

NX Application Changes due to FERC 881



NX APPLICATION

The NX Application hosts data representing the physical characteristics, ratings, and operational data of transmission and generation equipment needed to develop accurate system models and maintain reliable operations of New England power system.

All data provided to the NX Application (and LEP) shall be consistent with Attachment Q of ISO-NE OATT, [OP16](#), [PP07](#), and applicable industry standards.

PP07 revision, published 2/7/25, addresses requirements for FERC 881.

OP16 revision will be published closer to FERC 881 Implementation.

FERC 881 Impact on NX Application

- Entry system for all rating data after FERC order 881 implementation is the Limit Exchange Portal (aka LEP).
 - Hourly, forecast, seasonal
- Certain characteristic information is needed to prepare LEP and ISO EMS applications to receive ratings. The ratings tab of the NX Application has been modified to receive the necessary modeling information.
 - Conditional rating data, SCADA ratings, Nominal ratings
- All other NX functionality remains the same

NX9 Ratings Tab for FERC 881

- The pre-FERC 881 ratings tab has been removed from all forms
 - Old rating data is available via the Equipment Search
 - New ratings tab contains FERC 881 related data
 - Informational note on the ratings tab regarding rating entry in LEP and availability of Pre-881 ratings in equipment search

Ratings | Equipment Notes | File Attachments | Admin Comments | ISO Review | Revisions | History

All ratings must be provided in the Limit Exchange Portal (LEP); Pre-881 ratings available using Equipment Search.

Equipment Data

Ratings provided via telemetry

ISO-NE Data

LEP Only Equipment

LEP Implementation Date:

Conditional Rating Data

Bi-Directional - Select when ratings are dependent on flow direction

Conditional - Select when conditional rating sets will be provided. Each Conditional Rating Set record must identify a line in/out condition or a specific switching device that affects the primary equipment's rating.

Initial Nominal Ratings for New Equipment (MVA)

Normal	LTE	STE	DAL
156	245	387	387

Nominal ratings are provided for initial model creation only
Nominal ratings will be maintained by equipment owners in LEP

Rating Comments:

Add Delete

New field: Ratings provided via telemetry

The screenshot shows a web interface for configuring ratings. At the top, there are tabs for 'Ratings', 'Equipment Notes', 'File Attachments', 'Admin Comments', 'ISO Review', 'Revisions', and 'History'. Below the tabs, a red warning message states: 'All ratings must be provided in the Limit Exchange Portal (LEP); Pre-881 ratings available using Equipment Search.' The interface is divided into several sections: 'Equipment Data' with a red-bordered checkbox for 'Ratings provided via telemetry'; 'ISO-NE Data' with a checkbox for 'LEP Only Equipment' and a date field for 'LEP Implementation Date'; 'Conditional Rating Data' with checkboxes for 'Bi-Directional' and 'Conditional'; 'Initial Nominal Ratings for New Equipment (MVA)' with a table of values (Normal: 156, LTE: 245, STE: 387, DAL: 387) and a text area for 'Rating Comments'; and a 'Conditional Rating Set' list with two entries: 'Cable 1 with Cable 2 IN' and 'Cable 1 with Cable 2 OUT'. 'Add' and 'Delete' buttons are located at the bottom right.

Normal	LTE	STE	DAL
156	245	387	387

- Ratings provided via telemetry
 - An optional flag set by the Participant when current hour ratings (Normal, LTE, STE and DAL) will be provided via SCADA
 - Used when ratings are calculated using installed DLR equipment or when the line segment is part of an external tie-line and transmitted to ISO via SCADA
 - This setting alerts ISO-NE to prepare SCADA for the next model release to receive the ratings in real-time

New field: Initial Nominal Ratings

All ratings must be provided in the Limit Exchange Portal (LEP); Pre-881 ratings available using Equipment Search.

Equipment Data
 Ratings provided via telemetry

ISO-NE Data
 LEP Only Equipment
LEP Implementation Date:

Initial Nominal Ratings for New Equipment (MVA)

Normal	LTE	STE	DAL	Nominal ratings are provided for initial model creation only Nominal ratings will be maintained by equipment owners in LEP
150	200	415	415	

Rating Comments:

Conditional Rating Data
 Bi-Directional - Select when ratings are dependent on flow direction
 Conditional - Select when conditional rating sets will be provided. Each Conditional Rating Set record must identify a line in/out condition or a specific switching device that affects the primary equipment's rating.

