From:	<mriggs1@txu.com></mriggs1@txu.com>
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Date:	5/14/04 10:05AM
Subject:	LAR 02-06 Print-Ready TS page changes

To: Mr. Mohan C. Thadani, NRC Project Manager

Re: CPSES LAR 02-06 "DC Electrical Rewrite" based on TSTF-360, R.1

Subject: Print-Ready TS page changes

As requested, attached is a "print ready" electronic copy of the TS page changes for CPSES License Amendment Request (LAR) 02-06, "DC Electrical Rewrite." These pages (listed below) are replacement pages that incorporate the proposed LAR changes into the current version (as of 5/14/04) of the CPSES Technical Specifications. As we earlier discussed, each page contains change bars in the page margins and a strike-through of the last prior amendment number with sufficient space included for the new amendment number to be added upon its issuance.

Please note that it was necessary to repaginate some pages. Where repagination required more than one page to be combined, a strike-through of the list of prior amendments from the combined previous pages is shown. Where a new page is added (i.e., 5.5-28a), no prior amendment strike-through is provided. Because Page 5.5-28 previously contained the end-of-section double-line marker, this page was reissued so that the end-of-section marker could be moved to the following page 5.5.28a and placed after the new 5.5.19 "Battery Monitoring and Maintenance Program."

If I can be of any further assistance, please call me at CPSES Regulatory Affairs (254) 897-5218.

Mike Riggs

Replace with new pages
iii
3.8-24 thru 3.8-27
3.8-29 thru 3.8-33
5.0-28
d) 5.0-28a

The following Adobe PDF file contains only the updated print-ready TS pages for changes requested by LAR 02-06.

(See attached file: LAR 02-06 Master.pdf)

CC: <dbuschb1@txu.com>, <fred.madden@txu.com>

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Mail Envelope Properties (40A4D221.EBF: 10: 11967)

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DOCKET #5

Subject: **Creation Date:** From:

LAR 02-06 Print-Ready TS page changes 5/14/04 9:58AM <mriggs1@txu.com>

**Created By:** 

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Recipients nrc.gov owf4\_po.OWFN\_DO MCT (Mohan Thadani)

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Files Size Date & Time MESSAGE 1945 05/14/04 09:58AM LAR 02-06 Master.pdf 130687 Mime.822 182763 **Options Expiration Date:** None **Priority:** Standard **Reply Requested:** No **Return Notification:** None **Concealed Subject:** No Standard Security:

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# 3.8 ELECTRICAL POWER SYSTEMS

3.8.4 DC Sources - Operating

LCO 3.8.4 The Train A and Train B DC electrical power subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4

## ACTIONS

CONDITION		REQUIRED ACTION	COMPLETION TIME
A. One or two required battery chargers on one train inoperable.	A.1	Restore affected battery(ies) terminal voltage to greater than or equal to the minimum established float voltage.	2 hours
	<u>AND</u>		
	A.2	Verify affected battery(ies) float current ≤ 2 amps.	Once per 12 hours
	AND		
	A.3	Restore required battery charger(s) to OPERABLE status.	7 days
B. One or two batteries on one train inoperable.	B.1	Restore affected battery(ies) to OPERABLE status.	2 hours

CONDITION	REQUIRED ACTION		COMPLETION TIME
C. One DC electrical power subsystem inoperable for reasons other than Condition A or B.	C.1	Restore DC electrical power subsystem to OPERABLE status.	2 hours
D. Required Action and Associated Completion Time not met.	D.1 <u>AND</u>	Be in MODE 3.	6 hours
	D.2	Be in MODE 5.	36 hours

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SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.4.1	Verify battery terminal voltage is greater than or equal to the minimum established float voltage.	7 days
SR 3.8.4.2	Verify each battery charger supplies $\geq$ 300 amps at greater than or equal to the minimum established charger test voltage for $\geq$ 8 hours.	18 months
	<u>OR</u>	
	Verify each battery charger can recharge the battery to the fully charged state within 24 hours while supplying the largest combined demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state.	

