New York ISO
Independent System Operator

UG 12

Reference Level Software User's Guide

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Revision History

Version	Effective Date	Revisions
1.0	10/19/2010	Initial Release
1.1	6/13/2011	B265 : RLS Enhancements 2011 Section 3.1 ➢ Update Table: Engine Type Groups; rename 'FlyWheel' to 'LESR' Section 3.3.1.5.2 ➢ Add new Fuel Type Id : '36 Exclude' Section 3.3.6.1 ➢ Add new Submission Violation to table 3-17 'Missing Engine Type'. Section 7.1 ➢ Update to include Time Based Reference Levels are viewable to user ➢ Update forms for 'List Reference Levels'
1.2	6/12/2012	B282: RLS 2012 Enhancements project Section 3.3.1.6.1 Table 3-11 Startup Intervals Page Definition ➢ * Cost field range was 0-999999.99 and is now -999999.99 to 999999.99 Section 3.3.1.7.1 Table 3-13 Regulatory & Related Costs Page Definition ➢ * Cost field range was 0-999.99 and is now -999.99 to 999.99 Section 3.3.1.8.1 Table 3-15 Opportunity Cost Details Page Definition ➢ * Cost field range was 0-999.99 and is now -999.99 to 999.99 Section 3.3.1.8.1 Table 3-16 Risk Premium Details Page Definition ➢ * Cost field range was 0-999.999 and is now -999.999 to 999.999
1.3	06/21/2013	Section 3.3.1.9 ➢ New Section detailing process for entering costs pertaining to Regulation Movement Cost Section 3.3.6.1 ➢ New violation “Missing Ancillary Cost Data” added to Table 3-18
2.0	05/13/2019	Applied new NYISO Corporate branding and updated screen shots for new NYISO website. Section 1.3 ➢ Updated Customer Service to Stakeholder Services Section 2.2 ➢ Updated Customer Relations to Member Relations and added Stakeholder Services

		Section 2.3 ➢ Updated Login process from current NYISO Web Portal Section 3.3.1.6.2 ➢ Expanded verbiage to include expectations of providing Startup cost data Section 3.3.1.9 ➢ Expanded verbiage to include expectations of providing Regulation cost data
3.0	04/16/2024	Global ➢ Added information for Distributed Energy Resources (DER) Aggregation functions ➢ Updated formatting and branding throughout document Table of Figures ➢ Updated figure numbers Section 4 ➢ Removed information relating to the XML uploading and downloading, as this feature has been retired. Section 4 has been deleted except for a heading; all other sections have not been renumbered. Appendix A ➢ Removed information pertaining to the retired XML feature. Appendix A has been reserved for future use.
3.1	11/14/2024	Recertified Global ➢ Corrected formatting and document spacing

1. Introduction

This user guide is intended for Market Participants (MPs) who are users of the NYISO Reference Level Software (RLS) application. This user guide has been organized in the following fashion:

- Section 1 serves as a general introduction.
- Section 2 describes the hardware and software requirements to access the RLS application.
- Section 3 describes the requirements to create, download, copy, remove, rescind, view, submit, and compare a Cost Data Submission in the RLS application. In addition, this section describes how to create an attachment and comments for a Cost Data Submission.
- Section 4 is reserved for future use. The XML upload download feature that was described in this section has been retired.
- Section 5 describes the requirements to list Cost Data Submissions in the RLS application.
- Section 6 describes the requirements to view approved cost data in the RLS application.
- Section 7 describes the requirements to view Reference Levels in the RLS application.
- Section 8 describes the requirements to view notifications in the RLS application.
- Section 9 describes the requirements to view pending submissions in the RLS application.
- Section 10 describes the approval process for a cost data submission, by indicating the different states of a cost data submission.
- Section 11 describes Aggregation/Distributed Energy Resource (DER) cost information
- Appendix A is reserved for future use. The XML upload download feature that was addressed in Appendix A has been retired.
- Appendix B describes the /Fuel Cost Adjustment (FCA) functionality that allows a MP to enter a fuel type and fuel cost to update a Reference Level.

> ***Note:*** Some screenshots in this user's guide were captured after resizing the application's window. This may have caused the application to wrap within the window and appear slightly different as compared to viewing in a fully-sized browser window. Some screenshots were cropped for ease of presentation.

1.1. Definition of a Reference Level

A *Reference Level* is a "proxy" that is intended to reflect the offer(s) that a Market Participant would submit for a generator if it was in a competitive market and could not exercise Market Power. The methods used to develop Reference Levels are set forth in Attachment H to the NYISO *Market Administration and Control Area Services Tariff (Services Tariff)*[1].