Conditional Rating Set
 Cable 1 with Cable 2 IN
 Cable 1 with Cable 2 OUT

Add Delete

- Initial Nominal Ratings for New Equipment (MVA)
 - Nominal ratings are used by the EMS as the last resort when all other ratings are not available
 - Initial nominal ratings are required for all new equipment and are used for initial modeling in the ISO EMS
 - Nominal Ratings are determined by Participant
 - Fields are enterable until Equipment In Service Start Date is set
 - Changes to nominal ratings are provided via LEP

New field: Rating Comments

The screenshot shows a software interface with a 'Ratings' tab selected. The interface includes several sections: 'Equipment Data' with a checkbox for 'Ratings provided via telemetry'; 'ISO-NE Data' with a checkbox for 'LEP Only Equipment' and a date field for 'LEP Implementation Date'; 'Conditional Rating Data' with checkboxes for 'Bi-Directional' and 'Conditional' (checked); and a table for 'Initial Nominal Ratings for New Equipment (MVA)' with columns for Normal, LTE, STE, and DAL, and values 150, 200, 415, and 415. A 'Rating Comments' text area is highlighted with a red border. Below the table, there are 'Add' and 'Delete' buttons.

Ratings | Equipment Notes | File Attachments | Admin Comments | ISO Review | Revisions | History

All ratings must be provided in the Limit Exchange Portal (LEP); Pre-881 ratings available using Equipment Search.

Equipment Data
 Ratings provided via telemetry

ISO-NE Data
 LEP Only Equipment
LEP Implementation Date:

Conditional Rating Data
 Bi-Directional - Select when ratings are dependent on flow direction
 Conditional - Select when conditional rating sets will be provided. Each Conditional Rating Set record must identify a line in/out condition or a specific switching device that affects the primary equipment's rating.

Initial Nominal Ratings for New Equipment (MVA)
Normal LTE STE DAL Nominal ratings are provided for initial model creation only
150 200 415 415 Nominal ratings will be maintained by equipment owners in LEP

Rating Comments:

Conditional Rating Set
 Cable 1 with Cable 2 IN
 Cable 1 with Cable 2 OUT

Add Delete

- Rating Comments
 - The Rating Comments field is optional and can be used to provide clarifying information about the data provided on the ratings tab

New display: Equipment reference number

Reference Number: 2503240280 Participant: ISO Equip ID:
Form State: Approved Participant Equip ID: ISO EMS ID:
Equip Reference #: 11850 External Tie Line External Equip ISO Line Name:
Form is Valid
Circuit: 1 Nominal System Voltage (kV): 115.0 Series Device Cable Type: Overhead
Conductor Type: 1590 ACSS Conductor Length (mi.): 2.7
Terminal A: Bus #: Station:
Terminal B: Bus #: Station:

Ratings Equipment Notes File Attachments Admin Comments ISO Review **Revisions** History

Reference #	State	Supersedes	Actual Effective Date	Requested Effective Date	NX Expiration Date	Revision Comments
2503240280	Approved		03/24/2025	03/25/2025		Revision to migrate 1706210002 to new F
1706210002	Approved		06/21/2017	06/22/2017	03/24/2025	These ratings are being issued for the 104
1601190001	Approved		01/19/2016	01/20/2016	06/21/2017	ISO updated to correct Terminal A from N.
11850	Approved		12/20/2013	12/20/2013	01/19/2016	These ratings are being issued due to the

- Equipment reference number
 - Always equal to first reference number for new equipment
 - NX Equip Reference # = NX_ERN field in LEP
 - This number can be used to match NX equipment to LEP equipment; may be used for multiple segments in LEP

