ERCOT 2011 Severe Weather Drill Script

# Drill Title:

# EEA Event Caused by Severe Winter Storm

**Purpose:**

**The purpose of the ERCOT 2011 Severe Weather Drill is to provide TOs, QSE, ERCOT Operators and operational support groups within each company with simulated EEA practice. It is anticipated that each operator participating in the Drill will:**

* + - **Practice communicating with other entities in events leading up to and including EEA and restoration.**
    - **Drill participants must jointly develop training activities between QSEs and local TOs, for implementation on the**
    - **day of the Drill.**
    - **Participants will simulate the use of internal Emergency Plans.**
    - **Participants will submit the required Drill Critique and make recommendations for changes to Emergency and EEA plans.**
    - **Critiques are to be sent to the following:**
      1. [**doatman@ercot.com**](mailto:doatman@ercot.com)
      2. [**protocol@texasre.org**](mailto:protocol@texasre.org)

**Scenario:**

**ERCOT receives a weather advisory/forecast indicating that a massive Siberian cold air mass is building in Canada and is expected to race southward within 72 hours. This air mass will be a subfreezing, wet event with high winds. Temperatures in Texas have been freezing at night, with highs in the 30s to 40s during the day. ERCOT loads have already been relatively high because of little warming during daylight hours. The high winds associated with the cold front will drop wind chills extremely low.**

**Day 1 (February 1, 2011)**

**0730 - 0830**

**Test all communications systems between participating entities; this includes telephones, satellite phones, faxes, radios, internet communications, backup control centers, hotlines, and etc.**

**ERCOT will test the SSRG Hotline and initiate a Hotline Test Call.**

**Communications testing is to include testing of internal software, system apps, intra company communications, EMS and MMS applications, scheduling interfaces.**

**Communications testing is to be completed by 0830**

**Day 1 (February 1, 2011)**

**0830 (0100 Simulation time)**

**ERCOT has reviewed the weather forecast and determined that the ERCOT Region may have ambient temperatures in North Texas of 15 degrees as a high, with lows in the single digits. South Texas will have highs of 20 degrees with lows around 12-15 degrees.**

**OCN issued for possible Severe Cold Weather.**

**The Transmission Security Desk makes a Hotline Call and informs / instructs TOs:**

* **An OCN for cold weather has been issued**
* **ERCOT will be reviewing planned outages associated with the impact of the approaching cold weather**.
* **ERCOT will be reviewing existing outages for the possibility of restoring the outages on high priority equipment.**
* **Review emergency operating procedures and immediately notify ERCOT of any changes or conditions that could affect system stability.**

**The Real Time Desk will make a Hotline Call and informs/ instructs QSEs:**

* **An OCN for cold weather has been issued.**

* **Review fuel supplies, resource plans, resource maintenance and outages and then report status back to ERCOT, including submitting Fuel Reporting Form(s) to ERCOT.**

* **Review emergency operating procedures and immediately notify ERCOT of any changes or conditions that could affect system stability.**

**Note: Alternative Fuel Survey forms can be found in the ERCOT Guides, Section 6: Reports and Forms.**

**Day 1 (February 1, 2011)**

**0900 (0905 Simulation time)**

ERCOT management instructs System Operations to notify all Market Participants via the Hotline that a Media Appeal for energy conservation has been issued. ERCOT also notifies the PUCT.

**Day 1 (February 1, 2011)**

**1000 (0905 Simulation time)**

**ERCOT reviews the weather forecast and determines that nothing has changed on the expected PRC level of the forecasted winter weather. Further review of load and resource forecasts indicate that forecasted loads will be significantly higher with resource availability less than what might be required. ERCOT issues an Advisory on the forecasted weather and the possible shortfall of available generation resources, citing the following:**

**Advisory issued for probable Severe Cold Weather.**

* **Concern for the availability of enough resources to serve anticipated demand.**
* **Projection of possible insecure loading conditions in ERCOT.**

**The Transmission Security Desk makes a Hotline Call and informs / instructs TOs:**

* **An Advisory for cold weather has been issued**
* **ERCOT is continuing to review outages to determine their priority for restoration.**
* **Review emergency operating procedures and immediately notify ERCOT of any changes or conditions that could affect system stability.**

**The Real Time Desk will make a Hotline Call and informs / instruct QSEs:**

* **An OCN for cold weather has been issued.**
* **Continually review fuel supplies and to make available any resources on outage that are able to return to service.**
* **Direct plant operators to prepare for projected severe cold weather conditions.**
* **Review emergency operating procedures and immediately notify ERCOT of any changes**

**Day 1 (February 1, 2011)**

**1200 (1500 Simulation time)**

As the frigid air begins entering the ERCOT Region, temperatures in North Texas are 35 degrees but are forecasted to drop to 20 degrees by evening. South Texas temperatures are 40 to 45 degrees, but are expected to drop to the upper twenties before midnight. ERCOT issues a Watch.