[1] https://www.nyiso.com/regulatory-viewer.

1.2. Description of the Reference Level Software Application

The RLS Application is a user-friendly, secure, Web-based application. The RLS Application includes features that support the requirements to submit cost-based data.

This guide aids MPs in developing cost-based Reference Levels. Cost based is only one of several valid methods of developing Reference Levels as set forth in Attachment H to the NYISO *Services Tariff*. The Reference Levels that the NYISO actually uses may be Bid-Based, LBMP-Based, ISO-Determined, Cost-Based, or a combination of these Reference Level types.

Aggregations are made up of one or more Distributed Energy Resources (DERs). DERs and Energy Storage Resources (ESRs) will not be eligible to have Bid-Based or LBMP-Based Reference Levels, but the NYISO may consider their offers during competitive periods in developing ISO-Determined Reference Levels. DERs will be assigned Cost Based Templates as described in Section 11 below.

1.3. Reference Level Software Application Users

The community of users for the RLS Application is MPs.

1.4. Obtaining Help and Handling Error Messages

When help is required while using the RLS application, please contact your Stakeholder Services Representative.

This application will display an error message whenever an error condition is triggered by user action. These messages will be displayed in an error window including information about the detected error. After reading the error message, close the window and proceed accordingly. If additional help or information is needed, please contact your NYISO Stakeholder Services Representative.

2. System Requirements

This section describes the computer requirements for the user to run the RLS Application.

2.1. Computer Hardware and Software

The following are required to run the RLS Application:

- Microsoft Internet Explorer (version 7.0) ***OR*** Mozilla Firefox (version 3.0) with Java Script enabled.
- Minimum 1024x768 screen resolution
- Internet connection with a recommended connection speed of at least 56 kbps
- Adobe Acrobat Reader

2.2. Digital Certificates and Market Information System Privileges

All users must have a valid NAESB digital certificate installed on their respective computers, linked to the user's MIS account and specific to their respective browsers in order to access the RLS application. For more information on digital certificates (including applying, exporting, obtaining, installing, and validating), please see the *NYISO Market Participants User's Guide*, accessible from the **User Guides** folder on the NYISO Web site at the following URL:

https://www.nyiso.com/manuals-tech-bulletins-user-guides

Existing Market Information System (MIS) accounts need to be set-up with RLS privileges. At the organization level, this must be done by the NYISO. Once the organization is set up with the necessary privileges, the organization's MIS Administrator may then assign RLS privileges at the user level. If the MIS does not reflect the **RLS MP View References, RLS MP Update Costs**, or **RLS MP View Costs** privileges in the **Privileges** area of the Organization Details display for your organization, contact the NYISO Member Relations or Stakeholder Services group as outlined in the section of the *NYISO Market Participants User's Guide* on Changing Privileges/Authorizations, Contact Information, and Classifications.

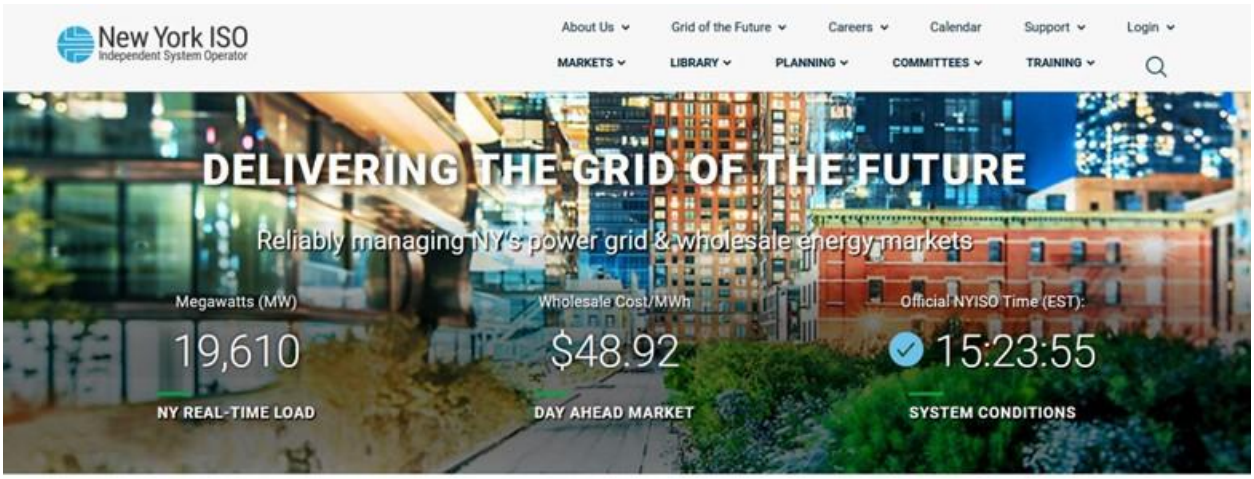
2.3. Accessing and Exiting the Reference Level Software (RLS) Application

To log in to the RLS application

Note: In order to access the RLS application, the user must have RLS privileges.

