

Unit 3

System Status: ATCO NOPR NOPT ORAS
User Status: CRTD STA ESCP ACRC
DNC

SONGS

Notification: NN 201168011



Description: Undervoltage trip does not reset

Created on: 10/23/2010 Reported By: (b)(6)

Responsible: (b)(6)

Priority: 4 Medium Required Start: 12/13/2010 12:25 End: 04/11/2011 12:25

Order No: 800596401 Code:

Task Exists? [Y]

Func.Loc.: S3.120V.3Y004CB101 INVERTER DC INPUT

Equipment:

Assembly:

Quality Class: II

Location: Control Building Room: Elevation: 050 Column:

Planner Group: Maint Electrical

WorkCenter: M_ETT Maint. Test Techs

Plant: 1000 SONGS - Services

Reliability Classification: CRITICAL-A

ARC Review Status: C Completed Feedback Req'd? []

M Rule: Sig Level: 4 Low Level Problem, Take Action/Trend

Breakdown [] Malfunction Start: 01/13/2011 10:25 Breakdown Duration: H
End:

Description:

10/23/2010 09:55:43 (b)(6) Phone (b)(6)

1. Problem description

Found that the undervoltage trip lever on CB101 sticks and does not always reset after tripping.

2. Impact or consequence

If the circuit breaker tripped on an undervoltage conditions it may stick in the trip position and not allow the inverter 3Y004 to restart.

3. Describe what happened

During inspection and testing of the undervoltage trip mechanism on CB101 we found that the trip lever was sticking and causing the breaker to trip again falsely after reset.

4. Immediate actions taken

Informed supervision, cog engineer, and generated this notification.

5. Extent of Condition (as applicable)

Possible similar condition on other inverters.

6. Cause (if known)

CH5

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Description: Undervoltage trip does not reset

Description Continued:

Unknown

7. Recommended Actions

Replace CB101 on 3Y004. Check other inverters as applicable.

10/24/2010 09:49:00 (b)(6)

There is already an order out there to replace this CB due to the chip in the breaker. The order number is 800596401. Awaiting parts.

10/24/2010 09:59:24 (b)(6)

----- (b)(6) -----

Additions to -ARC Review Comments-:

Not a Failure. Found during maintenance. No problem while in service.

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Notification: NN 201168011

Func.Loc.: S3.120V.3Y004CB101 INVERTER DC INPUT

Location: Control Building Room: Elevation:050 Column:

Task No.: 0001 **Code Group:**N-POD Prompt Operability Determination
Short Text:
Task Code: PO50 POD Cancelled
WorkCenter:
Responsible:

Task No.: 0002 **Code Group:**N-TS-IOD Immediate Operability Determination
Short Text: DNC-800596401,11/11/10
Task Code: NO50 IOD-Canceled / Not Applicable/No DNC
WorkCenter: EM_SYE Electrical/I&C Systems
Responsible: (b)(6)

Task No.: 0003 **Code Group:**N-RPT Reportability Assessment
Short Text:
Task Code: RP65 RPT Complete Not Reportable
WorkCenter: R C Regulatory Compliance
Responsible: (b)(6)

Task No.: 0004 **Code Group:**N-EOC Extent of Condition Assessment
Short Text:
Task Code: E030 CCI BW Sizing
WorkCenter: EM_EE Electrical Engrg
Responsible: (b)(6)

Task No.: 0005 **Code Group:**N-OSC Outage Scope Change Request
Short Text: Approved for R3C16
Task Code: OS95 OSC Complete
WorkCenter: W ON Online Work
Responsible: (b)(6)

Task No.: 0006 **Code Group:**N-POD Prompt Operability Determination
Short Text: UV Trip lever & breaker reset issue
Task Code: PO40 POD Closed
WorkCenter: EM_ER Reliability/Failure Analysis
Responsible: (b)(6)

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Notification: NN 201168011

Func.Loc.: S3.120V.3Y004CB101 INVERTER DC INPUT

Location: Control Building Room: Elevation:050 Column:

Task No.: 0007

Code Group:N-TS-IOD Immediate Operability Determination

Short Text: DNC NMO 800596401, 2/19/10

Task Code: NO45 IOD-Equipment Restored to Operable

WorkCenter: EM_SYE Electrical/I&C Systems

Responsible: (b)(6)

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Func.Loc.: S3.120V.3Y004CB101 INVERTER DC INPUT

