

User Guide:

ESI ID Service History and Usage Extract

**7/21/2017**

Contents

[1. Overview 1](#_Toc479607081)

[1.1. Background – (Electronic Service Identification – ESI ID) 1](#_Toc479607082)

[1.2. Document Purpose 1](#_Toc479607083)

[1.3. Applicable Documents, Standards, and Policies 1](#_Toc479607084)

[1.3.1. Protocol and Market Guide References 1](#_Toc479607085)

[2. Extract Information 1](#_Toc479607086)

[2.1. General Extract Information 1](#_Toc479607087)

[2.2. Extract Recipients 2](#_Toc479607088)

[3. Delivery Methods 4](#_Toc479607178)

[3.1. General Delivery Information 4](#_Toc479607179)

[3.2. API Information 4](#_Toc479607180)

[3.3. Web Services Information 4](#_Toc479607181)

[3.4. Scheduling an Extract 4](#_Toc479607182)

[3.5. Security Requirements 5](#_Toc479607183)

[4. Design of Extract 5](#_Toc479607184)

[4.1. Format of the Extract 5](#_Toc479607185)

[4.2. Data Definition Language (DDL) 5](#_Toc479607186)

[5. ERCOT Data Extracts Best Practices 6](#_Toc479607187)

[5.1. About ERCOT Data Extracts 6](#_Toc479607188)

[5.2. Data Definition Language Files 6](#_Toc479607189)

[5.3. Creating the Database Structure. 7](#_Toc479607190)

[5.4. Applying Changes to the Database Structure 7](#_Toc479607191)

[5.5. Loading Scheduled Extract Data 8](#_Toc479607192)

[Example: PL/SQL procedure to load table from “staging” area to “work” area 8](#_Toc479607193)

[Example: PL/SQL procedure to load table from “staging” area to “work” area 8](#_Toc479607194)

[5.6. Handling Exceptions 9](#_Toc479607195)

[5.7. “Delete” Table Processing 9](#_Toc479607196)

[6. Using the Data – Tables/Columns and Joins 10](#_Toc479607197)

[6.1. Content Description 10](#_Toc479607198)

[Extract Data Tables 10](#_Toc479607199)

[Table Join Information 11](#_Toc479607200)

[Add times 12](#_Toc479607201)

[6.2. Timing 12](#_Toc479607202)

[7. Use of ESI ID Service History and Usage Extract data with other extracts 12](#_Toc479607203)

[7.1. Supplemental IDR Required Interval Data Extract 12](#_Toc479607204)

[7.2. Supplemental AMS Interval Data Extract 12](#_Toc479607205)

[8. Issue Reporting and Resolution 13](#_Toc479607206)

# Overview

## Background

The ESI ID Service History and Usage Extract includes ESI ID (Electronic Service Identifier) relationships and ESI ID characteristics. This data extract provides transparency to Market Participants for ESI ID level data that ERCOT utilizes in market Settlement. This extract along with the Supplemental IDR Required Interval Data Extract and the Supplemental AMS Interval Data Extract provides Market Participants with the data needed to develop shadow settlement systems. Load Service Entities (LSEs), Meter Reading Entities (MREs) and Transmission Service Providers (TSPs) and/or Distribution Service Providers (DSPs) will receive these incremental changes from ERCOT on a daily basis.

## Document Purpose

This document describes the data contained within the ESI ID Service History and Usage Extract, audience for which the information is available, access and delivery information and an explanation on how the extract is designed.

The document is intended to provide a business understanding of the data contained in the extract and how this data can be used by the Market Participant. Supplemental information regarding the ESI ID Service History and Usage Extract will be communicated to the market from ERCOT on an as needed basis. Please ensure that these communications are passed within your organization to the appropriate parties responsible for the business and technical aspects of processing ESI ID Service History and Usage Extract data.

When translating the logic within this document to your own systems, please be aware that the examples may need modifications in order to accommodate your unique environment. Thorough testing is strongly advised.

