

# Addition of New Transformer XST1A



# Luminant Pre-Application Meeting

## Agenda

Introductions

Current/Proposed Plant Design

Proposed Plant Modification Overview

TS 3.8.1. and Extended CT Current and Proposed

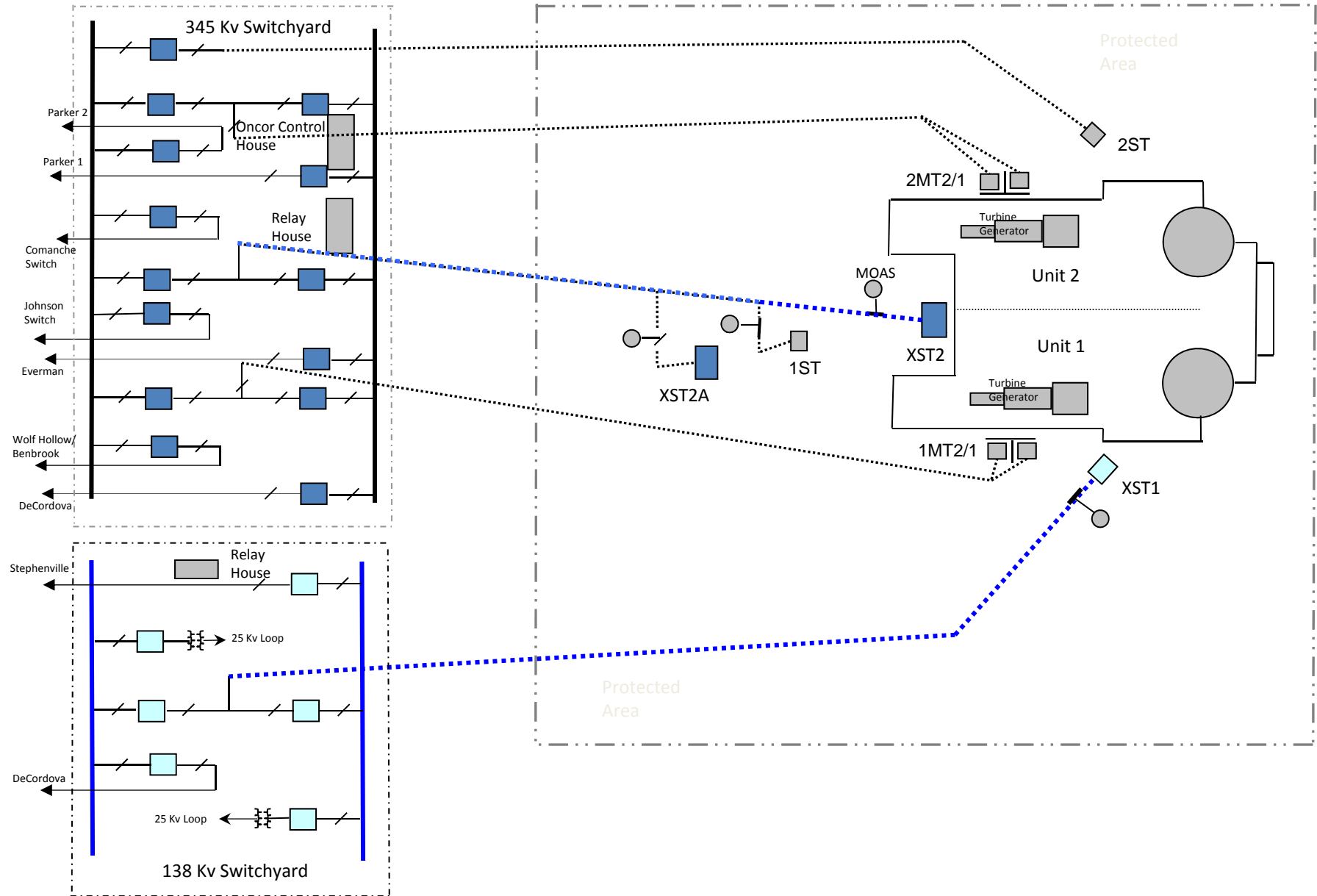
Risk Analysis

Proposed Schedule

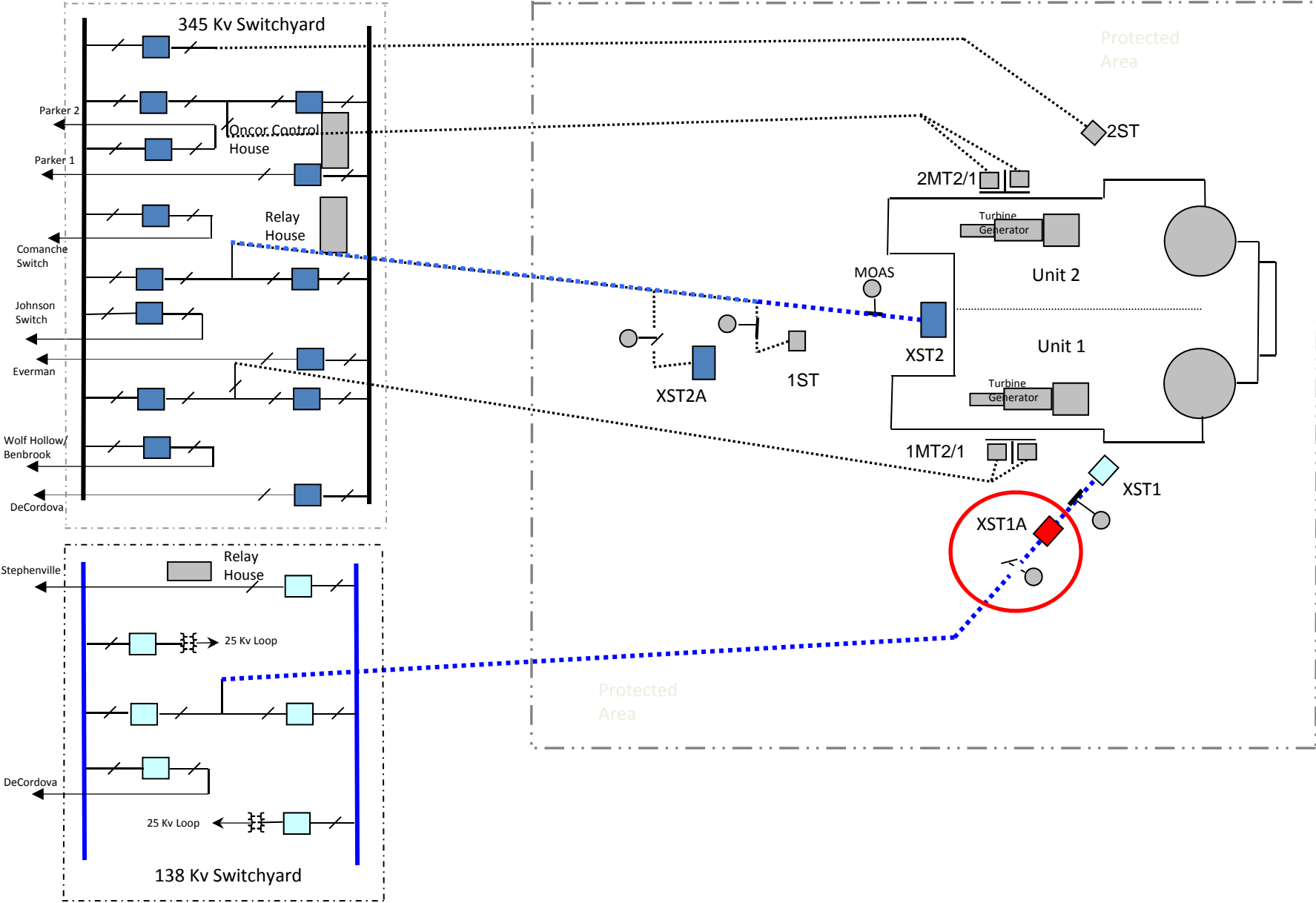
Questions/Feedback

Closing Remarks/Summary

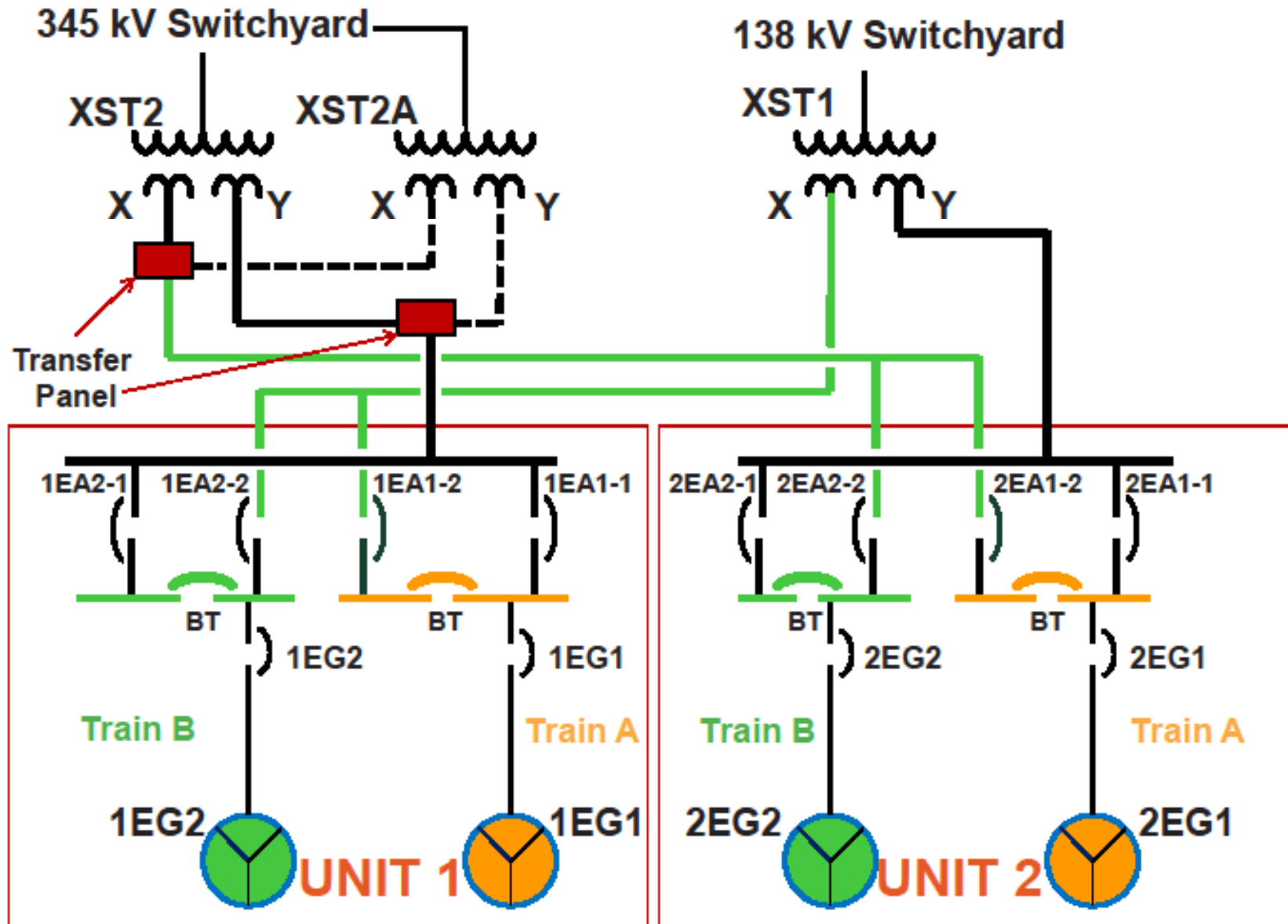
# Current CPNPP Offsite AC Power Sources



# Proposed CPNPP Offsite AC Power Sources



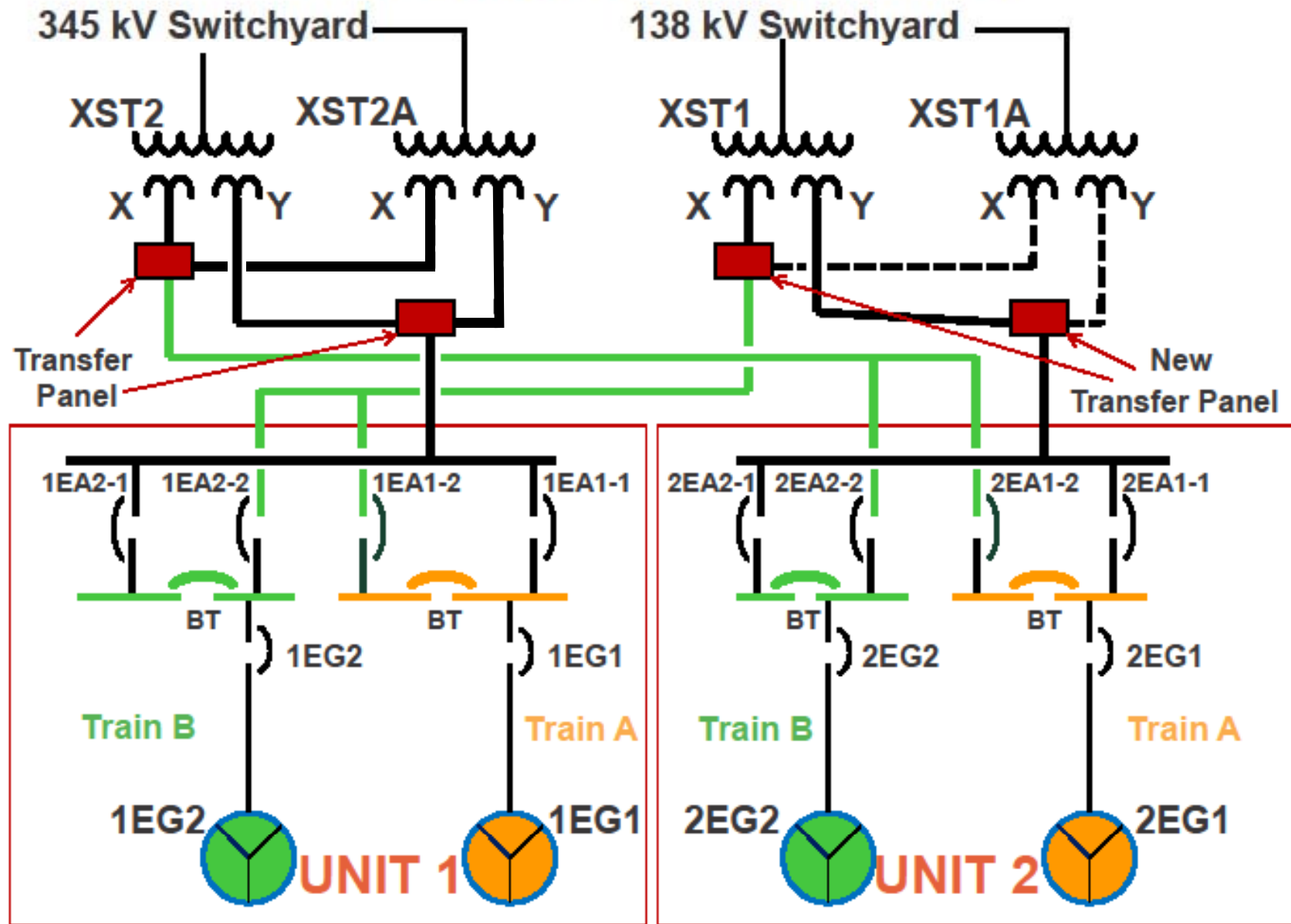
# Current AC Distribution to CPNPP 1E Busses



## Current Technical Specification 3.8.1

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required offsite circuit Inoperable.	A.1 Perform <b>SR 3.8.1.1</b> for required OPERABLE offsite circuit.	1 hour  <u>AND</u> Once per 8 hours thereafter
	<p><u>AND</u></p> <p>A.2 <del>NOTE</del> In MODES 1, 2 and 3, the TDAFW pump is considered a required redundant feature.</p> <hr/> <p>Declare required feature(s) with no offsite power available Inoperable when its redundant required feature(s) is Inoperable.</p>	24 hours from discovery of no offsite power to one train concurrent with Inoperability of redundant required feature(s)
	<p><u>AND</u></p> <p>A.3 Restore required offsite circuit to OPERABLE status.</p>	72 hours  <u>OR</u> 14 days for a one-time outage on XST2 to complete a plant modification to be completed by March 1, 2011.

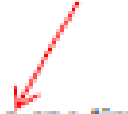
# Proposed Plant Modification Overview



## Proposed Technical Specification 3.8.1

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required offsite circuit inoperable.	A.1 Perform <b>SR 3.8.1.1</b> for required OPERABLE offsite circuit.	1 hour  <u>AND</u> Once per 8 hours thereafter
	<p><u>AND</u></p> <p>A.2 -----NOTE----- In MODES 1, 2 and 3, the TDAFW pump is considered a required redundant feature.</p> <p>-----</p> <p>Declare required feature(s) with no offsite power available inoperable when its redundant required feature(s) is inoperable.</p> <p>-----</p> <p><u>AND</u></p>	24 hours from discovery of no offsite power to one train concurrent with inoperability of redundant required feature(s)
	A.3 Restore required offsite circuit to OPERABLE status.	72 hours  <u>OR</u> 14 days for <del>a</del> one-time outages on XST1 <del>to</del> complete a plant modification to be completed by March 31, 2014.

two,







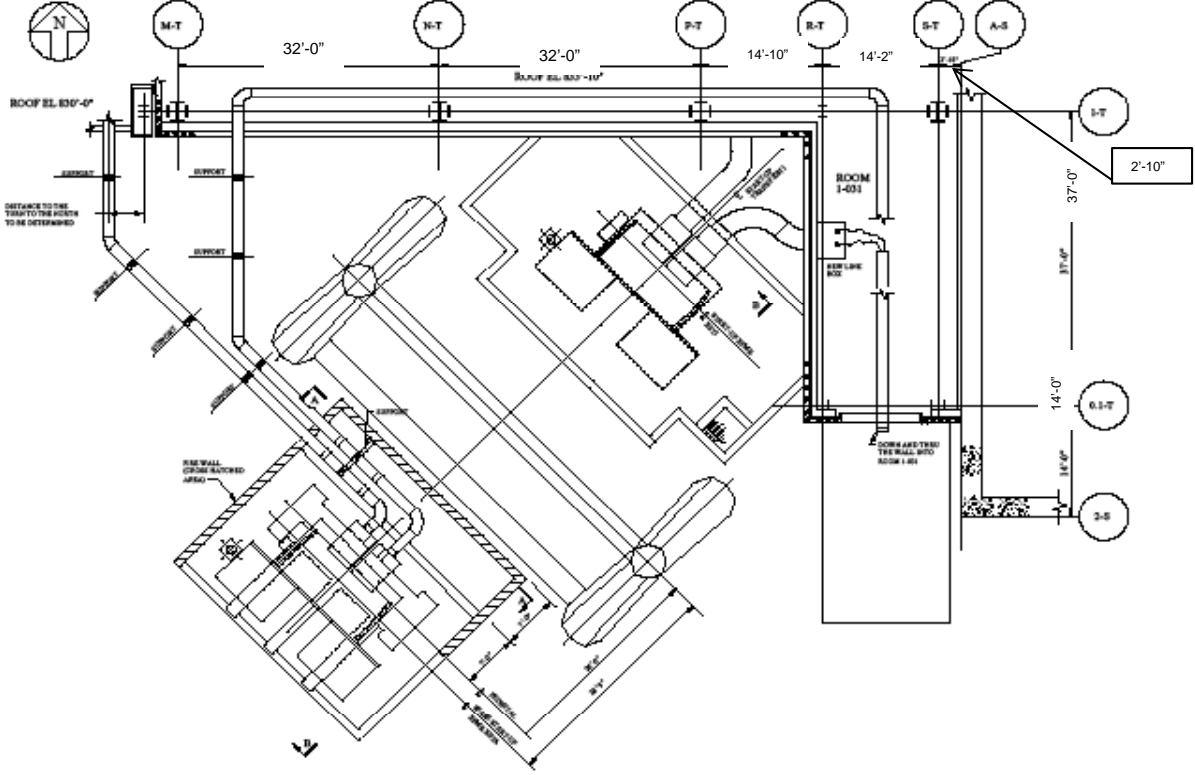
XST1A Pad

Disconnect Tower Leg

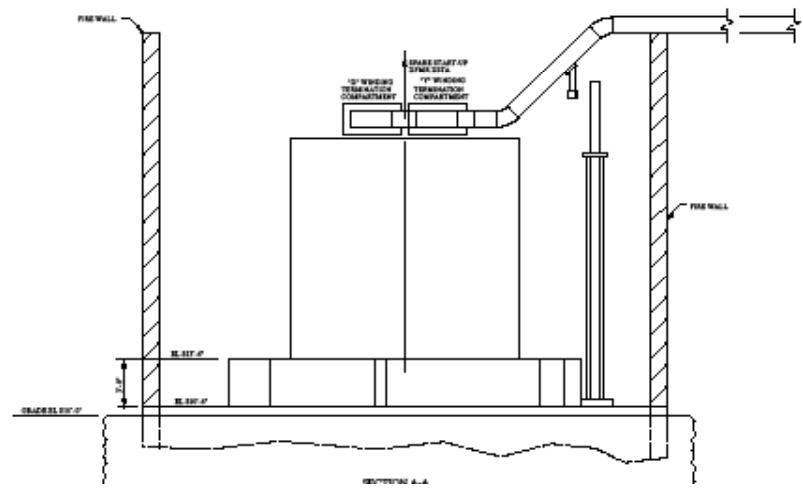
XST1

22.08.2011 16:47

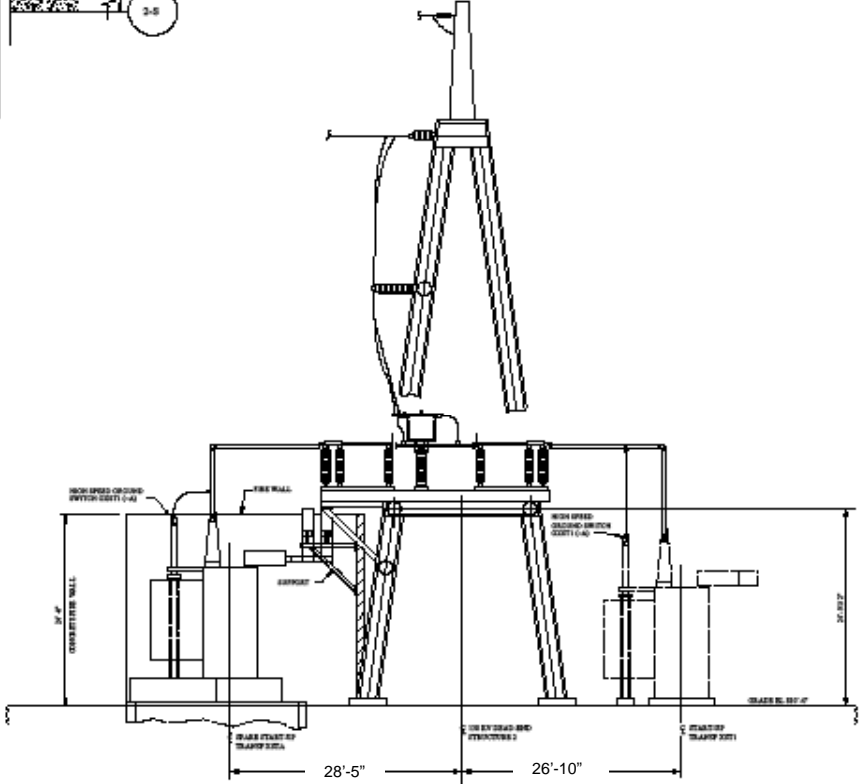
NOTE:  
 THESE DRAWING GENERATED FOR CONCEPTUAL STAKEHOLDER MEETINGS  
 ONLY AND MAY NOT REFLECT ACTUAL AS-BUILT CONFIGURATION.



DETAIL 1  
 3/4" = 1'-0"



SECTION A-A



SECTION B-B  
 3/4" = 1'-0"

CONCEPTUAL

# Risk Analysis

- Objectives for this section
  - Summarize PRA Model Scope and Quality
  - Describe the Risk Assessment
  - Discuss the Sensitivity Analyses
  - Discuss the Configuration Risk Management Program and Risk Reduction Measures

# PRA Model Scope and Quality

- Internal Events and Internal Flooding models were developed per RG 1.200 Rev 2 requirements and have been Peer Reviewed

Per the Peer Review Team

*“Overall, the CPNPP PRA was found to substantially meet the ASME PRA Standard at Capability Category II and can be used to support risk-informed applications”*

# PRA Model Scope and Quality

- Subsequent to the Peer Review, Findings and Observations were addressed and incorporated into the current Revision 4A model
  - All “Not Met”... now Cat II or better
  - 4 of 7 previous Cat I ... now Cat II or better
    - Remaining 3 with no application impact
  - All Findings were resolved and incorporated
  - All but one suggestion incorporated
    - One was deferred with no application impact
  - All remaining SRs meet Cat II or better
- External Events based on IPEEE and will be used for insights only

# PRA Model

## Scope and Quality

- Adequately addresses as-built, as-operated plant
- Plant specific data and plant specific best estimate T-H address success criteria
- Loss of Offsite Power modeling is robust
- Electric power systems modeling is robust; Alternate Power Generator is installed and modeled in the PRA
- SBO / RCP Seal LOCA modeling is robust and uses the WOG 2000 model with high temperature seals
- Convolution method used for LOOP recovery analyses

# Description of Risk Assessment

- Applicable Guidance and Criteria
  - Rev 2 of RG 1.174 and RG 1.200, and Rev 1 of RG 1.177
- Quantitative Analyses for Internal Events and Flood, Level I and II
- Qualitative Analyses for External Events
  - Qualitative discussion combined with IPEEE risk insights for the Fire, High Winds (Tornado), and Seismic (Margins)
  - Supported by detailed walk-down of plant

# Discussion of Sensitivity Analyses

- Sensitivity studies are used to address uncertainties. These studies will include but are not limited to:
  - Reliability of components important to the risk contributions of the CT extension
  - Increased duration of XST1 CT
  - LOOP Weather and Plant Centered frequencies
  - Deferred maintenance
- Uncertainty analysis will be performed per NUREG-1855.
  - Common Cause Failure discussion



# Configuration Risk Management Program

- CPNPP has a Configuration Risk Management Program
  - Incorporates the characteristics of the model Configuration Risk Management Program described in RG 1.177
  - CRMP description has been incorporated into plant Technical Specifications – 5.5.18
  - Previously approved for one time 14-day change to Technical Specifications for AC Sources – Operating – B 3.8.1 Required Action A.3 (XST2A transformer installation)
- CRMP is a requirement of the Maintenance Rule Program. CPNPP endorses the guidance in NUMARC 93-01, “Industry Guideline For Monitoring the Effectiveness Of Maintenance At Nuclear Power Plants”
- CPNPP will meet the fire (a)(4) requirement by December 1, 2013

# Configuration Risk Management Program –

## Risk Mitigation Actions

[Implemented during the extended CTs]

1. Restricted Access to and Suspension of Maintenance in the Switchyard.
2. Testing of Diesel Generators (EDG and APG) and Turbine Driven Auxiliary Feedwater Pumps within the Two (2) Weeks Prior to the Start of the XST1 extended CT.
3. Rescheduling of Testing and Maintenance on the EDGs, APGs, TDAFWPs, XST2, CCWPs and SSWPs to occur outside the extended CT window.
4. Suspension of Hot Work Activities Near XST2 Power and Control Cabling.
5. Roving Hourly Fire Watch Along Paths of XST2 Power and Control Cabling.
6. Selection of Time of Year Due to Weather Considerations.
7. Operations preparations and grid monitoring during the CT.

# Preliminary Conclusions of Risk Assessment

- Based upon previous LAR submittal and the current update to the PRA model, the preliminary PRA results show that the extension of the XST1 CT will have minimal impact on plant risk

## Proposed Schedule

Luminant Power requests approval of the proposed License Amendment by September 30, 2013, to be implemented within 120 days of the issuance of the license amendment.

Questions? Feedback?