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SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.8.4.3	<ul> <li>NOTES</li></ul>	18 months

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CONDITION	REQUIRED ACTION	COMPLETION TIME	
A. (continued)	A.2.4 Initiate action to restore required DC electrical power subsystem to OPERABLE status.	Immediately	

# SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY	
SR 3.8.5.1	NOTENOTE The following SRs are not required to be performed: SR 3.8.4.2 and SR 3.8.4.3.		
	For DC sources required to be OPERABLE, the following SRs are applicable:	In accordance with applicable SRs	
	SR 3.8.4.1 SR 3.8.4.2 SR 3.8.4.3.		

## 3.8 ELECTRICAL POWER SYSTEMS

3.8.6 Battery Parameters

LCO 3.8.6	Battery parameters for Train A and Train B batteries shall be within limits.
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APPLICABILITY: When associated DC electrical power subsystems are required to be OPERABLE

## ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or two batteries on one train with one or more	A.1 Perform SR 3.8.4.1	2 hours
battery cells float voltage	AND	
< 2.07 V.	A.2 Perform SR 3.8.6.1	2 hours
	AND	
	A.3 Restore affected cell(s) float voltage $\geq$ 2.07 V.	24 hours
B. One or two batteries on	B.1 Perform SR 3.8.4.1	2 hours
one train with float current > 2 amps.	AND	
	<ul> <li>B.2 Restore affected battery(ies) float current to ≤ 2 amps.</li> </ul>	12 hours

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ACTIONS (continued)

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CONDITION	REQUIRED ACTION	COMPLETION TIME
NOTE Required Action C.2 shall be completed if electrolyte level was below the top of plates.	NOTE Required Actions C.1 and C.2 are only applicable if electrolyte level was below the top of plates.	
C. One or two batteries on one train with one or more cells electrolyte level less than minimum established design limits.	<ul> <li>C.1 Restore affected cell(s) electrolyte level to above the top of the plates.</li> <li>AND</li> </ul>	8 hours
	C.2 Verify no evidence of leakage.	12 hours
	AND	
	C.3 Restore affected cell(s) electrolyte level to greater than or equal to minimum established design limits.	31 days
D. One or two batteries on one train with pilot cell electrolyte temperature less than minimum established design limits.	D.1 Restore battery pilot cell(s) electrolyte temperature to greater than or equal to minimum established design limits.	12 hours
E. One or more batteries in redundant trains with battery parameters not within limits.	E.1 Restore battery parameters for batteries in one train to within limits.	2 hours

CONDITION		REQUIRED ACTION	COMPLETION TIME
<ul> <li>F. Required Action and associated Completion Time of Condition A, B, C, D, or E not met.</li> <li><u>OR</u></li> <li>One or two batteries on one train with one or more battery cells float voltage &lt; 2.07 V and float current &gt; 2 amps.</li> </ul>	F.1	Declare associated battery(ies) inoperable.	Immediately

## SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.6.1	NOTENOTENOTENOTENOTENOTENOTE	
	Verify each battery float current is $\leq 2$ amps.	7 days
SR 3.8.6.2	Verify each battery pilot cell voltage is $\geq$ 2.07 V.	31 days
SR 3.8.6.3	Verify each battery connected cell electrolyte level is greater than or equal to minimum established design limits.	31 days

# SURVEILLANCE REQUIREMENTS (Continued)

	SURVEILLANCE	FREQUENCY
SR 3.8.6.4	Verify each battery pilot cell temperature is greater than or equal to minimum established design limits.	31 days
SR 3.8.6.5	Verify each battery connected cell voltage is $\ge 2.07$ V.	92 days
SR 3.8.6.6	Verify requirement during MODES 3, 4, 5, 6 or with core off-loaded. Verify battery capacity is ≥ 80 % of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.	60 months <u>AND</u> 18 months when battery shows degradation or has reached 85% of expected life with capacity < 100% of manufacturer's rating <u>AND</u> 24 months when battery has reached 85% of the expected life with capacity ≥ 100% of manufacturer's rating

## 5.5 Programs and Manuals (continued)

### 5.5.17 Technical Requirements Manual (TRM)

The TRM contains selected requirements which do not meet the criteria for inclusion in the Technical Specification but are important to the operation of CPSES. Much of the information in the TRM was relocated from the TS.