## Applicable Documents, Standards, and Policies

### Protocol and Market Guide References

The following Protocol(s) apply to the ESI ID Service History and Usage Extract:

* Protocol Section 11.3.1

This extract was created as a part of System Change Request (SCR) 727. As such, it is common to hear the term “727 Extract” used in the ERCOT market when referencing the ESI ID Service History and Usage extract.

The following Retail Market Guide reference applies to the ESI ID Service History and Usage Extract:

* 7.2.3 MarkeTrak Data Extract Variance Processes

# Extract Information

## General Extract Information

This data extract provides transparency to Market Participants for ESI ID level data that ERCOT utilizes in market settlement and provides Market Participants with the data needed to develop shadow settlement systems. LSEs, MREs and TSPs and/or DSPs will receive these incremental changes from ERCOT on a daily basis. For discrepancies identified resulting in Data Extract Variance Issues, Market Participants should refer to the MarkeTrak Users Guide for the business rules concerning filing a Data Extract Variance Issue. If a variance, submitted according to MarkeTrak Users Guide, is not resolved prior to the True-Up Settlement, a Market Participant may seek correction of ESI ID service history and usage information and resettlement pursuant to the provisions of Protocol Section 20, Alternative Dispute Resolution Procedure.

## Extract Recipients

This extract is intended for LSEs, MREs, TSPs and/or DSPs who are associated to the ESI ID or “Rep of Record” ownership on an ESI ID. LSEs receive the extract with information pertaining solely to their DUNS Number whereas MREs, TSPs/DSPs receive information on all orders within their service territory.

# Delivery Methods

## General Delivery Information

One zip file will be posted for each extract run. Each of these zip files will contain either dimensional and/or ESI ID level data. ERCOT will not post an extract if no dimensional data has changed since the last extract and there is no ESI ID level activity in the ERCOT system for that particular day for the Market Participant. Market Participants have the ability to verify they have not missed downloading a file by utilizing the number on the Count file name. Each file that is produced for a DUNs number will have a count file that is incremented by 1 from the previous file that was created. After the extract transition, the first file that is created for a DUNs number will contain a Count file named ‘ESIID\_EXTRACT.COUNTS\_####.csv’. This data can be optionally used as a reference of the number of records in each daily file.

## API Information

To programmatically download the information from the External Web Services (EWS) API using the GetReport or Search functionality, the user needs to use the reports “report type” ID. The ESI ID Service History and Usage Extract report type ID is 210. Report Type IDs for other ERCOT reports and extracts can be found in the ERCOT Market Information List (EMIL) found on the Services/Market Data Transparency page of the ERCOT website or the Services Page/Supporting Information Portlet of the MIS. Detailed information on ERCOT EWS including the EIP Internal Interfaces Specifications, the XSD and WSDL can be found on the Services/Market Data Transparency/XSD page on the ERCOT website.

## Web Services Information

Market Participants may use these Web Services to perform ad-hoc data research on ESI ID information used during the data aggregation and settlements processes. Using this process, Market Participants may request a database refresh for their ESI ID Service History and Usage Extract databases. The refresh is requested based on a provided point in time. Once the refresh data is loaded in the Market Participant database, the subsequent day’s daily ESI ID Service History and Usage Extract should be applied while continuing to load daily files to keep the data current. This refresh can be accomplished using the Market Data Transparency ‘Provide all extract records for ESI ID Service History and Usage Extract’. Detailed information regarding all available Web Services can be found in the Market Data Transparency User Guide posted on the ERCOT website (<http://www.ercot.com/services/mdt/userguides/>).

## Scheduling an Extract

In order to receive this extract, Market Participants must be subscribed through the ERCOT Extract Subscriber application.

To schedule an extract, Market Participants must access the Extract Subscriber application available on MIS using their digital certificate. For more details regarding the Extract Subscriber including which extracts can be subscribed, how to unsubscribe or select and modify the output format, please refer to the Extract Subscriber user guide posted at <http://www.ercot.com/services/mdt/userguides/index>.