**Watch issued for Impending Severe Cold Weather.**

**The Transmission Security Desk makes a Hotline Call and informs / instructs TOs:**

* **A Watch for cold weather has been issued**
* **Restore all outaged lines as appropriate.**
* **ERCOT may direct TOs reconfigured System elements as necessary to improve system reliability.**
* **Prepare for higher than usual loads and the possibility of load shedding.**
* **Review emergency operating procedures and immediately notify ERCOT of any changes or conditions that could affect system stability.**

**The Real Time Desk will make a Hotline Call and inform / instruct QSEs:**

* **A Watch for cold weather has been issued and notification of conditions must be made to all resources.**
* **Make available any resources that can be returned to service and keep resource plans updated.**
* **Prepare for higher than usual loads and the possible need for additional ancillary services.**
* **Verify fuel availability…then report status back to ERCOT, with Alternative Fuel Capability Report. This is available from the Operations Planning Group.**
* **Review emergency operating procedures and immediately notify ERCOT of any changes or conditions that could affect system stability.**

**Day 2 (February 2, 2011)**

**1100 (0100 Simulation time)**

**Temperatures in North Texas have dropped into the 20 degree range. Reserves are adequate, but load is increasing rapidly. ERCOT declares Emergency condition due to cold weather.**

**Emergency issued for Severe Cold Weather in ERCOT Region.**

**The Transmission Security Desk makes a Hotline Call and informs / instructs TOs:**

* **An Emergency for cold weather has been issued**
* **Direct TOs reconfigured System elements as necessary to improve system reliability.**
* **Prepare for higher than usual loads and the possibility of load shedding.**
* **Review emergency operating procedures and immediately notify ERCOT of any changes or conditions that could affect system stability.**

**The Real Time Desk will make a Hotline Call and inform / instruct QSEs:**

* **An Emergency for cold weather has been issued and notification of conditions must be made to all resources.**
* **Make available any resources that can be returned to service and keep resource plan updated.**
* **ERCOT may exercise its authority to ask for quick bid response.**
* **Verify fuel availability…then report status back to ERCOT, with Alternative Fuel Capability Report. This is available from the Operations Planning Group.**
* **Review emergency operating procedures and immediately notify ERCOT of any changes or conditions that could affect system stability.**

**Day 2 (February 2, 2011)**

**1130 (0247 Simulation time)**

**ERCOT issues an Advisory for PRC, which is below 3000 MWs.**

**The Transmission Security Desk makes a Hotline Call and informs / instructs TOs:**

* **ERCOT is issuing an Advisory for Physical Responsive Capability falling below 3000 MW.**

**The Real Time Desk will make a Hotline Call and inform / instruct QSEs:**

* **ERCOT is issuing an Advisory to provide notice that Physical Responsive Capability has fallen below 3000 MW.**

**ERCOT continues to exercise its authority to procure Responsive Reserve Services and Non-Spinning Reserve Services.**

**1145 (0430 Simulation time)**

**ERCOT deploys 1804MW Non-Spin Reserve Services.**

**Day 2 (February 2, 2011)**

**1200 (0508 Simulation time)**

**Temperatures are in the single digits in North Texas and 12-15 degrees in South Texas.**

**Watch for PRC, which is below 2500 MWs.**

**The Transmission Security Desk makes a Hotline Call and informs / instructs TOs:**

* **ERCOT is issuing a Watch for Physical Responsive Capability falling below 2500 MW.**

**The Real Time Desk will make a Hotline Call and inform / instruct QSEs:**

* **ERCOT is issuing a Watch to provide notice that Physical Responsive Capability has fallen below 2500 MW.**
* **ERCOT ISO is reminding you, that you can schedule available interchange into ERCOT across the DC-Ties.**