Part: _____

Damage: _____

Cause: _____

Activity: _____

Part: _____

Damage: _____

Cause: _____

Activity: _____

Part: _____

Damage: _____

Cause: _____

Activity: _____

Part: _____

Damage: _____

Cause: _____

Activity: _____

SONGS

Notification: NN 201168011

Func.Loc.: S3.120V.3Y004CB101 INVERTER DC INPUT

Location: Control Building Room: Elevation:050 Column:

Task Details:

Task No.: 0001 Code Group: N-POD Prompt Operability Determination
Short Text:
Task Code: PO50 POD Cancelled
WorkCenter:
Responsible:
Status: TSCO
Planned Start: 10/25/2010 12:07
Planned End: 10/25/2010 12:07
Complete: 10/25/2010 12:07

Task Long Text:

POD was created in error. Since the deficiency will be corrected and restored to Fully Qualified, this POD is canceled. (b)(6) (STA)

SONGS

Notification: NN 201168011

Func.Loc.: S3.120V.3Y004CB101 INVERTER DC INPUT
 Location: Control Building Room: Elevation:050 Column:

Task Details:

Task No.: 0002 Code Group: N-TS-IOD Immediate Operability Determination
 Short Text: DNC-800596401,11/11/10
 Task Code: NO50 IOD-Canceled / Not Applicable/No DNC
 WorkCenter: EM_SYE_Electrical/I&C_Systems
 Responsible: (b)(6)
 Status: TSC
 Planned Start: 11/30/2010
 Planned End: 11/30/2010
 Complete: 11/04/2010 02:40

Task Long Text:

IOD TEMPLATE AND [KEY POINTS]
 Refer to SO123-XV-52 for guidance

Notification Number 201168011

NOTE: Operability Determinations shall only be completed by the on-shift SRO. Other cognizant personnel may complete other sections of the IOD as needed.

This an Immediate Operability Determination (IOD)

Deficiency Identification and the Affected Functional Location [2]

FLOC:

Identify the Specified Safety Function(s), include mission time (if applicable) [3]

Conclusion:

Determine OPERABLE/INOPERABLE [4]

_____ OPERABLE
 XX _____ INOPERABLE

Basis

Although the breaker may trip at the correct point the fact that it is difficult to reset makes it unreliable/suspect.

Extent of Condition

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Notification: NN 201168011

Description: Undervoltage trip does not reset

EOC created INITIAL REVIEWS:

SRO/STA (b)(6)
SM Name

Added to 3-EDMR-2010-0141

IOD Closure Information (Basis for closure) [9]

CLOSURE REVIEW:

Cancel IOD - Per approved POD, No DNC

Performer Name (b)(6) STA
Peer Check Name SRO SM

SONGS

Notification: NN 201168011

Func.Loc.: S3.120V.3Y004CB101 INVERTER DC INPUT

Location: Control Building Room: Elevation:050 Column:

Task Details:

Task No.: 0003 Code Group: N-RPT Reportability Assessment
 Short Text:
 Task Code: RP65 RPT Complete Not Reportable
 WorkCenter: P.C. Regulatory Compliance
 Responsible: (b)(6)
 Status: TSCO
 Planned Start: 11/24/2010
 Planned End: 11/24/2010
 Complete: 11/18/2010 06:00

Task Long Text:

TECHNICAL ASSESSMENT TEMPLATE

NOTE: ENGINEERING JUDGEMENT may be used to answer questions. However, the basis for the judgment needs to be documented to validate the judgment.

For the purposes of determining REPORTABILITY, it is only necessary for the individual responding to these question to identify a single occurrence within the previous three years where the SPECIFIED (SAFETY) FUNCTION was incapable of being fulfilled (i.e., both trains of redundant systems were INOPERABLE OR NON-FUNCTIONAL).

When the requested questions in SECTION 2 are answered, then the assigned individual should reassign the N-RPT to an RP25 status. ONLY an NRA PQS 270QC7 qualified individual may reassign an N-RPT task to a status RP30 or higher.

SECTION 1 - Initial Reportability Assessment (RP10) [To be completed by a PQS 270QC7 Qualified Individual.]

Not immediately reportable, unit is defueled.

Prepared By: (b)(6) Date: 11-17-10

SECTION 2 - Technical Assessment (RP20) [The REPORTABILITY ENGINEER will determine which questions are to be answered.]