## Security Requirements

The ESI ID Service History and Usage Extract is a private classification of data available on the MIS and API. In order to access the extract, a Digital Certificate is required. A Digital Certificate must be obtained from your entity’s User Security Administrator (USA). If you are unsure who your company’s USA is, please contact your Account Manager or contact the ERCOT helpdesk for additional information.

# Design of Extract

## Format of the Extract

The ESI ID Service History and Usage Extract will be delivered to the Markets tab, Retail page in the Retail Reports and Extracts (Certified) portlet on MIS in the format of a “.zip” with “.csv” files included within. The name of the file as it appears in the Market Participant’s Report Explorer Folder named “[ESI ID Service History and Usage Extract](javascript:show)” on the MIS will be:

ext.00000210.000000000000DUNS.yyyymmdd. hhmisssss.ESIID\_EXTRACT.zip

The naming convention of the transactional files stored within the .zip file will be:

000000000000DUNS.-TABLENAME-DD-MON-YY.csv

The naming convention of the counts file which includes counts from all files included in the extract will be:

000000000000DUNS.ESIID\_EXTRACT.COUNTS\_####.csv

For any incremental changes in dimensional files such as MRE, TDSP, REP data will be submitted as part of the ESI ID Service History and Usage Extract.  These additions provide information to cross reference any new codes that are submitted within the extract. The naming convention of these files stored within the .zip will be:

MRE-DD-MON-YY.csv

TDSP-DD-MON-YY.csv

REP-DD-MON-YY.csv

## Data Definition Language (DDL)

The Data Definition Language (DDL) associated with the ESI ID Service History and Usage Extract is available on both:

* ERCOT.com, on the ‘Market Data Transparency’ page
  + <http://www.ercot.com/services/mdt>
* MIS Services page in the Supporting Information portlet (Digital Certificate Required)
  + <https://mis.ercot.com/pps/tibco/mis/Pages/Services/Home>

The DDL name for this extract is ESIID Service History and Usage Extract\_yyyyddmm.txt. The most current DDL for all reports and extracts will be available in these locations. The DDL will provide the data definitions for all tables and the columns within these tables posted in the ESI ID Service History and Usage Extract.

# ERCOT Data Extracts Best Practices

## About ERCOT Data Extracts

While data extracts are not intended to provide a single solution to resolve all Market Participant needs, they provide Market Participants with the data sets used by ERCOT to manage and settle the energy market. ERCOT data extracts provide a framework that allows Market Participants to retrieve ERCOT market data for analysis. This framework has two key elements:

* DDL/XSDs
* Data Extract Distributions

**Data Definition Language (DDL)**

To enable Market Participants to load ERCOT data into their own environments, ERCOT structures the data in the form of data definition language (DDL) The DDL provides the metadata, including the data type of each field, the table primary and foreign key constraints, and a brief description of the data that is to be loaded into each column. The DDLs are available on both the MIS Services page in the Supporting Information portlet (link name Extract Data Definitions) and on ERCOT.com, on the ‘Market Data Transparency’ page.

**Data Extract Format**

ERCOT utilizes a standard comma-separated value file format (.csv) for extract data delivery. This approach ensures portability across most platforms and architectures. These .csv files are distributed to the market through the MIS website packaged in .zip files.

## Data Definition Language Files

The data delivered to Market Participants comes from the ERCOT systems database data. There is a specific methodology which should be followed for importing data. ERCOT makes available a set of metadata data files that contain data definition language (DDL) in Oracle format to create relational tables and constraints (primary and foreign keys). The DDL can store the data being extracted and delivered to Market Participants via the MIS. In addition, the DDL also contains database comments to define the expected use of each table and field. While ERCOT provides DDL scripts in Oracle format, there are several CASE tools on the market that can reverse-engineer this DDL file and create new DDL scripts for a broad range of database products. A database administrator should also have the ability to alter the DDL to represent the intended database structures for their particular environment.