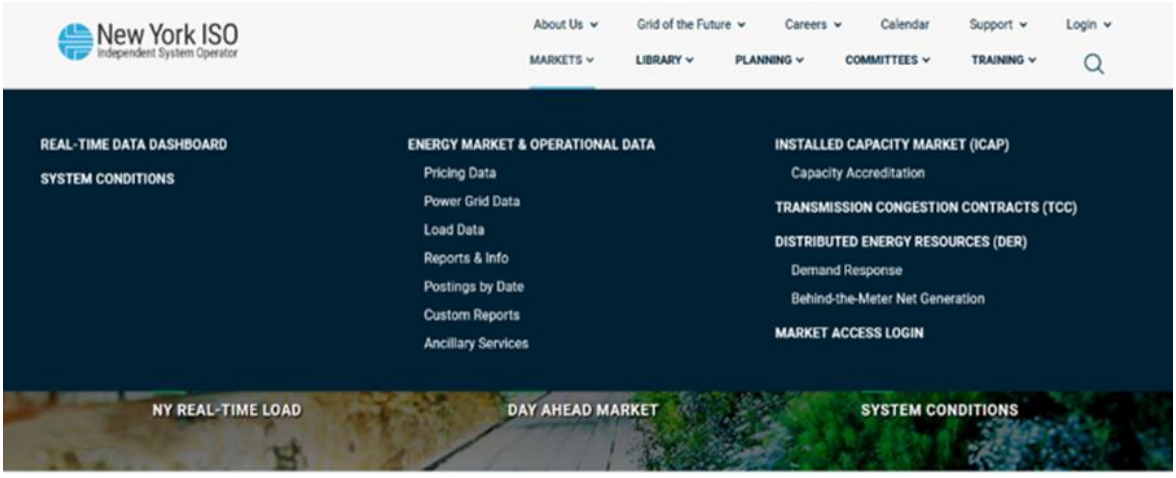
1. Point your browser to the NYISO Home Page at www.nyiso.com (see Figure 1).

Figure 1: NYISO Home Page



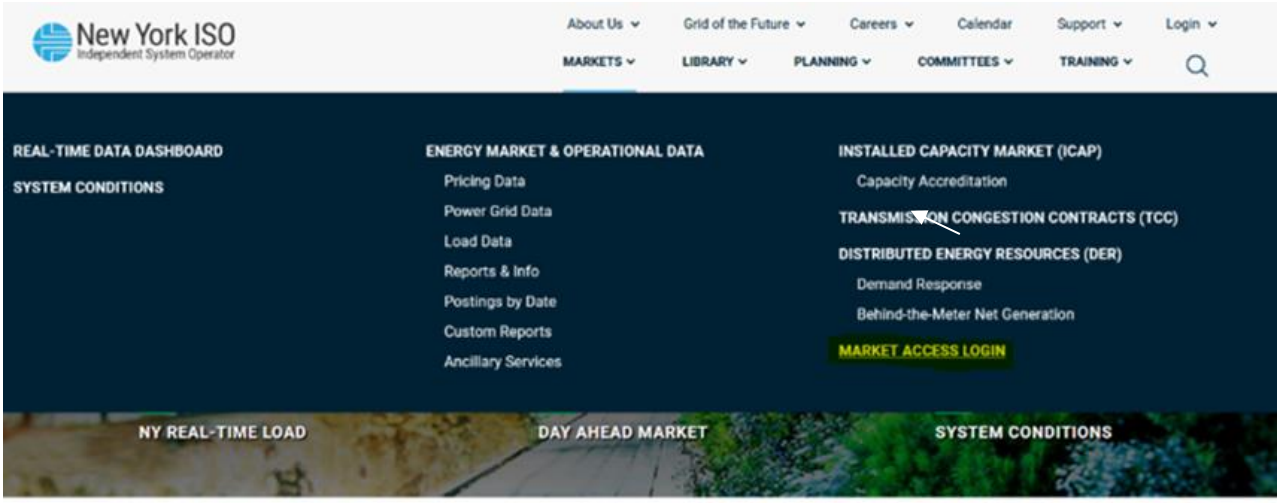
2. On the NYISO Home page, position your cursor over the **MARKETS** header. The header expands to list related categories of information (see Figure 2).

