification**

#### Outline

The alarms to be monitored in order to fulfill the operational requirements stipulated by the technical specification were previously selected at the time of facility management relegation based on the operator's manual. However, according to the directive document to supplement the operator's manual which was announced when the management of the nitrogen injection system and PCV gas control system, etc. was relegated, the alarms specified in the manual were inadequate (as they were related to other systems).

#### Article/clause of the technical specification to be applied

Section 7 Recording and reporting (Recording)

Article 167

### Countermeasure

As mentioned above, the alarms to be monitored in order to fulfill the operational requirements (LCO) applied to stabilization facilities are selected by the supervisor on shift and specified in the operator's manual. However, as the alarms related to a certain facility are simply selected from the existing alarms, they are not sufficient for early detection or prevention of LCO deviations and thus improvement measures have been under consideration by the Power Generation G, Safety Management G and the Stabilization Center. In specific, alarms are to be selected based on the LCO related alarm selection flow to clarify adequate alarms sufficient for early detection and prevention of LCO deviations. As the alarms to be monitored in order to fulfill the operational requirements must be "properly recorded and archived", critical alarms are noted in the record shared among supervisors on shift regardless of what it says in the operator's manual. However, further improvement must be made to allow the alarms to be monitored in order to fulfill the operational requirements to be distinguished from other alarms.

### **4. Treated water leakage from the desalination system 3 during operation due to the drain hose coming off**

### Outline

On December 10, 2012, at the desalination system (RO3) installed in the temporary warehouse, the hose connected to the drain pan at the outlet came off of the drain header since the drain valve was open (though it was supposed to be closed) during system operation. As a result, treated water leaked onto the floor.

### Article/clause of the technical specification to be applied

Chapter 12 (Quality assurance plan)

Article 122-2, 7.5 Operation management

### Countermeasure

As recurrence prevention, warning signs have been posted near the valve of concern and other valves similar to it and limited entry to the area while informing concerned parties on the leakage (The recurrence prevention for RO3 was implemented on December 11, 2012). The valves similar to the one of concern have been fixed to be closed utilizing insulation lock, etc. (implemented on 32 valves installed on RO3 on December 11, 2012). As mid-term countermeasure, the following will be implemented to enhance system reliability.

- Reliability enhancement of pressure boundary (by utilizing duplex valves or closure plug installed at the valve outlet)
- Measure to physically prevent the valve from opening when touched (by removing the handle from the cock valve)
- Change the line structure for the drain vent header.

## **5. Leakage from the filtrate water transfer hose at Unit 3 Turbine Building**

### Outline

On December 11, 2012, in the aisle on the first floor of Unit 3 Turbine Building, the pressure hose used for flushing came off of the hose joint and filtrate water leaked onto the entire aisle on the first floor.

### Article/clause of the technical specification to be applied

Chapter 12 (Quality assurance plan)

Article 122-2, 8.5.3 Prevention measures

### Countermeasure

The installation status and dimensions, etc. of the pressure hose are currently under investigation. Necessary measures will be implemented for improvement based on the investigation results.

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