The DDL scripts are posted by ERCOT to the MIS and ERCOT.com and can be executed against an Oracle database instance. The same DDL script can be executed more than once against a database without harming structures that are already in place. Error messages will occur on DDL execution when the structure or constraint is already in place. These messages do not harm the database structures. These messages would include: “table already exists”, “table cannot have more than one primary key” and “foreign key already exists in table.” See the “Creating the Database Structure” section below for more details.

If a Market Participant is new to the extract process, they should begin by running the complete DDL.  In the event that a change occurs to the requirements of the extract, ERCOT will generate, distribute and post a new set of DDL scripts, reflecting the new table structure. If a Market Participant has previously created the extract tables in their own database, they should run the updated DDL to apply the appropriate updates. Upon execution of the appropriate DDL file, the extract database schema will be updated to accommodate the extract data in its format. Although running the complete DDL on your database will not harm your data structures, failure to run any provided incremental DDL changes on existing databases could leave the database without required data tables and/or fields. This could cause data loading errors going forward.  See ‘Applying Changes to the Database Structure’ for more information regarding the DDL change process.

The column comments provided within the DDL are to aid the user with the business definitions of field values.  Please note that the DDL does not contain statements which define the physical storage parameters of the individual tables. Storage values will vary greatly by Market Participant.  The DDL also does not contain performance-based indexes.  If you have performance issues with your queries, then we suggest that you consult with your DBA.

## Creating the Database Structure.

When a Market Participant is setting up a database for an extract for the first time, it is important to determine if your company will benefit more from a single schema/database containing all data retrieved from ERCOT with scheduled extracts or if it is best to generate independent, private schemas/databases for each ERCOT extract.

If you decide to create a unified schema, keep in mind that one table can be defined in more than one DDL file. Therefore, running all DDL scripts in a single schema could generate errors indicating previous existence of foreign keys, primary keys and tables. ERCOT recommends the use of a separate schema or database instance for this extract in order to minimize confusion.

ERCOT also recommends the creation of two database structures: a staging area and a work area. The staging area should contain only table definitions (no primary or foreign keys) that will be used for staging the data rows being imported. These staging tables would hold data temporarily and will allow for better processing and error tracking. All staging tables MUST be truncated to an empty state after each extract load or prior to the next extract load. The work area will have the tables, primary keys and foreign keys as defined in the DDL.

This is a simplified example for the daily extract loading process using a staging area:

1. Download data extract .zip file from the ERCOT MIS
2. Extract .csv files from .zip file
3. Load all extracted .csv files into staging area
4. For each staging table iterate through each row:
5. Insert row - if there’s a primary key violation, use INSERT/ELSE UPDATE logic retaining the appropriate record with the greatest add time (i.e. PRIMARY KEY and PIT\_START) in your database
6. Remove row from staging area

In order to implement this process, the Market Participant will need programmatic support. There are several options for development and implementation: SQL\*Loader, PL/SQL, PERL, Visual Basic, etc. See “Loading Scheduled Extract Data” for more information about loading data into DDL structures.

## Applying Changes to the Database Structure

The data extract files are based on a database model expressed by the DDL scripts. Every time there is a change in the underlying data structures, ERCOT will produce and release a new complete DDL script to be applied to the Market Participants database.

Following is a list of possible changes to the database and courses of action. This is a general guide, not an all-inclusive list.

**New Table**

Create new tables in your database based on your DDL (and staging area, if you have one) and import the data from the extract. Transactional table data will begin appearing on the day the new DDL is scheduled to be implemented. Dimensional data tables (e.g., QSE) will receive a complete load of the records on the go-live date relevant to the Market Participant. Subsequent data extracts will contain any new or changed records in the ERCOT system for the new table.