Figure 2: Expanded NYISO MARKETS Header Showing Categorized Selectable Options



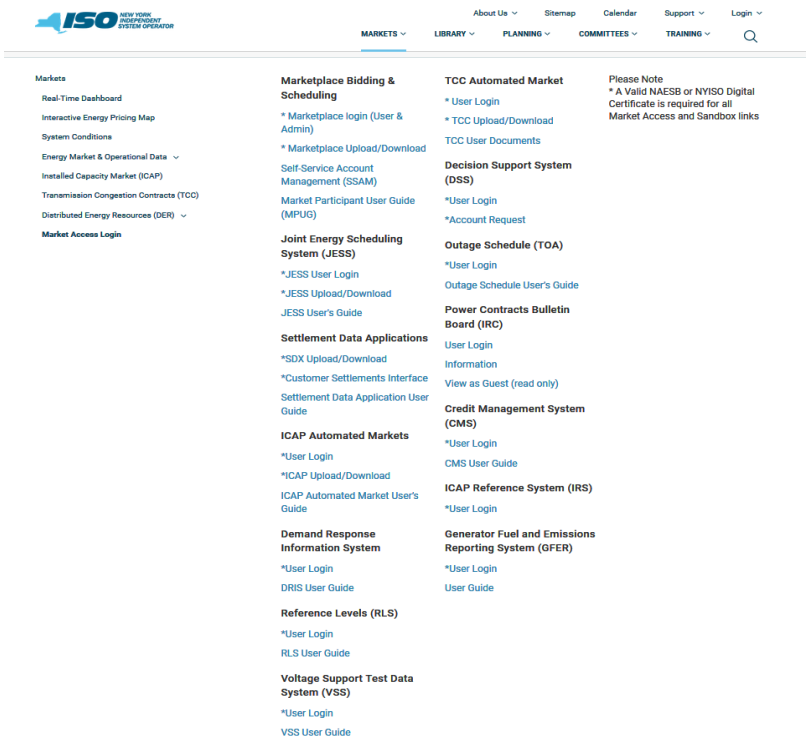
3. Click on the Market Access Login link (See Figure 3).

Figure 3: MARKET ACCESS LOGIN Link



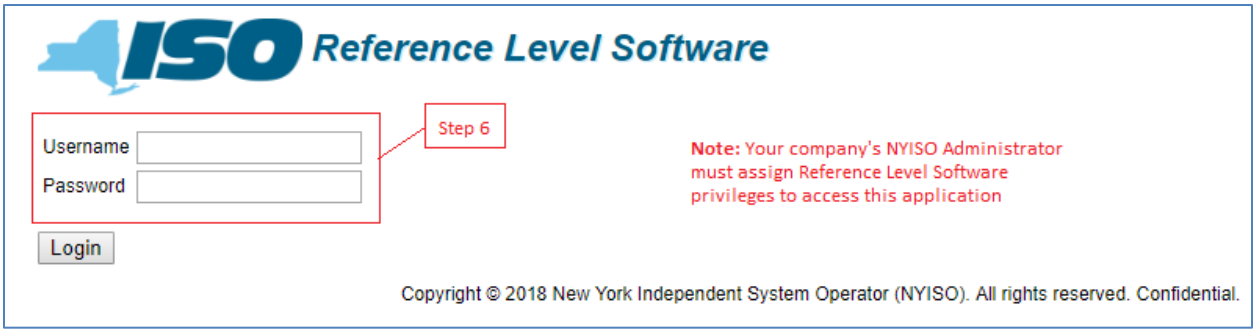
4. The webpage displays the User Login link (see Figure 4).