1. Describe the condition being evaluated for reportability:

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During the lubrication of the DC input breaker CB101 to inverter 3Y004 the under voltage trip lever was found to be sticking and does not always reset after tripping this was noted on NMO 800596401.

2. Would the SSC have been able to fulfill all its intended safety function(s) as defined in the UFSAR (reference specific sections) since the failure (Operable)? Consider all plant operating Modes, mission time, and the status of other equipment. If yes, why?

Yes, The specified safety function of the DC input breaker is to remain closed and not trip prematurely, so as to support the safety analyses by providing a qualified DC source of power to the inverter and its associated 120 VAC vital distribution panel. The under voltage reset mechanism although sticking on the reset was able to be reset. The breaker was able to remain closed and did not prematurely trip.

Functional testing of the breaker found that the breaker tripped at the required voltage of 105 volts NMO 800596401.

3. If the conclusion of step 2 is Yes, mark steps 4, 5 and 6 as #Not Applicable,# document task performance/peer check, advance the Task to RP25 and assign to Reportability Compliance for completion of step 7.

If the conclusion of step 2 is No, complete steps 4, 5 and 6.

4. When did the SSC fail or first become degraded (break, code not met, out of SR range, etc.)? If the specific time of failure is not known, is there any compelling evidence of prior failure?

#Not Applicable#

5. What was the apparent cause of the failure or degraded condition? (use engineering judgment to determine, if necessary - but also describe the basis for your judgment). If appropriate, generate a cause evaluation assignment.

#Not Applicable#

6. Did the failure or failure mode affect or potentially affect another SSC or the other unit?

#Not Applicable#

7. [Additional Questions as indicated by the REPORTABILITY ENGINEER.]

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Prepared By: (b)(6) Date: 11/11/2010

Peer Reviewer Comments:

Peer Reviewer: (b)(6) Date: 11/11/2010

After the peer review is completed, the Advance the RPT Task to RP25 and assign to Reportability Compliance for completion of step 7.

SECTION 3 - Compliance Review and Management Approval (RP25 and RP30)

8. Reportability assessment summary (include references as appropriate. (To be completed by qualified individuals only - see Encode 270QC7: Assessing Events for Reportability).

Not Reportable. The DC input circuit breaker to the 3Y004 inverter was found to be difficult to reset after a trip. The under voltage trip lever required lubrication, however, the trip function was not affected. The circuit breaker remained fully functional and capable of protecting the inverter, as demonstrated by the functional test. The supply from DC Buss 3D4 to the 3Y004 inverter remained fully functional to support 120VAC Vital Distribution panel 3Y04.

Technical Specification 3.8.7 #Inverters # Operating,# and 3.8.8 #Inverters # Shutdown,# require the vital bus inverters to be operable. The as-found condition of the DC input circuit breaker under voltage trip lever did not prevent the inverter from meeting Technical Specification requirements. Therefore, the inverter remained operable and the as-found condition is not reportable under 50.73(a)(2)(i)(B) "Any operation or condition which was prohibited by the plant's Technical Specifications,# or 50.73(a)(2)(v) "Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to: (A) Shut down the reactor and maintain it in a safe shutdown condition; (B) Remove residual heat; (C) Control the release of radioactive material; or (D) Mitigate the consequences of an accident."

Prepared By: (b)(6) Date: 11-17-10

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Description: Undervoltage trip does not reset

Management Reviewer Comments: None

Management Reviewer: Date: 11/18/10

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Func.Loc.: S3.120V.3Y004CB101 INVERTER DC INPUT

Location: Control Building Room: Elevation:050 Column:

Task Details:

Task No.: 0004 Code Group: N-EOC Extent of Condition Assessment

Short Text:

Task Code: E030 CCI BW Sizing

WorkCenter: EM EE Electrical Engrg

Responsible: (b)(6)

Status: TSCO

Planned Start: 11/04/2010 13:27

Planned End: 11/04/2010 13:27

Complete: 11/04/2010 13:27

Task Long Text:

Notification: 201168011

Order: 800391689

EOC (Extent of Condition Assessment)

Perform an Extent of Condition (EOC) evaluation for an identified deficiency to determine if the deficiency currently exists elsewhere. Do not use this method to determine cause; use a DCE, ACE or RCE as appropriate to determine the cause.

If the EOC is being used to not delay completion of an Immediate Operability Determination or a Prompt Operability Determination, consider only "other train / other unit" applications.

