TOGETHER WE DELIVER

FERC 754

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FERC ORDER 754 - Basis

NERC TPL RELIABILITY STANDARDS

TPL-0001-0 through TPL-004-0
Provide Valid Assessment
Near Term and Long Term
Performance must be met before and after contingency
Past study and/or system simulation

REQUIREMENT R1.3.10

"include the effects (loss) of existing and planned protection systems, including any backup or redundant systems"

PERFORMANCE BASED ISSUE

ASSESSMENTS OF SINGLE POINT OF FAILURE OF NON-REDUNDANT PRIMARY PROTECTION (INCLUDING BACKUP) SYSTEMS NEED TO BE SUFFICIENTLY COMPREHENSIVE

System Protection and System Planning Team
Complex Dynamic Stability Studies
For 345 kV and 138 kV Systems

FERC ORDER 754 – Dynamic Testing

CRITERIA FOR BUSES TO BE TESTED with 3 Phase Fault

Buses operated at 200 kV or higher with 4 or more circuits

Buses operated at 100 kV to 200 kV with 6 or more circuits

Buses directly supplying off-site power to a nuclear generating station

Any additional buses the Transmission Planner believes are necessary for the reliable operation of the bulk power system

FERC ORDER 754

ERCOT

Reliability Coordinator (RC) Not Included

SYSTEM PLANNING

As Transmission Planner (TP) Deemed the "coordinator"
Complex Dynamic Studies
External contractors may be required
Specialized Software required to support effort

SYSTEM PROTECTION TEAM COORDINATION

ONCOR RESOURCE ESTIMATES

5700 to 6800 Man Hours
$700 K to $990 K

FERC ORDER 754 – Possible Outcome

POSSIBLE REDUNDANT PROTECTION SYSTEMS

Protective Relays:

Independent protective relays

Communication Systems:

Independent communication systems

AC Current and Voltage Inputs:

Independent AC current sources and related inputs

DC Control Circuitry:

Independent DC control circuits

EXTENSIVE TIME TO IMPLEMENT - Years

Numerous Equipment Clearances and Outages

NERC Links

http://www.nerc.com/filez/standards/order_754.html

http://www.nerc.com/filez/gmdtf.html