Figure 4: Market Access Logins Screen



5. The Reference Level Software Login page is displayed (as shown in Figure 5, following).

Figure 5: RLS User Login Page



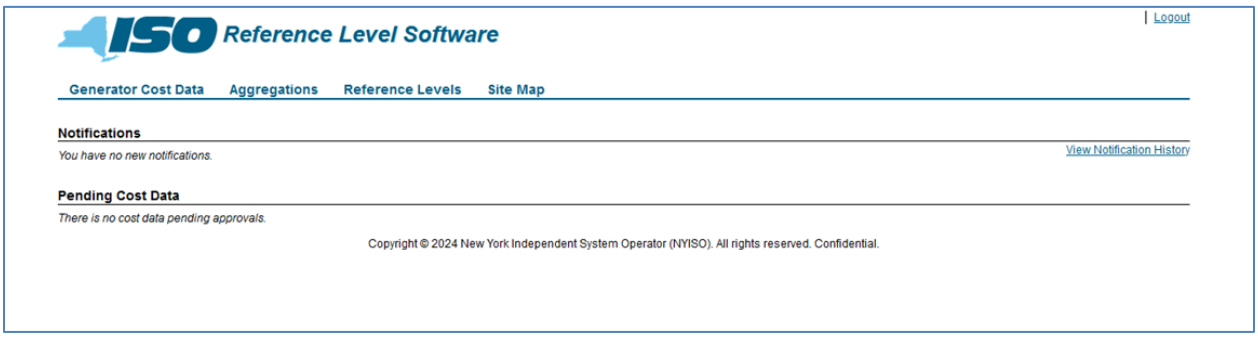
6. In the corresponding fields, type your MIS **Username** and **Password**.

Note: The password is case sensitive.

7. Activate the **Login** button. By default, following a login, the RLS Home page is displayed (as shown in

8. Figure 6).

Figure 6: RLS Home Page



From this screen you can view Notification messages and Pending Submissions. Additionally, the logoff (**Logout**) button is on this page.

To log out of the Reference Level Software (RLS) Application

In the upper-right corner of the application window, click the **Logout** link (as shown in Figure 6).

2.4. Working with the System Interface

The term *system interface* refers to the composite mechanisms displayed on screen that provide for interaction with a system. Key RLS interface components include the following:

- Menus
- Breadcrumbs
- Pages
- Links
- Filters
- Configuration controls
- Data navigation controls

2.4.1. Menus

Menus allow users to initiate the various tasks made possible by the system. In RLS, menus are accessed by clicking a heading in the static bar always displayed across the top of the interface.

For example, the *Generator Cost Data* menu, illustrated in Figure 7, provides access to the following additional pages:

- *Create New Submission*,
- *Upload Cost Data*,
- *List Submissions*, and
- *View Approved Cost Data*.

The *Reference Levels* menu, illustrated in Figure 7, provides access to the *List Reference Levels* page and the *Export Reference Levels* page.