Changes to the TRM shall be made under appropriate administrative controls and reviews. Changes may be made to the TRM without prior NRC approval provided the changes do not require either a change to the TS or NRC approval pursuant to 10 CFR 50.59. TRM changes require approval of the Plant Manager\*.

### 5.5.18 Configuration Risk Management Program (CRMP)

The Configuration Risk Management Program (CRMP) provides a proceduralized risk-informed assessment to manage the risk associated with equipment inoperability. The program applies to technical specification structures, systems, or components for which a risk-informed Completion Time has been granted. The program shall include the following elements:

- a. Provisions for the control and implementation of a Level 1, at-power, internal events PRA-informed methodology. The assessment shall be capable of evaluating the applicable plant configuration.
- b. Provisions for performing an assessment prior to entering the LCO Action for preplanned activities.
- c. Provisions for performing an assessment after entering the LCO Action for unplanned entry into the LCO Action.
- d. Provisions for assessing the need for additional actions after the discovery of additional equipment out of service conditions while in the LCO Action.
- e. Provisions for considering other applicable risk significant contributors such as Level 2 issues, and external events, qualitatively or quantitatively.

(continued)

\* Duties may be performed by the Vice President of Nuclear Operations if that organizational position is assigned.

### 5.5 Programs and Manuals (continued)

#### 5.5.19 Battery Monitoring and Maintenance Program

This Program provides for restoration and maintenance, based on the recommendations of IEEE Standard 450, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications," or of the battery manufacturer for the following:

- a. Actions to restore battery cells with float voltage < 2.13 V, and
- b. Actions to equalize and test battery cells that had been discovered with electrolyte level below the top of the plates.

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3.8.8	Inverters - Shutdown
3.8.9	Distribution Systems - Operating
3.8.10	Distribution Systems - Shutdown
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# 3.8 ELECTRICAL POWER SYSTEMS

3.8.4 DC Sources - Operating

LCO 3.8.4 The Train A and Train B DC electrical power subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4

## ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One or two required battery chargers on one train inoperable.	A.1	Restore affected battery(ies) terminal voltage to greater than or equal to the minimum established float voltage.	2 hours
	AND		
	A.2	Verify affected battery(ies) float current ≤ 2 amps.	Once per 12 hours
	AND		
	A.3	Restore required battery charger(s) to OPERABLE status.	7 days
B. One or two batteries on one train inoperable.	B.1	Restore affected battery(ies) to OPERABLE status.	2 hours

CONDITION	REQUIRED ACTION		COMPLETION TIME
C. One DC electrical power subsystem inoperable for reasons other than Condition A or B.	C.1	Restore DC electrical power subsystem to OPERABLE status.	2 hours
D. Required Action and Associated Completion Time not met.	D.1 <u>AND</u>	Be in MODE 3.	6 hours
	D.2	Be in MODE 5.	36 hours

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SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.4.1	Verify battery terminal voltage is greater than or equal to the minimum established float voltage.	7 days
SR 3.8.4.2	Verify each battery charger supplies $\geq$ 300 amps at greater than or equal to the minimum established charger test voltage for $\geq$ 8 hours.	18 months
	OR Verify each battery charger can recharge the battery to the fully charged state within 24 hours while supplying the largest combined demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state.	

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SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.8.4.3	<ul> <li>NOTES</li></ul>	18 months

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2.4 Initiate action to restore required DC electrical power subsystem to OPERABLE status.	Immediately

## SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.5.1	NOTENOTENOTENOTE	
	For DC sources required to be OPERABLE, the following SRs are applicable:	In accordance with applicable SRs
	SR 3.8.4.1 SR 3.8.4.2 SR 3.8.4.3.	