If this EOC is being performed to support an Operability Determination, the individual performing an EOC review should have one of the following qualifications, a currently licensed SRO, Engineering qualification for PODs (T3EN13), or any cause evaluation qualification.

For all other EOC uses, determine and evaluate scope as necessary.

Refer to SO123-XV-52 and SO123-XV-50 CAP-3.

1. Affected Equipment (See deficiency description or, if the deficiency description is incomplete or incorrect, describe)
Breaker S3.120V.3Y004CB101, "Inverter DC Input", during a maintenance activity the undervoltage trip lever on CB101 sticks and does not always reset after tripping.

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2. Deficiency Identification (See description or, if the description is incomplete or incorrect, describe)

Research into the history of this model breaker, the following was found on a previous EOC (200619510) for a related sticking issue:

Based on Failure Analysis Report 9716

,, "Vital Bus Inverter DC Input Breaker Failure Analysis"

,, AR 950200096, 970400764

On February 24, 1995, while performing routine breaker testing under maintenance order 94051635000, the undervoltage trip relay failed to trip the DC input breaker for 2Y003 inverter when the DC voltage was reduced below 105 Vdc. On April 20, 1997, 3Y003 inverter breaker experienced a similar failure and was removed from service per maintenance order 97040901000.

ROOT CAUSE

The root cause of both breaker failures was determined to be frictional binding at the trip lever bar caused by dried out lubricant due to aging. The undervoltage relay is designed to trip the breaker by pushing a pin which rotates the trip bar thereby releasing the operating mechanism latch and causing the breaker to trip. Due to mechanical binding at the trip bar, the relay was unable to unlatch the breaker.

Both breakers were manufactured in 1967 and were part of the original plant equipment.

This is a similar issue however it involves the re-setting of the latching of the undervoltage relay.

3. Discussion of findings, including the basis for the conclusion:

The frictional binding problem can be corrected by simply lubricating the metal-to-metal mating surfaces at the trip lever mechanism.

Therefore, Electrical Maintenance has established a periodic program to clean and re-lubricate the trip lever bar mechanism every 3rd refueling outage.

Breaker CB101 for S21807EY003 was replaced under AR 950200096 & MOs 96080418000 & 96050244000 with model LXD63L600.

Breaker CB101 for S31807EY003 was replaced under AR 970400764 & MO 97040901000 with a model LXD63L600.

Breaker CB101 for S31807EY004 will be replaced under NMO 800596401.

Breaker S3.120V.3Y001CB101 was lubed under NMO 800391687.

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Conclusion:

Breakers shunt trip in S2.120V.2Y001CB101 and S2.120V.2Y002CB101 are scheduled to be lubed and inspected in Unit 2. NMO's 800391685, 800391686

Breakers S3.120V.3Y002CB101, is scheduled to be lubed and inspected in Unit 3. NMO's 800391688

NMO's 800391685, 800391686, 800391688 respectively.

Prepared by (b)(6) 11/04/10

Peer reviewed by (b)(6) 11/04/10

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Notification: NN 201168011

Func.Loc.: S3.120V.3Y004CB101 INVERTER DC INPUT
 Location: Control Building Room: Elevation:050 Column:

Task Details:

Task No.: 0005 Code Group: N-OSC Outage Scope Change Request
 Short Text: Approved for R3C16
 Task Code: OS95 OSC Complete
 WorkCenter: W ON Online Work
 Responsible: (b)(6)
 Status: TSCO
 Planned Start: 11/30/2010
 Planned End: 11/30/2010
 Complete: 10/27/2010 08:23

Task Long Text:

Approved by the committee 10/27/10

(b)(6) 10/27/10

OUTAGE SCOPE CHANGE REQUEST FORM

The OSC form can be found as Attachment 3 to SO23-XX-23, "Refueling Outage Scope Identification and Control". Follow the procedure and print out a hardcopy of the new OSC form. Instructions on how to fill out the form are contained on pages 2 and 3 of Attachment 3 to the procedure.

This issue should be done during the outage but should be able to operate on short intervals for testing, but may not work every time as a backup supply for 3Q069.

(b)(6) 10/24/10

GUIDELINES FOR FILLING OUT AN OSC

Procedure SO23-XX-23 Attachment 3 contains the OSC form for refueling outages. This procedure shall be used for all OSCs. There have been many comments regarding the procedure and how to fill out an OSC. The following guidelines are an attempt to help the preparer of the OSC by delineating gaps between the procedure and the OSC information requested by the Outage Scope Change Committee during the review process.

