**ERCOT Nodal Operating Guides**

**Section 5: Network Operations Modeling Requirements**

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# NETWORK OPERATIONS MODELING REQUIREMENTS

**5.1 System Modeling Information**

(1) Information on existing and future ERCOT System components and topology is necessary for ERCOT to create databases and perform tests as outlined in these criteria. To ensure that such information is made available to ERCOT, the following actions by Market Participants are required:

(a) Each Transmission Service Provider (TSP), or its Designated Agent, shall provide accurate modeling information for all Transmission Facilities owned or planned by the TSP. The information provided shall include, but not be limited to, the following:

(i) Information necessary to represent the TSP’s Transmission Facilities in any model of the ERCOT Transmission Grid whose creation has been approved by ERCOT, including modeling information detailed in procedures of the Steady State Working Group (SSWG), Dynamics Working Group (DWG), and System Protection Working Group (SPWG);

(ii) Identification of a designated contact person, generally regarded as the working group TSP representative, responsible for providing answers to questions ERCOT may have regarding the information provided; and

(iii) TSP owned or operated Transmission Facility data provided and used to accurately represent a Transmission Facility in a model shall be consistent to the extent practicable with data provided and used to represent that same Transmission Facility in any other model created to represent a time period during which the Transmission Facility is expected to be physically identical. All existing transmission lines’ and transformers’ impedances, or equivalent branch circuit impedance, and Ratings shall be identical, to the extent practicable. If all normally closed breakers and switches are closed and normally open breakers and switches are open in the Network Operations Model, the calculated line flows between substations in the Annual Planning Model shall be consistent, when all models use the same load magnitude and distribution, generation commitment and dispatch, and Voltage Profile.

(b) Each TSP, or its Designated Agent, owning or planning Transmission Facilities shall attend the scheduled meetings and otherwise participate in the activities of the SSWG, DWG, and the SPWG, unless specifically exempted from these activities by ERCOT.

(c) Each Generation Resource and Energy Storage Resource (ESR), or a Designated Agent for the Resource, shall provide accurate modeling information for each existing or proposed Resource meeting the criteria for inclusion in the SSWG, DWG, and SPWG base cases for which it is the majority owner. The information provided shall include, but not be limited to, the following:

(i) Information necessary to represent the Resource’s generation and interconnection facilities in any model of the ERCOT System whose creation has been approved by ERCOT, including modeling information detailed in procedures of the SSWG, DWG, and SPWG; and

(ii) Identification of a designated contact person responsible for providing answers to questions ERCOT may have regarding the information provided.

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| ***[NOGRR177: Replace paragraph (c) above with the following upon system implementation of NPRR857:]***  (c) Each Generation Resource, Energy Storage Resource (ESR), or Direct Current Tie Operator (DCTO), or a Designated Agent for the Resource or DCTO, shall provide accurate modeling information for each existing or proposed Resource or Transmission Facility meeting the criteria for inclusion in the SSWG, DWG, and SPWG base cases for which the Resource or DCTO is the majority owner. The information provided shall include, but not be limited to, the following:  (i) Information necessary to represent the Resource’s generation and interconnection facilities and the DCTO’s Transmission Facilities in any model of the ERCOT System whose creation has been approved by ERCOT, including modeling information detailed in procedures of the SSWG, DWG, and SPWG; and  (ii) Identification of a designated contact person responsible for providing answers to questions ERCOT may have regarding the information provided. |

(d) Typical or representative information may be provided for planned facility additions or modifications for use in the SSWG, DWG, and SPWG base cases, but such information shall be revised using actual design or construction information in accordance with the time line for Network Operations Model changes outlined in Protocol Section 3.10.1, Time Line for Network Operations Model Changes.

(e) Congestion Revenue Right (CRR) Network Model Outage determination uses network topology of the CRR Network Model identified by ERCOT. This must include Outages of Transmission Elements with a status of approved or accepted by ERCOT at the time the CRR Network Model is being built and that demonstrate significant impact to the transfer capability during the effective period.  ERCOT will consider including Outages in the CRR Network Model that are scheduled to occur in the relevant time period and meet one or more of the following criteria:

(i) Consecutive or continuous approved or accepted Outages greater than or equal to five days;

(ii) Approved or accepted Outages which include Transmission Elements included in the definition of a Hub;

(iii) Approved or accepted Outages which include Transmission Elements in a 345 kV Transmission Facility;

(iv) Approved or accepted Outages that require the use of a Block Load Transfer (BLT); and

(v) Any other approved or accepted Outage that has been determined by ERCOT to carry a substantial risk of causing significant congestion.

(f) As set forth in Protocol Section 7.5.1, Nature and Timing, all Outages included in the CRR Network Model shall be posted on the Market Information System (MIS) Secure Area consistent with the model posting requirements and with accompanying cause and duration information, as indicated in the Outage Scheduler.