Figure 7: Generator Cost Data Menu and Related Options

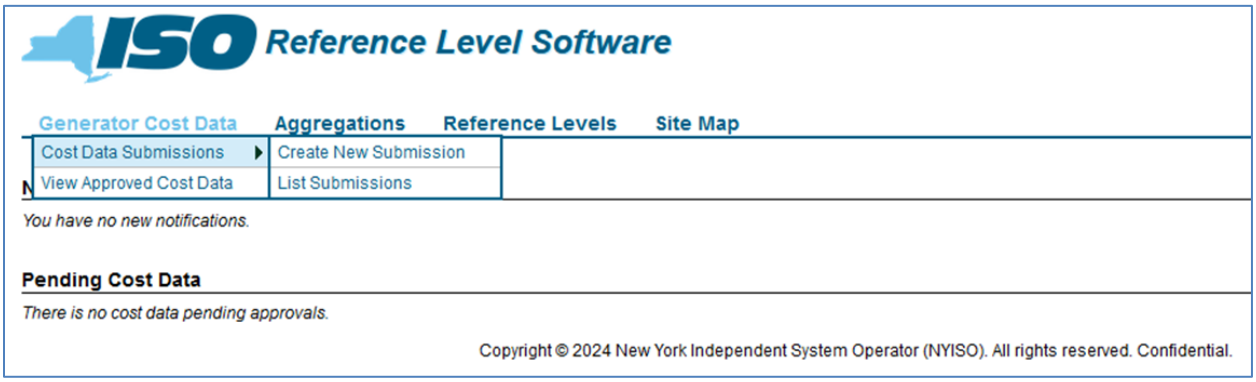


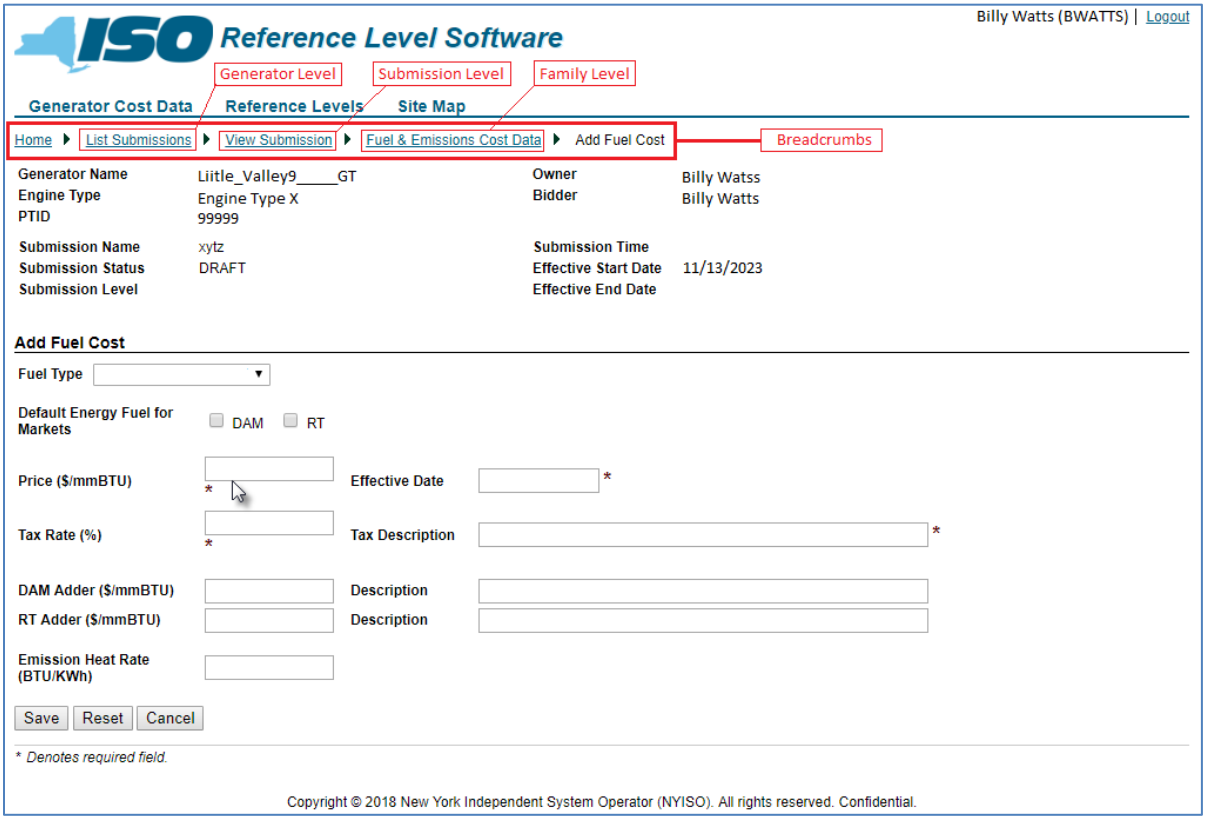
Figure 8: Reference Levels Menu and Related Options

2.4.2. Breadcrumbs

A breadcrumb trail allows users to keep track of their location within the RLS application and provide links back to each previous page navigated through, to get to the current page. The user is allowed to go back to a previous location within the breadcrumb trail by clicking on the link.

Figure 9 illustrates a breadcrumb trail within the Cost Data Submission process.