New field: Bi-Directional flag

The screenshot shows a web form for 'Ratings' with several tabs: Equipment Notes, File Attachments, Admin Comments, ISO Review, Revisions, and History. A red banner at the top states: 'All ratings must be provided in the Limit Exchange Portal (LEP); Pre-881 ratings available using Equipment Search.' The form is divided into sections: 'Equipment Data' with checkboxes for 'Ratings provided via telemetry' and 'LEP Only Equipment', and a date field for 'LEP Implementation Date'; 'Initial Nominal Ratings for New Equipment (MVA)' with a table of values (Normal, LTE, STE, DAL) and a note that 'Nominal ratings are provided for initial model creation only' and 'Nominal ratings will be maintained by equipment owners in LEP'; 'Rating Comments' with a text area; and 'Conditional Rating Data' which is highlighted with a red box. In this section, the 'Bi-Directional' checkbox is checked, and the 'Conditional' checkbox is unchecked. Below this is a 'Conditional Rating Set' table with an 'Add' and 'Delete' button.

Ratings | Equipment Notes | File Attachments | Admin Comments | ISO Review | Revisions | History

All ratings must be provided in the Limit Exchange Portal (LEP); Pre-881 ratings available using Equipment Search.

Equipment Data

Ratings provided via telemetry

ISO-NE Data

LEP Only Equipment

LEP Implementation Date:

Initial Nominal Ratings for New Equipment (MVA)

Normal	LTE	STE	DAL
31	31	31	31

Nominal ratings are provided for initial model creation only
Nominal ratings will be maintained by equipment owners in LEP

Rating Comments:

Conditional Rating Data

Bi-Directional - Select when ratings are dependent on flow direction

Conditional - Select when conditional rating sets will be provided. Each Conditional Rating Set record must identify a line in/out condition or a specific switching device that affects the primary equipment's rating.

Conditional Rating Set

Add Delete

- Conditional Rating Data - Bi-Directional flag
 - An optional flag set by the Participant to indicate ratings are dependent on the direction of flow
 - This setting alerts ISO-NE to prepare the ISO EMS model for LEP to receive rating sets for flows in each direction

New field: Conditional flag

The screenshot shows a web interface for configuring equipment ratings. At the top, there are tabs for Ratings, Equipment Notes, File Attachments, Admin Comments, ISO Review, Revisions, and History. A red banner states: "All ratings must be provided in the Limit Exchange Portal (LEP); Pre-881 ratings available using Equipment Search." The main form is divided into several sections:

- Equipment Data:** Includes checkboxes for "Ratings provided via telemetry" and "LEP Only Equipment", and a date field for "LEP Implementation Date".
- ISO-NE Data:** Includes a checkbox for "LEP Only Equipment" and a date field for "LEP Implementation Date".
- Initial Nominal Ratings for New Equipment (MVA):** A table with columns for Normal, LTE, STE, and DAL. The values are 156, 245, 387, and 387 respectively. A note states: "Nominal ratings are provided for initial model creation only. Nominal ratings will be maintained by equipment owners in LEP."
- Conditional Rating Data:** This section is highlighted with a red border. It includes a checkbox for "Bi-Directional" and a checked checkbox for "Conditional". A description for the "Conditional" flag reads: "Select when conditional rating sets will be provided. Each Conditional Rating Set record must identify a line in/out condition or a specific switching device that affects the primary equipment's rating." Below this is a list of "Conditional Rating Set" entries: "Cable 1 with Cable 2 IN" and "Cable 1 with Cable 2 OUT".
- Rating Comments:** A large text area for entering comments.

At the bottom right of the form, there are "Add" and "Delete" buttons.

- Conditional Rating Data - Conditional flag
 - An optional flag set by the Participant to indicate ratings are dependent on other conditions
 - Companion cable in/out
 - Breaker open/closed
 - Used only for conditions that can be identified by the Dynamic Ratings Model
 - This setting alerts ISO-NE to prepare LEP in the next model release to receive rating sets for each listed condition