**Table Removed**

Drop the table from your system. ERCOT will provide detailed instructions, as well as a new DDL, for these types of database changes.

**Column Removed**

In Oracle, it is possible to issue an “alter table” command with a “drop column” action. For other databases, perform the appropriate action to achieve the desired result (this may include the creation of a temporary table followed by the re-creation of the table). If the column is part of the primary key, there will be foreign keys on other tables affected by the change. The constraints must be dropped before making the changes (on all affected tables) and recreated afterwards.

**Added Column**

In Oracle, a column can be added by issuing an “alter table” command with an “add” option. In most cases the column can be added at the appropriate time and with proper adjustments, the load process will proceed seamlessly. If the new column has been added to the primary key of a table, all child tables will be changed as well. Constraints must be dropped before adding the column and recreated afterwards. If the column is to be included in the primary key there may be special instructions on how to initialize the values for the column (i.e. no nulls).

## Loading Scheduled Extract Data

Once the .zip file is retrieved from the Market Participant folder on the ERCOT MIS, it should be expanded into a directory and inspected for completeness. Each individual .csv inside the .zip file contains data for a single table. The table name and processing date are part of the file name. For tables that are transactional in nature, the Market Participant DUNS number will also appear in the name of the .csv.

The file format is a standard comma-separated values file. It can be opened using Excel if there is a desire to view the contents on an ad hoc basis. It is important to note that text fields are enclosed in quotation marks (“). The tool used for importing the data (such as Oracle’s SQL\*Loader) should be set up to expect the quotation marks in order to load the data correctly. A comma inside a text field is a valid value so it is necessary to delimit text fields in this manner.

ERCOT recommends using the date embedded in the name of the .csv file for each table to determine load order if you are processing more than one day of extracts at any given time.

### Example: PL/SQL procedure to load table from “staging” area to “work” area

Following is an example of a SQL\*Loader process to load the QSE table. First, create a working directory and place the .csv file in that directory. Create a SQL\*Loader control file in that directory and call it QSE.CTL. For example:

LOAD DATA

INTO TABLE ESIID

FIELDS TERMINATED BY ',' OPTIONALLY ENCLOSED BY '"'

TRAILING NULLCOLS

(UIDESIID INTEGER EXTERNAL,

ESIID CHAR(64),

STARTTIME DATE "mm/dd/yyyy hh24:mi:ss",

STOPTIME DATE "mm/dd/yyyy hh24:mi:ss",

ADDTIME DATE "mm/dd/yyyy hh24:mi:ss")

Please note that the control file lists all columns found in the table definition in the DDL file in the same order. This is very important because SQL\*Loader will use those names and order to place data in the correct columns. After creating the control file, run the SQL\*Loader utility passing the .csv file name (which will change from day to day as the processing date changes) as a parameter:

sqlldr userid=dbuser/dbpassword file=RESOURCEID-03-MAR-03.csv control=RESOURCEID.csv

### Example: PL/SQL procedure to load table from “staging” area to “work” area

ERCOT recommends the use of staging tables in the process of loading data. Staging tables are temporary tables that have the exact same structure as their production counterparts but none of the restrictions (no primary keys or foreign keys). The staging area allows you to load data into the database tables in any order you want and then process this data routing valid rows to the actual production tables. The procedure below, coded in PL/SQL (language supported by the Oracle database), gives an example of how the transport of data from the staging table into the work table could be implemented:

CREATE OR REPLACE PROCEDURE LOAD\_ESIID IS

BEGIN

FOR R IN (SELECT \* FROM STAGE\_ESIID) LOOP

BEGIN

INSERT INTO ESIID (UIDESIID,

ESIID,

STARTTIME,

STOPTIME,

ADDTIME)

VALUES (R.UIDESIID,

R.ESIID,

R.STARTTIME,

R.STOPTIME,

R.ADDTIME);