Remember, the way in which SONGS prepares and selects scope for a refueling outage are much different now than in the past. Nothing is considered a "done deal" either in or out.

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1.,,Somewhere on the front page put the Notification number and the date of discovery of the problem. The discovery date and date of the Notification can be different. For example, the Notification may have generated a cause evaluation which, in turn, created corrective actions.

The OSC may be trying to put one of the corrective actions into the outage. Also, if the date of discovery is longer than 2 or 3 months prior to the date of the OSC then provide a description of why the OSC is being processed late.

2.,,The following questions should be considered when answering your justification in the OSC:

a.,,For Additions to the refueling outage

i.,,Why should this be done in the outage?

ii.,,What happens if we do not do this in the outage?

1.,,Explain what the different possibilities are which could happen if this work is not performed this outage.

2.,,Most importantly, explain the RISK associated with removing this work from the outage. Remember RISK is probability x consequence. If the RISK of the outcome is high then contingencies should be considered.

This is the most important piece of information that you can supply to the committee. Without this information the committee is making decisions on their experience, which may be different from your experience and knowledge. Use the below RISK MATRIX for help in preparing the risk assessment.

b.,,For Deletions from the refueling outage

i.,,Why should this be removed from the outage?

ii.,,Explain what the different possibilities are which could happen if this work is not performed this outage.

1.,,Most importantly, explain the RISK associated with removing this work from the outage. Remember RISK is probability x consequence. If the RISK of the outcome is high then contingencies should be considered.

This is the most important piece of information that you can supply to the committee. Without this information the committee is making decisions on their experience, which may be different from your experience and knowledge. Use the below RISK MATRIX for help in

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Description: Undervoltage trip does not reset

preparing the risk assessment.

iii.,,If what you are asking is an NMRE be deferred from the outage, ensure that a PME assignment is generated and reference it in the OSC. It would be beneficial if it were already processed, but not necessary. Remember, the NRME cannot be coded out of the outage without the completed PME.

3.,,When filling out the Initial Planning Estimate section the following people are your contacts for their specific organization:

a.,,Dose # (b)(6)

b.,,Maintenance duration and budget estimates # Maintenance planning department.

i.,,Electrical # (b)(6)

ii.,,I(>&<)>C #

iii.,,Mechanical

c.,,It would be a good idea to list the work groups which are affected by your request. In other words, let the committee know if insulators and scaffolders are needed to perform the work.

Remember, this should be a stand alone document. No other information should be required. Pictures help. Locations help.

RISK MATRIX AND ASSESSMENT

Include the following two statements and their appropriate responses in the RISK assessment portion of the OSC justification.

1) "Failure Probability is (Low, Medium, or High) because"

2) "Consequence of failure is (Non-Crit, Crit-B, or Crit-A) because....." (Explain how the system, structure, or component falls into the category chosen. In some cases this may not be straightforward.)

3) "Therefore, the overall RISK ranking is"

Engineering Risk Assessment Matrix for Removal of Outage Work Items

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RISK,.....	Consequence,,
.....	Non-Crit Crit B,, Crit A,,
Probability,,Low,.....	L,,,L,,,M,,
.....Medium,.....	L,,,M,,,H,,
.....High,.....	M,,,H,,,H,,

Determine risk from component failure probability vs component reliability class

Comments should also be made to identify if risk is Nuclear or Generation and to identify other pertinent info like NRC/INPO commitments; or MSPI; or Maint Rule; CAP 1,2,3; Ops Burden; or red/yel SHR; etc

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Func.Loc.: S3.120V.3Y004CB101 INVERTER DC INPUT

Location: Control Building Room: Elevation:050 Column:

Task Details:

Task No.: 0006 Code Group: N-POD Prompt Operability Determination
 Short Text: UV Trip lever & breaker reset issue
 Task Code: PO40 POD Closed
 WorkCenter: EM_ER Reliability/Failure Analysis
 Responsible: (b)(6)
 Status: TSCO
 Planned Start: 11/04/2010 02:38
 Planned End: 11/04/2010 02:38
 Complete: 11/04/2010 02:38

Task Long Text:

The previous POD was cancelled by Operations, but new information was presented after its closure. RS 11/3/2010

<H>POD TEMPLATE AND [KEY POINTS]</>

<H>Refer to S0123-XV-52 for guidance</>

<H>Notification Number [1]</>

NN 201168011

<H>Describe the as-found condition and the equipment affected, assuring that the problem and scope have been clearly identified. [2]</>

During a Maintenance PM on the Unit 3, Y004 Vital Bus Inverter (S3.120V.3Y004), the under voltage trip mechanism on the DC input breaker of the inverter (3.120V.3Y004CB101) was found to be intermittently sticking in the non-reset position and preventing the breaker from being manually re-closed.

