



H.1 R4 Report

**A Report by the
New York Independent System Operator**

March 26, 2018

Executive Summary

On 2/27/18, beginning at 01:17:55 the NYISO experienced a momentary interruption of its ICCP data links. ICCP on the primary server encountered a communications problem with the NYISO's telecom provider and immediately failed over as designed to a redundant server. Most ICCP links were restored within three minutes. Some ICCP links—including four New York Transmission Operators sustained an extended outage and were all fully restored at 02:05:13.

Pursuant to H.1 R4, this report describes the disruption and its relationship to the control of the NYS Bulk Power System, and identifies the cause of the disruption and the corrective actions taken.

1. Problem and Relationship to the NYS Bulk Power System

On 02/27 at 01:17:55 NYISO “A” server ICCP recognized a communication problem and placed all ICCP links on that side into Unavailable status and immediately switched to the “B” server as designed. At 01:18:17 NYISO “B” server established the first connection. Out of 27 active ICCP links, 17 connections were established within 3 minutes. The NYISO ICCP “B” server continued to attempt to establish the remaining links, however the remote servers failed to connect to the NYISO “B” server. NYISO then cycled (on/off) services on “A” server at 02:04:51, resulting in the remaining links being established on the “B” server by 02:05:13.

Following the event it was determined that the remote links that did not immediately reestablish on the “B” server still had active TCP connections to the “A” server even though the NYISO had closed the ICCP Application connections. The TCP connections prevented the remote ends from reestablishing the ICCP connection to the “B” server. When the NYISO cycled the services on the ‘A” server these TCP connections were closed and the remote servers accepted the connection to the “B” server.

The NYISO continued to monitor the system and run State Estimator and Contingency Analysis based on independent metering sources.

The Long Island, Con Ed, Central Hudson and Orange and Rockland ICCP links were affected by this event with an extended outage of more than 30 minutes. It was determined after the fact that Orange and Rockland was the only entity that was impacted by the extended outage since the other entities were not relying on this ICCP connection as the primary data source.

2. Cause of Incident

The NYISO has not been able to determine the cause of the communication problem with our telecom providers. The NYISO was aware of scheduled maintenance occurring at this time based on information provided by the telecom providers; the NYISO assessed the described maintenance in advance and determined that it would not have an operational impact. The NYISO therefore believes that the scheduled maintenance—at least as described to the NYISO by the telecom providers—was not the cause of the communication problem.

3. Corrective Actions

The NYISO has reviewed the details of this event and has made modifications to the NYISO's existing internal procedure to address this situation if it were to occur again. The NYISO has shared information with the entities that did not reconnect as designed to assist them in addressing any issues on their systems.