**Day 2 (February 2, 2011)**

**1230 (0515 Simulation time)**

**ERCOT determines it is in an insecure state. Fuel curtailments have increased. Generation capacity has been limited for fuel and equipment reasons.**

**ERCOT cannot maintain 2300 MW of Physical Responsive Capability**

**ERCOT declares EEA Level 1 (Energy Emergency Alert)**

**The Transmission Security Desk makes a Hotline Call and informs / instructs TOs:**

* **ERCOT is implementing EEA Level 1.**

**The Real Time Desk will make a Hotline Call and inform / instruct QSEs:**

* **ERCOT is implementing EEA Level 1.**
* **Confidentiality requirements regarding Transmission Operations and System Capacity information will be lifted, as needed to restore Reliability.**
* **QSEs need to contact the Texas Commission on Environmental Quality (TCEQ) for enforcement discretion on air permitting requirements.**
* **QSE’s are not to take units off-line while ERCOT is in emergency operations unless it is due to a forced outage.**

**ERCOT has notified the SWPP that it has declared EEA Level 1 and has acquired all available DC Tie capacity not being used by the market.**

**Day 2 (February 2, 2011)**

**1300 (0520 Simulation time)**

**ERCOT load is still climbing and ERCOT cannot maintain 1750 MW of Physical Responsive Capability.**

**ERCOT declares EEA Level 2 (Energy Emergency Alert)**

**The Transmission Security Desk makes a Hotline Call and informs / instructs TOs:**

* **ERCOT is implementing EEA Level 2A.**

* **Load Resources and EILS are being deployed.**
* **If local operating conditions permit, TOs are to reduce customer loads by using distribution voltage reduction measures.**
* **Report back to ERCOT when these actions have been initiated and/or completed.**

**The Real Time Desk will make a Hotline Call and inform / instruct QSEs:**

* **ERCOT is implementing EEA Level 2A.**
* **ERCOT will deploy Group 1 and Group 2 Load Resources.**
* **QSEs are to deploy all contracted EILS bid in the current time period until further notice.**

* **QSEs are not to take units off-line while ERCOT is in emergency operations unless it is due to a forced outage.**
* **QSEs are required to report back to the ERCOT System Operator when this task has been completed.**

**Day 2 (February 2, 2011)**

**1330 (0543 Simulation time)**

**ERCOT load is still climbing. Frequency is dragging. Temperatures are 0 degrees in North Texas and 7-10 degrees in most of South Texas. Frequency is at 59.60.**

**ERCOT declares EEA Level 3 (Energy Emergency Alert)**

**The Transmission Security Desk makes a Hotline Call and informs / instructs TOs:**

* **ERCOT is implementing EEA Level 3.**

* **To shed their share of 1000 MW.**
* **Report to ERCOT when load shed is complete and give the amount of load shed.**

**The Real Time Desk will make a Hotline Call and inform / instruct QSEs:**

* **ERCOT is implementing EEA Level 3.**
* **Transmission Operators have been instructed to shed 1000MW of firm load.**

**Day 2 (February 2, 2011)**

**1345 (0604 Simulation time)**

**The Transmission Security Desk makes a Hotline Call and informs / instructs TOs:**

* **To shed their share of an additional 1000MW of firm load (2000MW total).**
* **Report to ERCOT when load shed is complete and give the amount of load shed.**

**The Real Time Desk will make a Hotline Call and inform / instruct QSEs:**

* **Transmission Operators have been instructed to shed an additional 1000MW of firm load (2000MW total).**

**1400 (0623 Simulation time)**

**The Transmission Security Desk makes a Hotline Call and informs / instructs TOs:**

* **To shed their share of an additional 2000MW of firm load (4000MW total).**
* **Report to ERCOT when load shed is complete and give the amount of load shed.**

**The Real Time Desk will make a Hotline Call and inform / instruct QSEs:**

* **Transmission Operators have been instructed to shed an additional 2000MW of firm load (4000MW total).**

**Day 2 (February 2, 2011)**

**1430 (0822 Simulation time)**

There is sufficient Regulation service to maintain a system frequency of 60 Hz. Some gas curtailments have been lifted. ERCOT load has leveled off and is starting to fall. Physical Responsive Capability is now 1375 MW and climbing.

