CIM16 + SCR813 Project – Frequently Asked Questions

Last Updated: 9/18/2025

Background

1. What is CIM?

The Common Information Model (CIM) is an open-source data model standard used for defining utility networks and has been adopted for transmission network data modeling. It is an extensible, object-oriented data model that allows for consistent description and representation of data across different platforms.

The CIM standard is maintained by the UCAiug and with the IEC. The standard is free to use and maintained by working groups within the UCAiug – the CIM Users Group.

CIM is defined across a core set of base profiles which can be adopted according to your individual needs. It can also be extended as needed if you have data needs that are not defined in the core CIM classes.

Since 2005, ERCOT has used the CIM 10 standard - along with numerous extensions - to represent the Network Operations Model. These extensions are developed by ERCOT according to the data requirements of ERCOT systems.

Project Overview

2. What does ERCOT's CIM16 transition entail?

   There are two distinct efforts with this project:
   - Transitioning ERCOT's modeling application and CIM-based models to a CIM16 schema, and
   - Increasing awareness of model change submissions modifying jointly-rated equipment as requested in SCR813

A key goal of the project is to enhance ERCOT's modeling application, NMMS, to enable native creation of CIM16-formatted Network Operations Models. To that end, the internal structure of the NMMS database must be modified to align with the new format.

For non-CIM-formatted data products, ERCOT must ensure the database changes do not affect the format or contents of the extract. However, CIM-based data products (e.g., full and redacted models, incremental files) will inherently change with the transition to a CIM16 schema.

[System Change Request 813](#) requests the modification of NMMS to highlight TSP change submissions in which the ratings of jointly-rated equipment are modified. The requested functionality intends to increase awareness of such changes while also requesting

confirmation from the submitter that coordination has occurred between the other ratings providers.

3. What are the noteworthy activities for the CIM16+SCR813 project?
   - August 18, 2025
     - ERCOT posts initial draft representations of CIM16 model (See question 4 for locations)
   - Periodic *(cadence to be determined)*
     - ERCOT to provide additional representations of CIM16 model
   - Q4 2026
     - ERCOT to provide TDSP training covering changes to NMMS due to schema updates
     - Test modeling application available to TDSPs via MOTE
   - Q1 2027
     - Weekend cutover to updated modeling application with CIM16 schema
     - All models will be posted in CIM16 format

Where Can I Find Material on the CIM 16 Transition?

4. Where can I find content (models, schemas, etc.) related to this effort?

To ensure appropriate data security, ERCOT will use the same methods for posting CIM16 models as is used for current models:

Redacted Models – ERCOT has created a new location on the Market Information Services website to post "preview" versions of redacted models.

- New Location: [Preview of Modified Redacted CIM Network Model](#)
- **Note**: ERCOT is currently posting **two different types** of redacted models:
  - RTC models, identified with "RTC" in the file name, are in CIM10 format and represent the model post-RTC go-live.
  - CIM16 models, identified with "CIM16" in the file name, are draft representations of the model at the conclusion of the CIM16 project.

TSP Models – ERCOT will post models within the NMMS Citrix Postings ECEII location in the ECEII_NMMS_CIM16_MODELS_PREVIEW folder.

Schemas Files, Mapping Documents, and other Public Materials – Files representing the NMMS CIM 10 and CIM16 schema, CIM10-to-CIM16 mapping documents, and other public materials have been posted to the Modeling page of ERCOT.com

- https://www.ercot.com/gridinfo/modeling

What Changes are Being Made to the Schema and Model?

5. Are the schemas of the provided CIM16 Redacted and TSP models final?

   No. Modifications of the schema are anticipated related to the representation of ownership, operatorship, and Market Participant entities. That said, the CIM16 schema constructs describing the physical equipment and topology of the grid will not change. Additionally, additive updates (such as the addition the BatteryGeneratingUnit instance type to support RTC) may be introduced due to the evolving nature of ERCOT's model.

   ERCOT's CIM16 schema will be finalized after delivery and testing of an updated CIM16-based modeling application.

6. How might ERCOT's transition to a CIM16 operations model affect me?

   At the conclusion of ERCOT's CIM16 project, ERCOT will no longer post models in a CIM10 format; all CIM-based models will transition to CIM16. Any processes currently consuming the Network Operations Model must be updated to consume the new format.

   Additionally, ERCOT's modeling application, the Network Model Management System (NMMS), will be updated to reflect the new structure of the CIM16 schema. Users of NMMS must change modeling practices to account for the updated representation of grid equipment (e.g., transformers). Furthermore, any advanced interactions with NMMS (e.g., importing incremental files) must account for the same schema changes.

7. What differences are there between the CIM10 and CIM16 schemas?

   A detailed collection of changes between the two schemas can be found in the mapping document posted to the [Modeling](#) page on ERCOT.com.

   A non-exhaustive list of affected model areas:

   - Ratings on equipment
   - Transformer modeling
   - Load modeling
   - ICCP/SCADA modeling
   - Reactive capability modeling
   - Remedial Action Scheme representation

8. Will CIM16 changes affect other systems at ERCOT such as the Energy Management System (EMS) or Market Management System (MMS) and the reports they generate?

   No changes are needed or expected for downstream systems. ERCOT has developed a conversion tool which translates CIM10 models to CIM16 models. ERCOT systems which consume CIM models have been upgraded to consume these converted CIM16-formatted models. The transition from converted to natively produced CIM16 models will have no impact.

9. To support the project cutover, will TSPs need to "double model" in both in the current CIM10 modeling application as well as the CIM16 system?

No. ERCOT is currently working with the modeling application vendor to produce a repeatable process upgrading the underlying data from CIM10 to CIM16. This process will convert the base model as well as future-dated model change requests. ERCOT intends to perform this conversion process over one weekend.

Miscellaneous

10. I have heard about a Converted CIM16 model and a Native CIM16 model. What is the difference?

The Converted CIM16 model is a version of the model where the original CIM10 file has been converted with a script to the CIM16 convention. The Native CIM16 model is a version of the model where the model has been directly exported from the modeling application that is configured for CIM16.

11. How will the changes implemented in RTC+B impact this project and where can I find a CIM16 model with RTC+B changes?

The model changes from RTC+B will result in additive schema changes that will be accounted for as the CIM16 project progresses. A CIM16 model with RTC+B changes will be available after RTC+B go-live.

12. If I have questions, who do I contact?

If you have questions on the transition to CIM16 that are not answered in this FAQ or workshop materials, please email CIM16@ercot.com.