New field: Conditional Rating Set

The screenshot shows a web-based form for 'Ratings'. At the top, there are tabs for 'Ratings', 'Equipment Notes', 'File Attachments', 'Admin Comments', 'ISO Review', 'Revisions', and 'History'. Below the tabs, a red message states: 'All ratings must be provided in the Limit Exchange Portal (LEP); Pre-881 ratings available using Equipment Search.' The form is divided into several sections: 'Equipment Data' with a checkbox for 'Ratings provided via telemetry'; 'ISO-NE Data' with a checkbox for 'LEP Only Equipment' and a date field for 'LEP Implementation Date'; 'Conditional Rating Data' with checkboxes for 'Bi-Directional' and 'Conditional' (which is checked); and a table for 'Initial Nominal Ratings for New Equipment (MVA)' with columns for 'Normal', 'LTE', 'STE', and 'DAL'. The table contains the values 156, 245, 387, and 387 respectively. Below the table is a 'Rating Comments' text area. On the right side, a list of 'Conditional Rating Set' entries is shown, with two entries: 'Cable 1 with Cable 2 IN' and 'Cable 1 with Cable 2 OUT'. Each entry has a small square checkbox to its left. At the bottom right of this list are 'Add' and 'Delete' buttons. A red rectangular box highlights the entire list of Conditional Rating Sets and the Add/Delete buttons.

- Conditional Rating Sets
 - Conditional Rating Sets are required and enterable only when the Conditional flag is set
 - Sets are added or deleted using the Add and Delete buttons
 - To add a new condition, select the Add button and update the entry with the condition information
 - To delete an existing condition, select the box for the entry to be removed and select the Delete button
 - The Conditional Rating Set text will match the corresponding LEP entry. Consistent formats will be used for all forms using conditions.
 - Changes to the Conditional Rating Sets alert ISO-NE to make changes in LEP for the next model release

Conditional Rating Set – companion cables

Text for cable pair with companion cable in or out

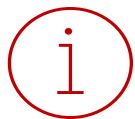
Conditional - Select when conditional rating sets will be provided. Each Conditional Rating Set record must identify a line in/out condition or a specific switching device that affects the primary equipment's rating.

<input type="checkbox"/>	Conditional Rating Set ▲
<input type="checkbox"/>	Cable 1 with Cable 2 IN
<input type="checkbox"/>	Cable 1 with Cable 2 OUT

Text for multiple cables with companion cables in or out

Conditional - Select when conditional rating sets will be provided. Each Conditional Rating Set record must identify a line in/out condition or a specific switching device that affects the primary equipment's rating.

<input type="checkbox"/>	Conditional Rating Set ▲
<input type="checkbox"/>	Cable 1 with Cable 2 In AND Cable 3 In
<input type="checkbox"/>	Cable 1 with Cable 2 In AND Cable 3 Out
<input type="checkbox"/>	Cable 1 with Cable 2 Out AND Cable 3 In
<input type="checkbox"/>	Cable 1 with Cable 2 Out AND Cable 3 Out



LEP refers to these as “Altering Conditions”

Conditional Rating Set – breaker open

SUBSTATION A 1X

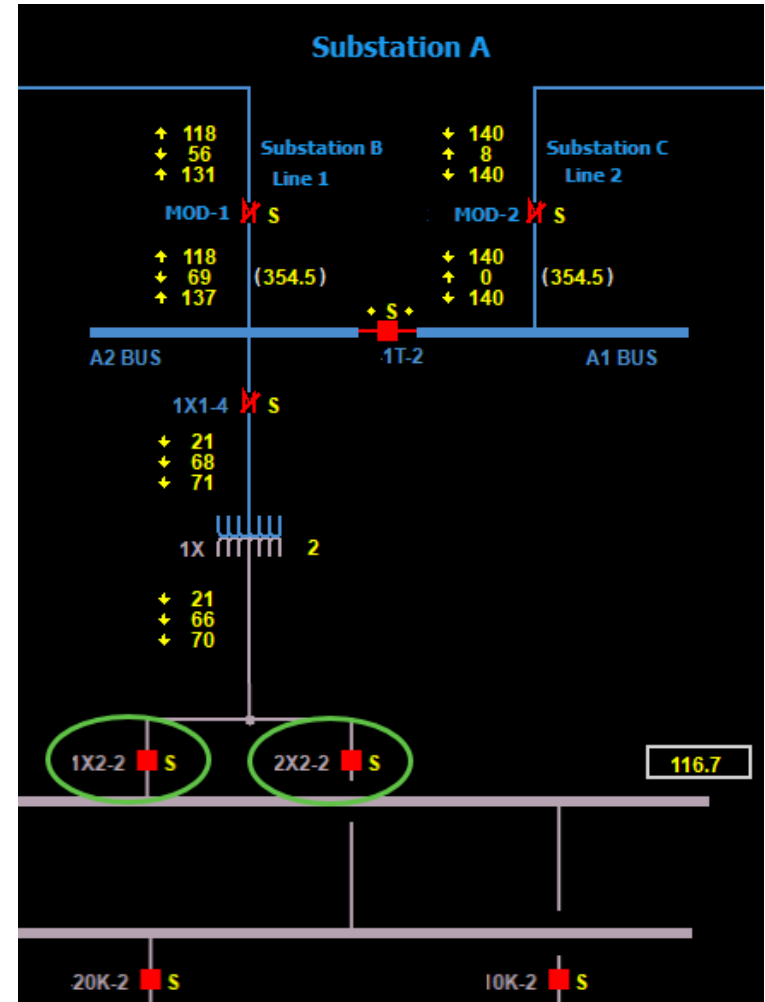
ISO EMS Model Configuration drives the required conditions