EXCEPTION

# INSERT FAILED. TRY UPDATE *<- comment*

WHEN DUP\_VAL\_ON\_INDEX THEN

UPDATE ESIID

SET UIDESIID = UIDESIID,

ESIID = ESIID,

STARTTIME = STARTTIME,

STOPTIME = STOPTIME,

ADDTIME = ADDTIME

WHERE UIDESIID = R. UIDESIID;

END;

END LOOP;

END;

## Handling Exceptions

**Foreign Key Error**

This means that a table’s row is being loaded before its parent record is loaded causing a foreign key error. To solve this problem, it is necessary to load the .csv files in the correct order. The loading of the RID/REC DDLs do not add any Foreign Key constraints, so the error will not be produced loading the extracts into these structures. This error would only be generated if referential integrity is enforced through additional Foreign Key constraints.

**Duplicate Primary Key**

If a circumstance occurs that causes a duplicate, the row with the greater PIT\_START should be retained, unless a history of all transactions is being kept within the database. The record with the latest PIT\_START will be the most recent version of the record. Anytime a duplicate row is identified and there is no difference in the PIT\_START or PIT\_STOP columns, then one row should be deleted, as these would be redundant.

## “Delete” Table Processing

The ESI ID Service History and Usage Extract is the first ERCOT scheduled extract to employ “deletion” logic. The idea behind this is that there are occasions where a previously extracted insert record has been deleted in the ERCOT system. When this occurs, a record with the “key” of the deleted row is placed in the “\_DELETE” table that is associated with the base table from which the deletion occurred. The DELETE tables also contain deletion timestamps (named D\_TIMESTAMP) that record the exact time the deletion occurred as well as a new field that captures the add time of the deleted source transaction (named SRC\_ADDTIME, SRC\_TIMESTAMP and SRC\_CHNLCUTTIMESTAMP, depending on the table).

It is important to process the delete records prior to loading the new insert records into the base tables that employ deletion logic. There are processes at ERCOT which update the system by first deleting the original record then inserting the “updated” version of it. There will be occasions where you receive a DELETE record and a new record with the same key on the same day. When this occurs, if you have processed the DELETE record first, you will remain in sync with ERCOT. If you process the data in the incorrect order, then the new record will fail due to a primary key violation because the original transaction is still in the database.

It is at the discretion of the Market Participant to determine how the deletion process should be written. Here is a list of potential options to consider:

1. Delete rows in transaction tables based on keys found in DELETE tables
2. Copy rows to be deleted to another table prior to deleting them from transaction tables
3. Flag records in a manner that allows them to be filtered out of comparison process

(i.e., add a column to the transaction table with a flag of “Y” for valid transactions and “N” or “D” for deleted transactions)(A modification to table keys would be necessary for option #3)

You should design your deletion process to only delete records where the add time of the source table record is equal to the “SRC\_” timestamp of the DELETE table record. This will protect you from erroneously deleting a record.

The following is a list of the fields from the delete tables mapped to the corresponding fields in the insert tables.

ESIIDSERVICEHIST\_DELETE table to ESIIDSERVICEHIST table

ESIIDSERVICEHIST\_DELETE.UIDESIID to ESIIDSERVICEHIST.UIDESIID

ESIIDSERVICEHIST\_DELETE.SERVICECODE to ESIIDSERVICEHIST.SERVICECODE

ESIIDSERVICEHIST\_DELETE.STARTTIME to ESIIDSERVICEHIST.STARTTIME

ESIIDSERVICEHIST\_DELETE.SRC\_ADDTIME to ESIIDSERVICEHIST.ADDTIME

ESIIDUSAGE\_DELETE table to ESIIDUSAGE table

ESIIDUSAGE\_DELETE.UIDESIID to ESIIDUSAGE.UIDESIID

ESIIDUSAGE\_DELETE.STARTTIME to ESIIDUSAGE.STARTTIME

ESIIDUSAGE\_DELETE.METERTYPE to ESIIDUSAGE.METERTYPE

ESIIDUSAGE\_DELETE.SRC\_TIMESTAMP to ESIIDUSAGE.TIMESTAMP

Important Note: All date columns are to be processed with full date/time format -- ERCOT strongly recommends that you do not truncate or modify the column values in any of the tables. When performing your delete processing, you must match the field values and formats exactly.