<H>If it is confirmed at this stage that no degraded, nonconforming or unanalyzed condition exists, record as such and provide justification. [3]</>

<H>N/A</>

Specified Safety Function(s) of the affected SSC [4]

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The safety function of the 3Y004 Inverter is to convert DC electrical power to AC electrical power, thus providing an uninterruptible power source for the instrumentation and controls for the Reactor Protective System (RPS) and the Engineered Safety Feature Actuation System (ESFAS). Specific details on inverters and their operating characteristics are found in UFSAR Section 8.3.1.1.5 and Tech Specs Basis Sections 3.8.7 and 3.8.8.

The 3Y004 inverter supplies AC power to the Channel D, 120 VAC vital bus loads. The inverter is designed to provide a 120 VAC, 60 Hz, output over a DC input range of 105 - 140 VDC.

The DC input breaker (S3Y004CB101) supports the inverter safety function by supplying DC input power to the inverter.

The DC input breaker is equipped with an under-voltage (UV) trip device which automatically trips the DC input breaker if the input voltage drops below 105 VDC. This is a protective feature to protect the inverter from damage, but it is not a safety function because the associated DC Battery is designed to maintain the inverter input voltage above 105 VDC under all operating conditions (Ref Calc E4C-017).

As such, the only safety function of the UV trip device is to not trip prematurely when the input voltage is in the normal range of 105 to 140 VDC.

Mission time is not applicable to the degraded condition addressed by this POD because time based worsening of the stickiness in the UV mechanism will not impact the conclusion of the POD.

<H>Technical Basis for Determining Impact on Specified Safety Function(s) [5]</>

The DC input breaker of 3Y004 will perform its safety function as long as the sticky UV mechanism will not cause a premature under-voltage trip of the breaker.

During normal operation, when the DC input breaker is closed, the UV trip coil is continuously energized by contacts from an electronic

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circuit board inside the inverter. This circuit board monitors the DC input voltage to the inverter and de-energizes the UV trip coil when the voltage drops below 105 VDC. Since the trip point is controlled by the circuit board, stickiness in the operating mechanism has no impact on the trip point and will not cause the breaker to trip prematurely.

Stickiness in the trip mechanism could prevent the breaker from tripping on a valid low voltage condition and it could prevent the breaker from resetting following a valid low voltage trip, but as discussed above, tripping on a valid low voltage condition and resetting afterward, are not credited safety functions for the inverter breaker because the input voltage to the inverter is designed to remain above 105 VDC under all plant operating conditions.

<H>Specified Safety Function(s) Satisfied [6]</>

<H>All</>

<H>Continued Degradation [7]</>

Additional stickiness in the UV trip device may develop over time however, as discussed above, this will not impact the ability of the inverter to perform its safety function.

<H>Compensatory Measures [8]</>

<H>None required.</>

<H>Extent of Condition Consideration</>

<H>NOTE:</>

<H>This section is only applicable when the SSC does not meet a Specified Safety Function. Address the question: "Does the degraded or nonconforming condition currently exist on the other train/unit?"</>

<H>Has an EOC Task been created to address the extent of condition (YES or NO)? [9]</>

<H>Yes. A separate EOC assignment already exists on this NN.</>

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<H>It is noted that sticky UV mechanisms could potentially exist on all 8 of the 1E Vital Bus Inverters at SONGS (2Y001,2,3,4 and 3Y001,2,3,4) but the conclusion of the analysis above would apply to all 8 of these inverters. </>

<H>IF no EOC Task has been created, THEN describe "other train/other unit" findings (if performed) or indicate N/A (if not necessary) [10]</>

<H>PERFORM POD reviews:</>

<H>POD Performance Engineer/Date [11]</>

<H>(PQS T3EN13 Required)</>

(b)(6) 11/03/10

(T3EN13 verified valid till 08/26/12)