Before FERC 881: 1 rating set per season for either breaker open or closed

Condition:	Terminal breakers closed; ISO-NE Guide: Breaker Out Facility Rating
Condition:	Breaker open: SubstationA 1X2 or 2X2

After FERC 881: In NX, enter conditional definitions for each device needed to determine topology.

<input type="checkbox"/>	Conditional Rating Set ▾
<input type="checkbox"/>	SubstationA_CB_1X2-2
<input type="checkbox"/>	SubstationA_CB_2X2-2



Conditional Rating Set – breaker open

LINE 1

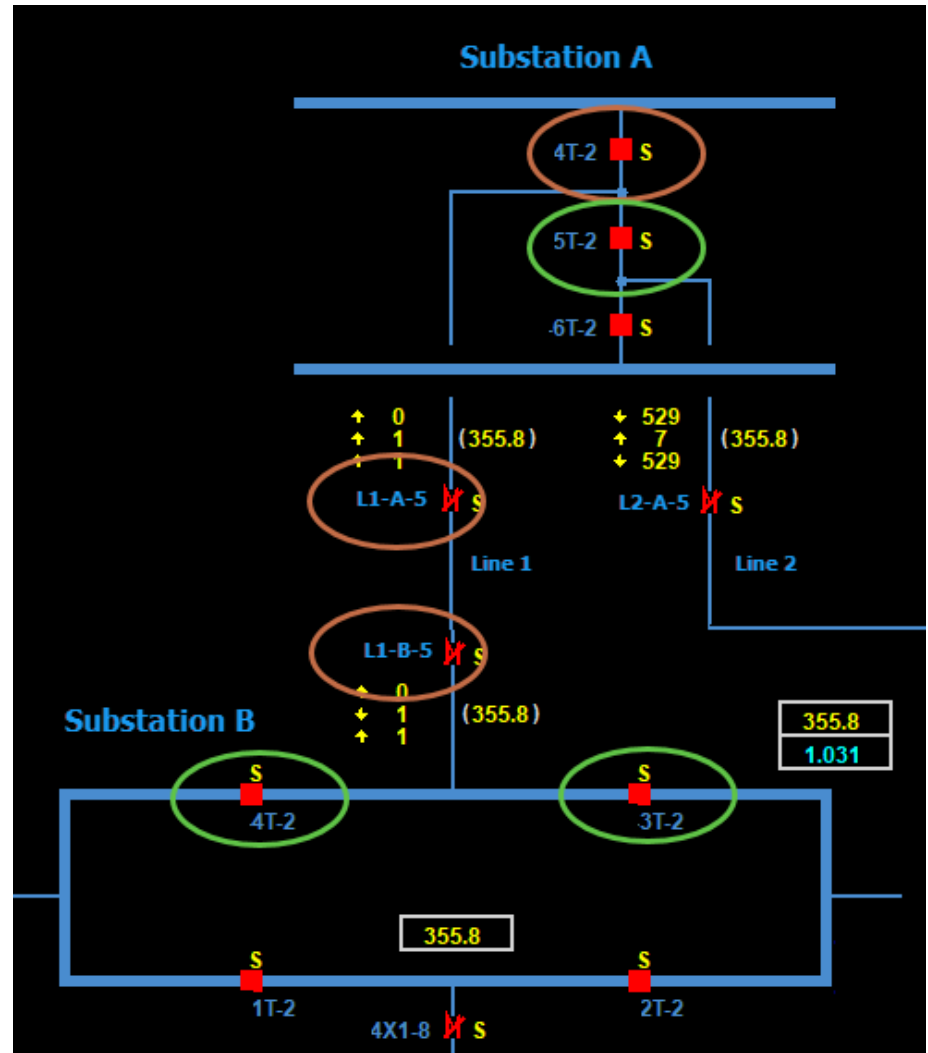
ISO EMS Model Configuration drives the required conditions