# Using the Data – Tables/Columns and Joins

## Content Description

## Extract Data Tables

Dimensional table data is provided to all Market Participants. These tables include the data necessary to decode the ESIIDSERVICEHIST table. For example, to determine the DUNs number of the REP that an ESI ID is assigned to, the user would have to join the ESIIDSERVICEHIST.REPCODE to the REPCODE.REPCODE field to determine the REPCODE.DUNSNUMBER.The dimensional data tables are as follows:

* CMZONE
* MRE
* TDSP
* REP
* PGC
* PROFILECLASS
* STATION
* STATIONSERVICEHIST
* SETTLEMENTPOINT
* SETLPOINTTYPE
* SETLPOINTHISTORY

All Market Participants will receive an ESI ID Extract for data changes to dimensional data tables. Market Participants also receive this information in a standalone extract called Public Reference Data Extract (PRDE), which is provided daily in the Public folder on the Market Information System (MIS) Report Explorer.

ESI ID level data is only sent to the appropriate Market Participant data owners based on the relationships in the ESIIDSERVICEHIST table. The tables that contain ESI ID level data are as follows:

* ESIID
* ESIIDSERVICEHIST
* ESIIDSERVICEHIST\_DELETE
* ESIIDUSAGE
* ESIIDUSAGE\_DELETE

Market Participants will only receive ESI ID level tables in their extracts when there are related ESI ID level data changes within the extract time window.

## Table Join Information

* CMZONE – to determine the CMZONE long name (CMZONE.CMZONENAME) assignment of an ESI ID, the user would join the ESIIDSERVICEHIST.STATIONCODE to STATIONSERVICEHIST.STATIONCODE and then STATIONSERVICEHIST.CMZONECODE to CMZONE.CMZONECODE
* MRE – to determine the MRE name or DUNs number of an ESI ID, the user would join the ESIIDSERVICEHIST.MRECODE to MRE.MRECODE
* TDSP – to determine the TDSP name or DUNs number of an ESI ID, the user would join the ESIIDSERVICEHIST.TDSPCODE to TDSP.TDSPCODE
* REP – to determine the REP name or DUNs number of an ESI ID, the user would join the ESIIDSERVICEHIST.REPCODE to REP.REPCODE
* PGC – to determine the PGC name or DUNs number of an ESI ID, the user would join the ESIIDSERVICEHIST.PGCCODE to PGC.PGCCODE
* PROFILECLASS – to unconcatenate the ESIIDSERVICEHIST.PROFILECODE in lieu of an in string statement
* STATION – to determine the STATION long name and STARTTIME/STOPTIME of the STATION existence
* STATIONSERVICEHIST – to determine the CMZONECODE assignment of an ESI ID, the user would join the ESIIDSERVICEHIST.STATIONCODE to STATIONSERVICEHIST.STATIONCODE
* SETTLEMENTPOINT – to determine SETTLEMENTPOINT, the user would join to the SETLPOINTHISTORY through the CMZONE table, using UIDSETLPOINT and CMZONECODE, respectively
* SETLPOINTTYPE – to determine SETLPOINTTYPE, the user would join to the SETTLEMENTPOINT table using UIDSETLPOINT
* SETLPOINTHISTORY – to determine SETLPOINTHISTORY, the user would join to the CMZONE table using CMZONECODE
* ESIID – parent table for ESI ID account data; used to establish the existence of an ESI ID based on ESIID.STARTTIME and ESIID.STOPTIME
* ESIIDSERVICEHIST – to determine the ESI ID characteristics and relationships used during the data aggregation process
* ESIIDSERVICEHIST\_DELETE –records for ESIIDSERVICEHIST table updates and deletes
* ESIIDUSAGE – to determine the NIDR usage loaded/not loaded for an ESI ID
* ESIIDUSAGE\_DELETE – records for ESIIDUSAGE table updates and deletes

Market Participants will only receive ESI ID level tables in their extracts when there are related ESI ID level data changes within the extract time window.

## Add times

Data record add times are triggered by insert and update commands in the ERCOT production systems. All Data tables use the ADDTIME column, which include the following tables:

Table.Add Time Column

* CMZONE.ADDTIME
* MRE.ADDTIME
* TDSP.ADDTIME
* REP.ADDTIME
* PGC.ADDTIME
* PROFILECLASS.ADDTIME
* STATION.ADDTIME
* STATIONSERVICEHIST.ADDTIME
* ESIID.ADDTIME
* ESIIDSERVICEHIST.ADDTIME
* ESIIDSERVICEHIST\_DELETE.D\_TIMESTAMP
* ESIIDUSAGE.TIMESTAMP
* ESIIDUSAGE\_DELETE.D\_TIMESTAMP
* SETTLEMENTPOINT.LSTIME
* SETLPOINTTYPE.LSTIME
* SETLPOINTHISTORY.LSTIME

## Timing

ERCOT will post the ESI ID Service History and Usage Extract Data to the ERCOT MIS every day by the end of the day 23:59:59. Record Add times are three days prior - i.e. On Thursdays, we run for Monday-Tuesday dataset. The extracts are available seven days a week and are posted daily if data is available for the given Market Participant.

# Use of ESI ID Service History and Usage Extract data with other extracts

## Supplemental IDR Required Interval Data Extract

The Supplemental IDR Required Interval Data Extract provides the Market Participant with IDR required usage data for all ESI IDs owned by them three days after the interval data is loaded in ERCOT data systems. This extract is associated with the ESI ID Service History and Usage Extract and can be used in conjunction or can be used as standalone extract to retrieve IDR required interval data. The extract is posted daily and will be run for the same window of time as the ESI ID Service History and Usage extract. Detailed information regarding the Supplemental IDR Required Interval Data Extract can be found in its respective user guide posted on the ERCOT website (<http://www.ercot.com/services/mdt/userguides/>).  Because this extract is used in conjunction with the ESI ID Service History and Usage Extract, please note that they make use of the same supporting market documentation (i.e. DDLs) though they both have their own User Guides since they are separate extract postings and do not have to be used together.

## Supplemental AMS Interval Data Extract

The Supplemental AMS Interval Data Extract provides the Market Participant with AMS interval data for all ESI IDs owned by them three days after the interval data is loaded in ERCOT data systems. This extract is associated with the ESI ID Service History and Usage Extract and can be used in conjunction or can be used as standalone extract to retrieve AMS interval data. The extract is posted daily and will be run for the same window of time as the ESI ID Service History and Usage extract. Detailed information regarding the Supplemental AMS Interval Data Extract can be found in its respective user guide posted on the ERCOT website (<http://www.ercot.com/services/mdt/userguides/>).  Because this extract is used in conjunction with the ESI ID Service History and Usage Extract, please note that they make use of the same supporting market documentation (i.e. DDLs) though they both have their own User Guides since they are separate extract postings and do not have to be used together.

Note: To shadow settle the Market Participant will need to use all the three extracts – ESI ID Service History and Usage Extract, Supplemental IDR Required Interval Data Extract and Supplemental AMS Interval Data Extract together.

# Issue Reporting and Resolution

Any issues found during the loading process, questions encountered in the data or general handling and access issues can be directed to your ERCOT Account Manager or the ERCOT Helpdesk (512-248-6800, option 2, or [HelpDesk@ercot.com](mailto:HelpDesk@ercot.com)). All issues received will be resolved in a timely manner. Any changes to the data, the extract or the extract process will be communicated out to the market in accordance with our Market Notice processes.