ERCOT instructs TOs to restore firm load.

**The Transmission Security Desk makes a Hotline Call and informs / instructs TOs:**

* **ERCOT is instructing all Transmission Operators to restore their share of 1000 MW leaving 3000MW still off.**
* **Report to ERCOT when task is complete and give the amount of load restored.**

**The Real Time Desk will make a Hotline Call and inform / instruct QSEs:**

* **ERCOT is currently restoring firm load.**

**1445 (1139 Simulation time)**

ERCOT instructs TOs to restore firm load.

**The Transmission Security Desk makes a Hotline Call and informs / instructs TOs:**

* **ERCOT is instructing all Transmission Operators to restore their share of 1000 MW leaving 2000MW still off.**
* **Report to ERCOT when task is complete and give the amount of load restored.**

**The Real Time Desk will make a Hotline Call and inform / instruct QSEs:**

* **ERCOT is currently restoring firm load.**

**Day 2 (February 2, 2011)**

**1500 (1225 Simulation time)**

ERCOT instructs TOs to restore firm load.

**The Transmission Security Desk makes a Hotline Call and informs / instructs TOs:**

* **ERCOT is instructing all Transmission Operators to restore their share of 1000 MW leaving 1000MW still off.**
* **Report to ERCOT when task is complete and give the amount of load restored.**

**The Real Time Desk will make a Hotline Call and inform / instruct QSEs:**

* **ERCOT is currently restoring firm load.**

**1515 (1307 Simulation time)**

ERCOT instructs TOs to restore firm load.

**The Transmission Security Desk makes a Hotline Call and informs / instructs TOs:**

* **ERCOT is instructing all Transmission Operators to restore their share of 1000 MW leaving 0MW still off.**
* **Report to ERCOT when task is complete and give the amount of load restored.**

**The Real Time Desk will make a Hotline Call and inform / instruct QSEs:**

* **ERCOT is currently restoring firm load.**

**Day 2 (February 2, 2011)**

**1530 (1401 Simulation time)**

**All firm load has been restored and ERCOT has** **sufficient Regulation to maintain a system frequency of 60 Hz. The Physical Responsive Capability is now 1500 MW and climbing.**

ERCOT moves from EEA Level 3 to EEA Level 2.

**The Transmission Security Desk makes a Hotline Call and informs / instructs TOs:**

* **ERCOT is moving from EEA Level 3 to EEA Level 2.**
* **ERCOT is recalling all Load Resources and EILS.**
* **Go back to normal, if distribution voltage reductions were made.**

**The Real Time Desk will make a Hotline Call and inform / instruct QSEs:**

* **ERCOT is moving from EEA Level 3 to EEA Level 2.**
* **ERCOT is recalling Group 1 and Group 2 Load Resources.**
* **QSEs are to recall all contracted EILS.**

**Day 2 (February 2, 2011)**

**1600 (1600 Simulation time)**

**All Load Resources have been recalled. There continues to be sufficient Regulation to maintain a system frequency of 60 Hz. There is sufficient Regulation to maintain the frequency. Physical Responsive Capability is now 2300 MW.**

**ERCOT moves from EEA Level 2 to EEA Level 1**

**The Transmission Security Desk makes a Hotline Call and informs / instructs TOs:**

* **ERCOT is moving from EEA Level 2 to EEA Level 1.**

**The Real Time Desk will make a Hotline Call and inform / instruct QSEs:**

* **ERCOT is moving from EEA Level 2 to EEA Level 1.**

**Day 2 (February 2, 2011)**

**1630 (1800 Simulation time)**

**Physical Responsive Capability has increased to 3300.**

**ERCOT declares the EEA event at an end.**

**ERCOT terminates EEA.**

**The Transmission Security Desk makes a Hotline Call and informs / instructs TOs:**

* **ERCOT is Terminating EEA, Watch remains in effect.**

**The Real Time Desk will make a Hotline Call and inform / instruct QSEs:**

* **ERCOT is Terminating EEA, Watch remains in effect.**

**2011 STORM DRILL IS OVER. ALL PARTICPANTS REVIEW DRILL, CRITIQUE EVENTS, THEN PROVIDE DRILL COMMENTS TO ERCOT BY MONDAY DECEMBER 5, 2011**