<H>Engineering Peer Check/Date [12]</>

<H>(PQS T3EN13 Required)</>

(b)(6) 11/03/10</>

(T3EN13 verified valid till 8/26/2012)

<H>Independent Reviewers/Date [12]</>

<H>(PQS PODRTR Required)</>

<H>(b)(6) 11/03/10</>

<H>(PODRTR verified valid for Lifetime)</>

end of data

Approved (b)(6)

(b)(6)

SONGS

Notification: NN 201168011

Func.Loc.: S3.120V.3Y004CB101 INVERTER DC INPUT

Location: Control Building Room: Elevation:050 Column:

Task Details:

Task No.: 0007 Code Group: N-TS-IOD Immediate Operability Determination
 Short Text: DNC NMO 800596401, 2/19/10
 Task Code: NO45 IOD-Equipment Restored to Operable
 WorkCenter: EM_SYE Electrical/I&C Systems
 Responsible: (b)(6)
 Status: TSCO
 Planned Start: 01/08/2011 22:44
 Planned End: 01/19/2011
 Complete: 01/08/2011 22:44

Task Long Text:

IOD TEMPLATE AND [KEY POINTS]
 Refer to SO123-XV-52 for guidance

Notification Number [1]

NOTE:

Operability Determinations shall only be completed by the on-shift SRO.
 Other cognizant personnel may complete other sections of the IOD as needed.

This an Immediate Operability Determination (IOD)

Deficiency Identification and the Affected Functional Location [2]

FLOC:

Identify the Specified Safety Function(s), include mission time (if applicable) [3]

Conclusion:

Determine OPERABLE/INOPERABLE [4]

 OPERABLE INOPERABLE

Basis

Although the breaker may trip at the correct point the fact that it is difficult to reset makes it unreliable/suspect.

Extent of Condition

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Notification: NN 201168011**Description:** Undervoltage trip does not reset

EOC created INITIAL REVIEWS:

SRO/STA (b)(6)

SM Name (b)(6)

Added to 3-EDMR-2010-0141

1. OPERABLE

The potentially impacted Specified Safety Function(s) as described above are satisfied. These functions will continue to be performed under all accident conditions because_____.

2. OPERABLE w/ POD

This IOD provides the reasonable expectation of continued operability of the potentially degraded SSC because _____ and further supporting documentation will be provided by a POD.

Extent of Condition

Address the question: #Does the degraded or nonconforming condition currently exist on the other train/unit?#

Create an EOC Task to address the extent of condition. [6]

OR

If no EOC Task has been created to describe #other train/other unit# findings, then provide justification. [7]

INITIAL REVIEWS:

SRO/STA Name [8]

SM Name [8]

IOD Closure Information (Basis for closure) [9]

CLOSURE REVIEW:

IOD 201068011 task 2 was prematurely closed since the POD task 6 was closed. Engineering notified the STA and the STA generated a new IOD task 7 in order to track the replacement of S3.120V.3Y004CB101 breaker under work order 800596401.

As discussed on NN 201168011 task 6 (POD), during the normal operation of S3.120V.3Y004CB101 breaker, the DC input breaker is closed, the UV

SONGS

Notification: NN 201168011

Description: Undervoltage trip does not reset

trip coil is continuously energized by contacts from an electronic circuit board inside the inverter. This circuit board monitors the DC input voltage to the inverter and de-energizes the UV trip coil when the voltage drops below 105 VDC. Since the trip point is controlled by the circuit board, stickiness in the operating mechanism has no impact on the trip point and will not cause the breaker to trip prematurely.

Additional stickiness in the UV trip device may develop over time however, as discussed in the POD 201168011 (task 6). The stickiness in the UV trip device is a DNC on the S3.120V.3Y004CB101 breaker and the DNC will be resolved when the breaker is replaced. The breaker will be replaced under WO# 800596401.

Performer Name [10]

(b)(6)

Maintenance/System Engineering

PAX# (b)(6)

11/04/2010

Peer Check Name [10]

(b)(6)

(T3EN13 POD Qualification expires 08/12/2012)

Maintenance/System Engineering

PAX# (b)(6)

11/04/2010

CLOSURE REVIEW:

NMO 800596401 which installed new breaker is confirmed.

NMO 800369213 which performed post maintenance testing is confirmed.

Fully qualified. Moved IOD to status NO44.

Performer Name:

(b)(6)

Peer Check Name: