



Robinson / NRC Pre-submittal Meeting:
LAR to Remove 4.160 kV bus 2 from Surveillance Requirement 3.8.1.16

March 30, 2022



Duke Energy Attendees

Lee Grzeck (Manager, Nuclear Fleet Licensing)

Joshua Duc (Nuclear Fleet Licensing)

Keith Beatty (RNP Engineering)

Alan Helms (RNP Engineering)

David Zybak (RNP Operations)

- Current and Proposed Technical Specification (TS) / Surveillance Requirement (SR)
- System Design and Operation
- Reason for the Proposed Change
- Background
- Justification
- Schedule

Current and Proposed TS / SR

3.8 ELECTRICAL POWER SYSTEMS

3.8.1 AC Sources - Operating

LCO 3.8.1 The following AC electrical sources shall be OPERABLE:

- a. Two qualified circuits between the offsite transmission network and the onsite emergency AC Electrical Power Distribution System; and
- b. Two diesel generators (DGs) capable of supplying the onsite emergency power distribution subsystem(s).

APPLICABILITY: MODES 1, 2, 3, and 4.

SR 3.8.1.16

-----NOTE-----

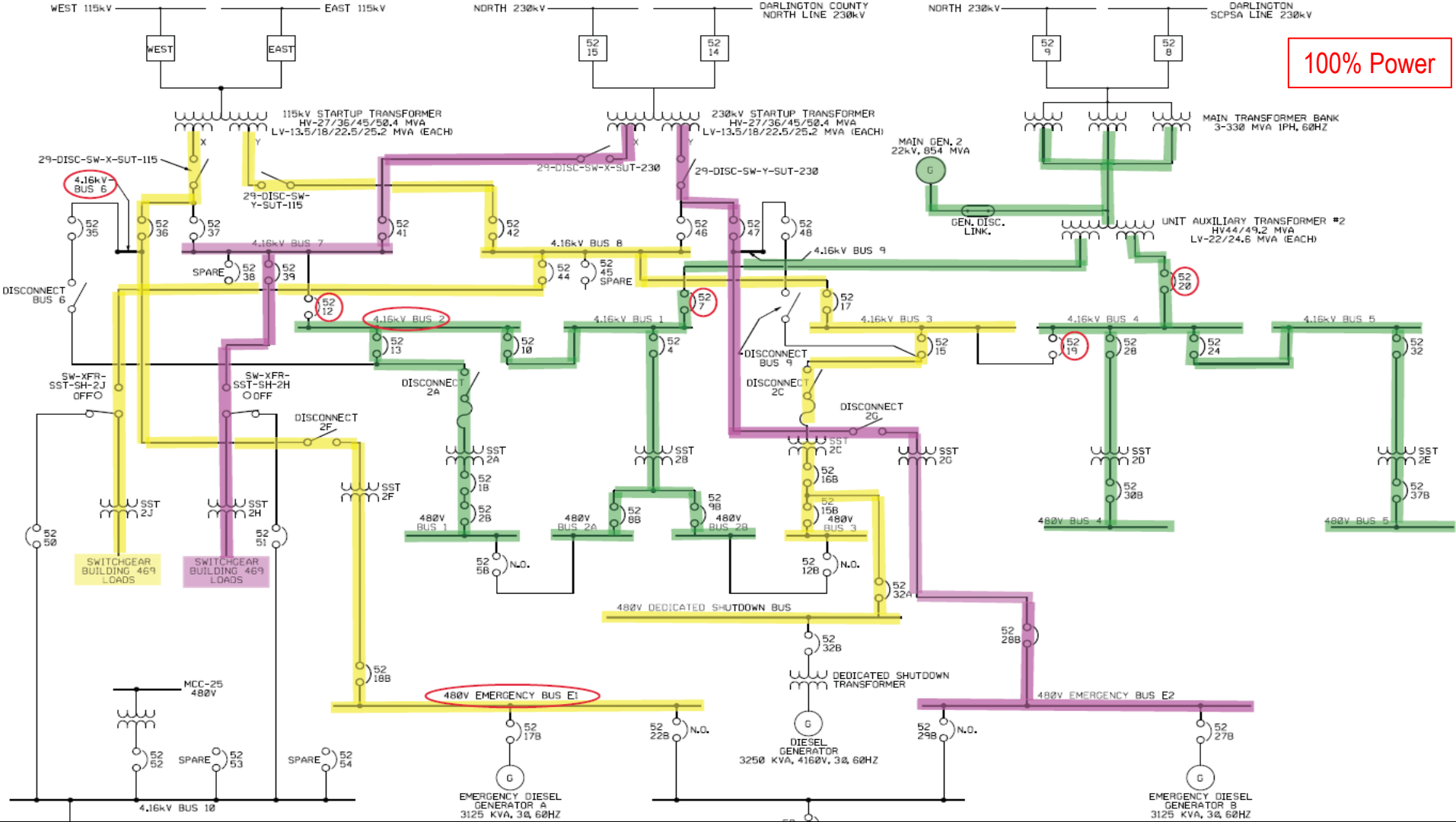
1. This Surveillance shall not be performed in MODE 1 or 2.
2. SR 3.8.1.16 is not required to be met if ~~4.160 kV bus 2 and~~ 480 V Emergency Bus 1 power supply is from a start up transformer.

Verify automatic transfer capability of the ~~4.160 kV bus 2 and the~~ 480 V Emergency bus 1 loads from the Unit auxiliary transformer to a start up transformer.

In accordance with the Surveillance Frequency Control Program

System Design and Operation

- TS 3.8.1 Bases
 - Design of AC electrical power system ensures power to Engineered Safety Feature (ESF) systems
 - Offsite circuit: equipment required to transmit power from offsite transmission network to ESF buses
- Normal 100% power lineup from Startup Transformers (SUT), Unit Auxiliary Transformer (UAT):
 - 115 kV SUT → 4.160 kV bus 6 → 480 V Emergency bus 1 (ESF bus E1)
 - 230 kV SUT → 4.160 kV bus 9 → 480 V Emergency bus 2 (ESF bus E2)
 - UAT → 4.160 kV bus 2
- SR 3.8.1.16 automatic transfer from UAT to SUT
 - Breakers 52/7 and 52/20 open; breakers 52/12 and 52/19 close



Reason for the Proposed Change

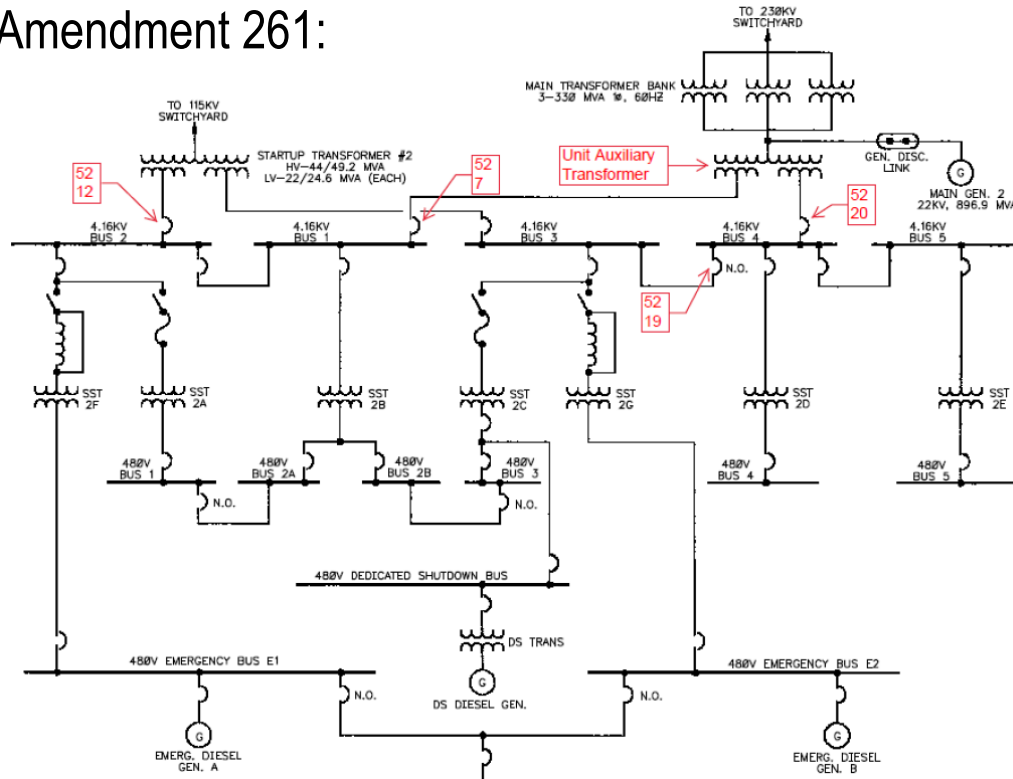
- SR 3.8.1.16 requires auto transfer capability for both 4.160 kV bus 2 and 480 V Emergency bus 1
- Amendment 261 added 230 kV SUT and four 4.160 kV buses
 - Direct 4.160 kV feed to 480 V Emergency bus 1 changed from bus 2 to bus 6
 - 480 V Emergency bus 1 can now be aligned to SUT when 4.160 kV bus 2 is not
- Maintenance that prevents auto transfer of 4.160 kV bus 2 results in SR 3.8.1.16 not met
 - 480 V Emergency bus 1 is aligned to offsite power, so there is no applicable TS 3.8.1 Condition
 - SR 3.8.1.16 Note 2 does not alleviate this situation

SR 3.8.1.16

-----NOTE-----

1. This Surveillance shall not be performed in MODE 1 or 2.
2. SR 3.8.1.16 is not required to be met if 4.160 kV bus 2 and 480 V Emergency Bus 1 power supply is from a start up transformer.

- Amendment 176 (improved Standard TS) added SR 3.8.1.16
- Prior to Amendment 261:



- TS 3.8.1 and associated Bases
 - Required loads to consider offsite circuits operable are the ESF bus loads
- Amendment 176 justification for adding SR 3.8.1.16:
 - “...added to verify the automatic transfer of the emergency bus E1 loads from the unit auxiliary transformer to the startup transformer.”
- Amendment 261
 - Direct 4.160 kV feed to 480 V Emergency bus 1 changed from 4.160 kV bus 2 to bus 6
- Removal (vs. replacement) of the 4.160 kV bus better focuses SR 3.8.1.16 on the required ESF loads

- Submit LAR by April 28, 2022
- Implementation within 120 days of receipt of safety evaluation