Battery Parameters 3.8.6

### 3.8 ELECTRICAL POWER SYSTEMS

3.8.6 Battery Parameters

APPLICABILITY: When associated DC electrical power subsystems are required to be OPERABLE

### ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<ul> <li>A. One or two batteries on one train with one or more battery cells float voltage &lt; 2.07 V.</li> </ul>	A.1 Perform SR 3.8.4.1 AND	2 hours
	A.2 Perform SR 3.8.6.1	2 hours
	A.3 Restore affected cell(s) float voltage ≥ 2.07 V.	24 hours
<ul> <li>B. One or two batteries on one train with float current &gt; 2 amps.</li> </ul>	B.1 Perform SR 3.8.4.1 <u>AND</u>	2 hours
	<ul> <li>B.2 Restore affected battery(ies) float current to ≤ 2 amps.</li> </ul>	12 hours

LCO 3.8.6 Battery parameters for Train A and Train B batteries shall be within limits.

CONDITION	REQUIRED ACTION	COMPLETION TIME
NOTE Required Action C.2 shall be completed if electrolyte level was below the top of plates.	NOTE Required Actions C.1 and C.2 are only applicable if electrolyte level was below the top of plates.	
C. One or two batteries on one train with one or more cells electrolyte level less than minimum established design limits.	C.1 Restore affected cell(s) electrolyte level to above the top of the plates.	8 hours
	C.2 Verify no evidence of leakage.	12 hours
	AND	
	C.3 Restore affected cell(s) electrolyte level to greater than or equal to minimum established design limits.	31 days
D. One or two batteries on one train with pilot cell electrolyte temperature less than minimum established design limits.	D.1 Restore battery pilot cell(s) electrolyte temperature to greater than or equal to minimum established design limits.	12 hours
E. One or more batteries in redundant trains with battery parameters not within limits.	E.1 Restore battery parameters for batteries in one train to within limits.	2 hours

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CONDITION		REQUIRED ACTION	COMPLETION TIME
<ul> <li>F. Required Action and associated Completion Time of Condition A, B, C, D, or E not met.</li> <li>OR</li> <li>One or two batteries on one train with one or more battery cells float voltage &lt; 2.07 V and float current &gt; 2 amps.</li> </ul>	F.1	Declare associated battery(ies) inoperable.	Immediately

# SURVEILLANCE REQUIREMENTS

	FREQUENCY	
SR 3.8.6.1	NOTENOTE-NOTE-NOTE voltage is Not required to be met when battery terminal voltage is less than the minimum established float voltage of SR 3.8.4.1	
	Verify each battery float current is $\leq 2$ amps.	7 days
SR 3.8.6.2	Verify each battery pilot cell voltage is $\geq$ 2.07 V.	31 days
SR 3.8.6.3	Verify each battery connected cell electrolyte level is greater than or equal to minimum established design limits.	31 days

# SURVEILLANCE REQUIREMENTS (Continued)

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	SURVEILLANCE	FREQUENCY
SR 3.8.6.4	Verify each battery pilot cell temperature is greater than or equal to minimum established design limits.	31 days
SR 3.8.6.5	Verify each battery connected cell voltage is $\geq$ 2.07 V.	92 days
SR 3.8.6.6	Verify requirement during MODES 3, 4, 5, 6 or with core off-loaded. Verify battery capacity is ≥ 80 % of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.	60 months <u>AND</u> 18 months when battery shows degradation or has reached 85% of expected life with capacity < 100% of manufacturer's rating <u>AND</u> 24 months when battery has reached 85% of the expected life with capacity ≥ 100% of manufacturer's rating

### 5.5 Programs and Manuals (continued)

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- e. Provisions for considering other applicable risk significant contributors such as Level 2 issues, and external events, qualitatively or quantitatively.

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## 5.5 Programs and Manuals (continued)

#### 5.5.19 Battery Monitoring and Maintenance Program

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