

Events Analysis Regional Insights or NERC Lessons Learned Review

Prepared by Task Force/Working Group CO-10

Date: May 18, 2017

Regional Insights or NERC Lessons Learned reviewed : Lessons Learned 20170302	Description: Loss of State Estimator Due to Propagated Database Values
Describe Area of Concern Addressed:	The entity encountered an operational problem, causing the state estimator (SE) to become non-convergent. As a result, the Real Time Contingency Analysis (RTCA) application stopped running. An evaluation indicated that the SE application had encountered invalid data referred to as NaN (not a number, or invalid number, resulting typically from a divide by zero). This created invalid results that were propagated through many of the SE calculations, causing the SE to fail. The NaN values were generated by the application. These values were manually overridden to temporarily correct the issue.
TF/ WG Action Taken(if any):	
Identify Similar Experience (if applicable):	None
State Any Supplemental Insights:	Although this is a specific vendor problem, the potential for system generated NaN (Not a number) values is present in all systems. Entities should review with their vendor how NaN values are processed and if there are opportunities for the application to alarm for values it is not capable processing.
As a result of this review, has a Reliability Gap Identified in a NERC Standard or an NPCC Criterion or Guideline?	
Where additional specificity can be added to existing NPCC Guidelines or Criteria, Cite reference and propose addition or change :	