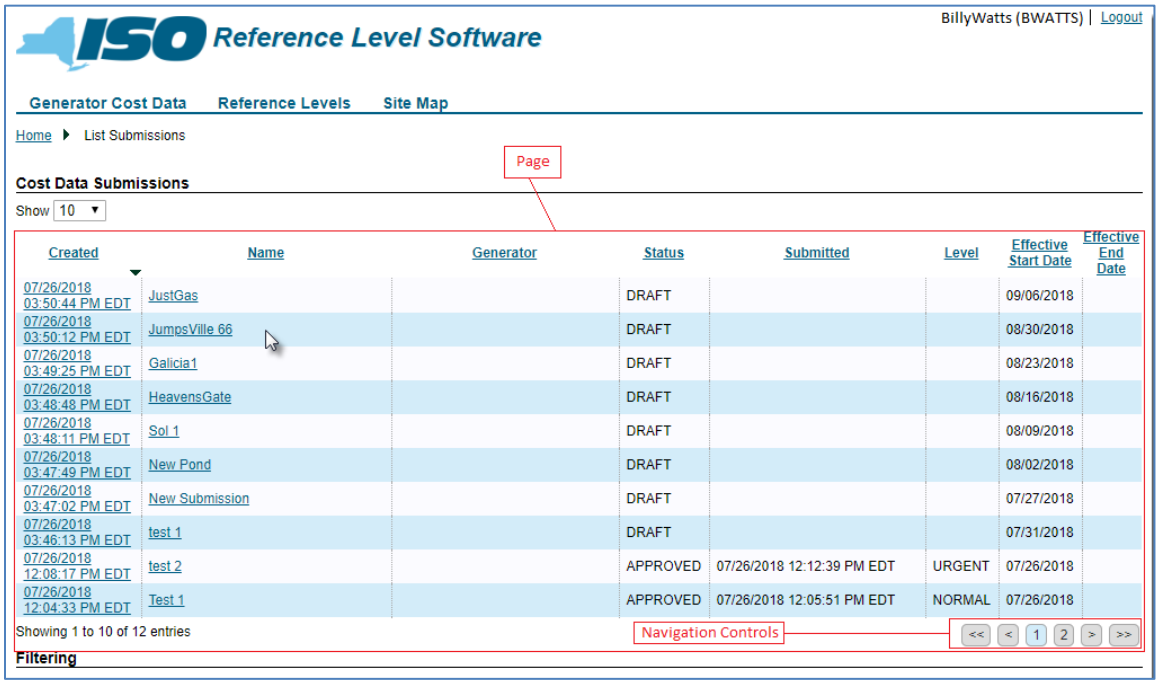
Figure 9: Sample Breadcrumb Trail



2.4.3. Pages

Pages gather and display all controls specific to a request. They can be invoked by the RLS application or by the user choosing an option from one of the system menus. Figure 10 illustrates the result of requesting RLS to List Submissions, which results in a display of multiple sub-pages that can be navigated with the corresponding controls.

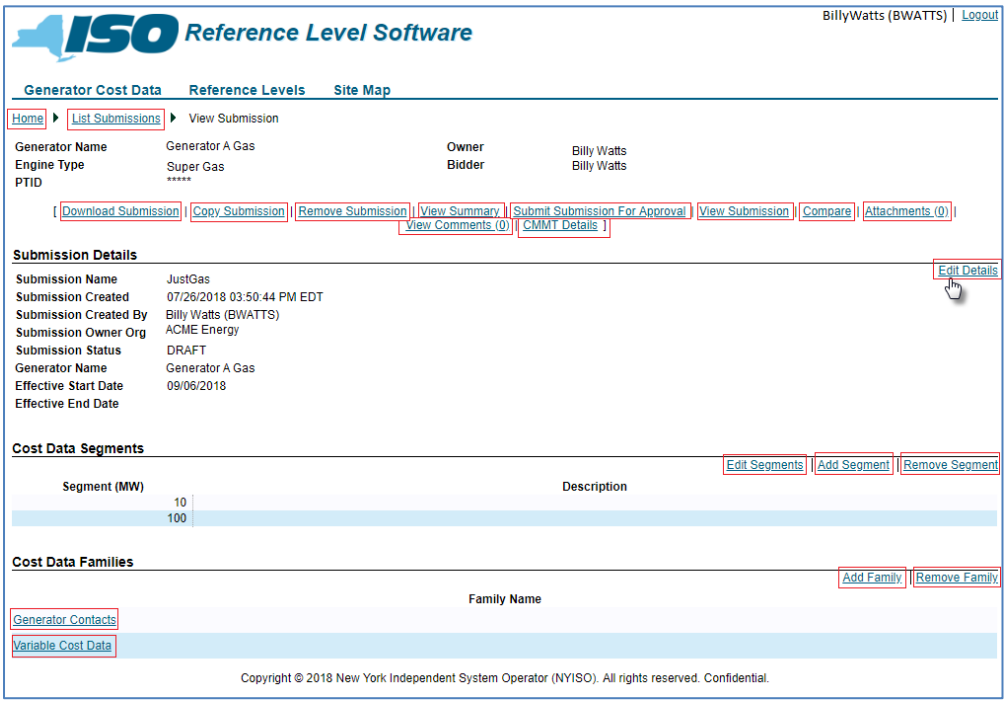
Figure 10: Displaying Multiple Pages of Data



2.4.4. Links

Links allow the user to navigate to other pages within the RLS application. Links are typically specific to the current page the user is accessing. Figure 11 illustrates multiple links that are available on the *View Submission* page.

Figure 11: Sample RLS Links



2.4.5. Filters

Filters are controls that allow the user to define the scope of a task by selecting system-defined values for one or more system-defined parameters.

In the RLS application, drop-down filters are used, for example, to limit the Generator Name values to the specific generators that the user has authorization to view (Figure 12). In addition, filters are used to narrow the scope of data to be displayed when performing a specific task (

Figure 13).