Before FERC 881: 1 rating set per season for multiple breakers open or closed

Condition:	Terminal breakers closed; ISO-NE Guide: Breaker Out Facility Rating
Condition:	Breaker open: SubstationA 5T or SubstationB 3T or 4T

After FERC 881: In NX, enter conditional definitions for each device needed to determine topology.

<input type="checkbox"/>	Conditional Rating Set ▲
<input type="checkbox"/>	SubstationA_CB_4T-2
<input type="checkbox"/>	SubstationA_CB_3T-2
<input type="checkbox"/>	SubstationA_MOD_L1-A-5
<input type="checkbox"/>	SubstationB_CB_4T-2
<input type="checkbox"/>	SubstationB_CB_3T-2
<input type="checkbox"/>	SubstationB_MOD_L1-B-5



Changes to Equipment Searches

- Pre-881 ratings fields available as Search Criteria and Output Columns
- Post-881 new form fields available as Search Criteria and Output Columns

Pre-881 Rating Set / Default Rating
Pre-881 Rating Set / Season
Pre-881 Rating Set / Special Condition
Pre-881 Rating Set / Temp
Pre-881 Rating Set / Wind
Pre-881 Rating Set / Limit / Device Description
Pre-881 Rating Set / Limit / Device Location
Pre-881 Rating Set / Limit / Limiting Device / Name
Pre-881 Rating Set / Limit / MVA
Pre-881 Rating Set / Limit / Rating Type

ISO EMS Expiration Date
Rating Provided via Telemetry
Rating LEP Only
Rating LEP Implementation Date
Rating 1 Nominal Normal
Rating 2 Nominal LTE
Rating 3 Nominal STE
Rating 4 Nominal DAL
Rating Comments
Rating Bi-Directional
Rating Conditional
Rating Set / LEP Condition

Changes to Equipment Searches

- Pre-881 Ratings still available to view from Equip Search Results only
- No longer hosted on Equipment forms

ISO new england
Contains Critical Energy Infrastructure Information (CEII)

Tasks Equipment Terminals Certification Reports System Help

Task List Equipment Search

Pre-881 Rating Set 1 / Limit 1 / MVA	Pre-881 Rating Set 1 / Limit 2 / MVA	Pre-881 Rating Set 1 / Limit 3 / MVA	Pre-881 Rating Set 1 / Limit 4 / MVA	Pre-881 Rating Set 2 / Limit 1 / MVA	Pre-881 Rating Set 2 / Limit 2 / MVA	Pre-881 Rating Set 2 / Limit 3 / MVA	Pre-881 Rating Set 2 / Limit 4 / MVA
283	325	352	442	344	376	413	526
70	70	73	87	124	124	127	145
226	226	238	287	275	275	292	357
70	70	73	88	184	184	195	237
226	226	238	287	275	275	292	357
283	325	352	442	344	376	413	526
133	133	136	154	162	162	166	190
59	59	59	62	72	72	72	76
1429	1429	1500	1801	1738	1738	1842	2242
466	535	570	701	567	620	668	801
179	194	200	200	179	194	200	200
179	194	200	200	179	194	200	200
70	70	73	88	184	184	195	236
226	226	238	287	275	275	292	320
169	169	178	214	235	235	249	304
159	159	159	159	159	159	159	159
225	225	236	283	274	274	290	352
159	159	159	159	159	159	159	159

Print Export Refresh

Query Results (394)