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Troubleshooting Sheet

Work Order Number M2-05-02520		Mark Number	
Problem Description UAC 4 DISTORTED OUTPUT			
Job Steps (use additional sheets as required) SEE ATTACHED SHEET/TROUBLE SHOOTING PLAN			
Reference Documents:			
Shift Supervisor / Shift Manager Review of Checklist <input type="checkbox"/> Level 1 Non-Intrusive <input checked="" type="checkbox"/> Level 2 Low Risk <input type="checkbox"/> Level 3 Medium Risk <input type="checkbox"/> Level 4 High Risk <input type="checkbox"/> Authorized <input type="checkbox"/> Further Review Required		Notes to Craft	
Operations Shift Supervisor / Shift Manager (Signature)		Date 3-7-05	
Craft Supervisor (Signature if required)		Date 3/7/05	
Maintenance Manager (Signature if required) N/A		Safety Committee (SNSOC / SORC) review required? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Safety Committee (SNSOC / SORC) review (Signature if required) N/A		Date	
Director Nuclear Station Operations and Maintenance (Signature if required) N/A		Date	
Problem Found/Work Performed (use additional sheets as required)			
Craftsperson (Signature)		Date	

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Troubleshooting Sheet

DNAP-2000 - Attachment 5

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Risk Factors Checklist

The following is a typical list of factors to consider when assessing the risk of a troubleshooting action or task.

When completing this attachment, mark appropriate block(s):

- ☐ Tech Spec, action, or Limiting Conditions of Operation (LCO)
- ☐ Plant reliability
- ☐ Plant transient
- ☒ Personnel, public, plant safety
- ☒ Benefit
- ☐ Complexity / difficulty
- ☐ Infrequently Conducted or Complex Tests or Evolutions (ICCE)
- ☒ Familiarity / skills / preparation / training
- ☐ Other maintenance in progress / equipment out of service
- ☒ Automatic functions associated with the component / equipment
- ☐ Other sources supplied from the same power source
- ☒ Appropriate level of technical assistance available
- ☐ Appropriate stopping points identified
- ☐ Appropriate communications methods assigned if required
- ☐ Equipment status (reference for other abnormal conditions)
- ☐ MRule (if equipment rendered inoperable)

Level 1 - non-intrusive (negligible / minimal risk of a transient)

Level 2 - Low Risk. Troubleshooting could have effect on plant equipment, but not present risk of plant transient.

Level 3 - Medium Risk. Troubleshooting could result in plant transient, but not a reactor trip or safety system actuation.

Level 4 - High Risk. Troubleshooting presents risk of tripping the plant, actuating a safety system, causing significant reactivity change, or causing radiation releases, either directly or as a result of causing a major plant transient.

Non-Intrusive Troubleshooting - Troubleshooting that is transparent to the plant / system / process; working within the confines of a "safed" boundary (i.e., a boundary established and controlled by an approved procedure or a boundary established and controlled by either electrically, mechanically / physically, or pneumatically isolating the area of concern). Examples of non-intrusive troubleshooting are tagging out of a system for troubleshooting within the tagout boundary or any monitoring with isolated test equipment.

Intrusive Troubleshooting - Any troubleshooting that requires or causes a change to the plant, system, or process.

Note: For risk levels 2 through 4, the impact on plant risk should be included in the On-Line Risk Assessment as discussed in 3.5.16 of DNAP-2000, Dominion Work Management Process.

Millstone Unit 2 UAC4 Online Test Troubleshooting Plan 3/7/05
M2-05-02520

Steps may be performed in any order per FLS.

Steps 5 and 7 may be omitted based upon troubleshooting data as evaluated and approved prior to performing by FLS. This will be documented in the AWO.

Caution: The first 5 steps of this troubleshooting plan are with UAC4 energized.

1. Perform physical inspection of UAC4 for Foreign Material or other obvious problems
2. Obtain Voltage, THDv (voltage distortion) values for all 3 phases of UAC4 output unloaded:
3. Based on data obtained, determine which phases require more investigation.
4. Obtain UAC2 output voltage, current, load data and THDv for comparison.
5. Check controller fuses for phases in question.
6. With UAC4 de-energized check physical terminations for loose or otherwise deficient connections
7. If required, apply test load to UAC4 to simulate plant conditions and perform applicable steps to ensure reliability of UAC4 under load prior to declaring troubleshooting complete.