Figure 12: Sample Drop-down Filter

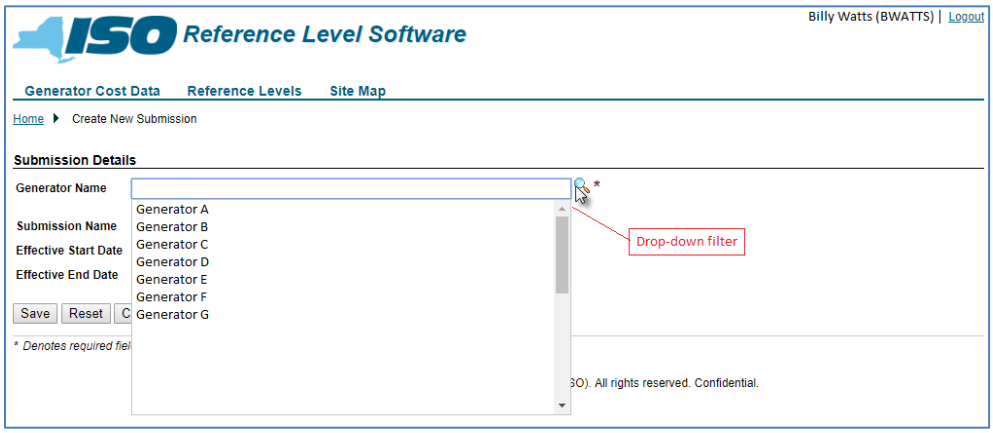
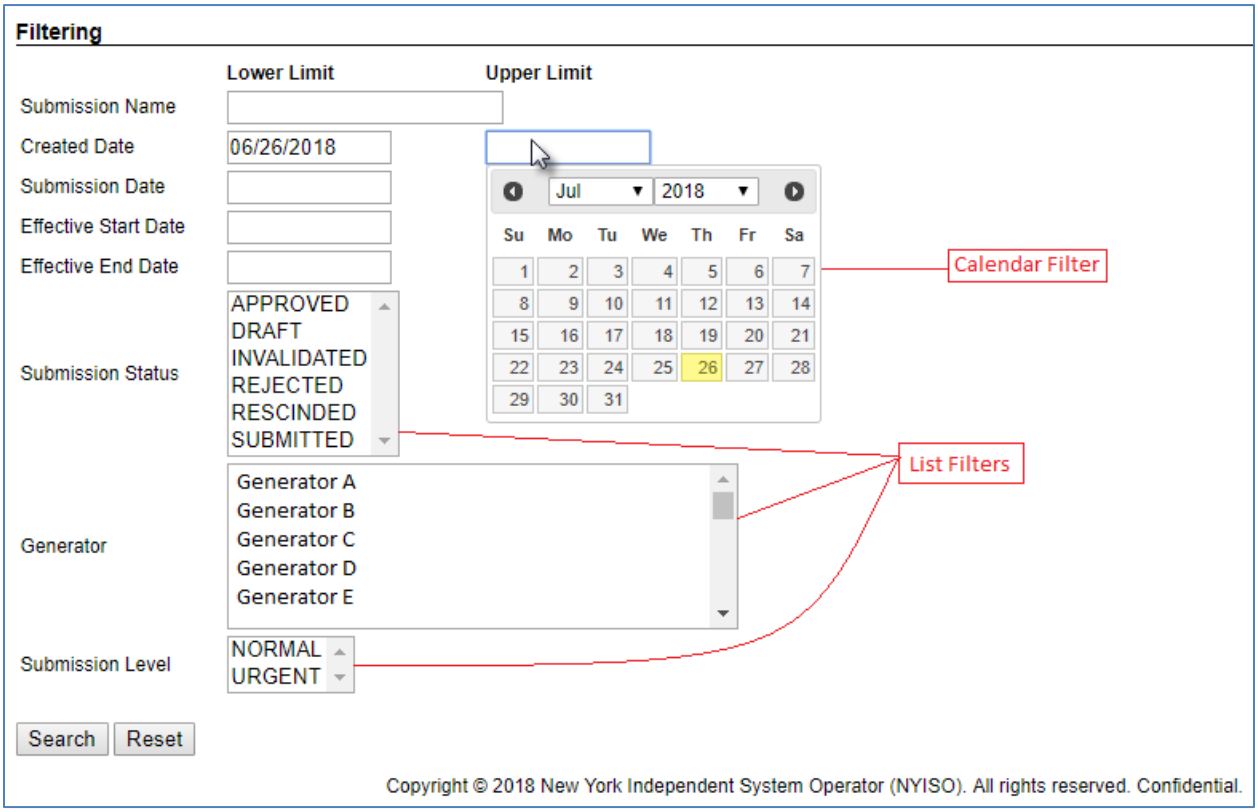


Figure 13: Sample Calendar and List Filters



> ***Note:*** User can select more than one field in the List Filters by pressing **CTRL** then clicking the primary mouse button.

2.4.6. Sorting Controls

Sorting controls allow changing the order in which data is displayed.

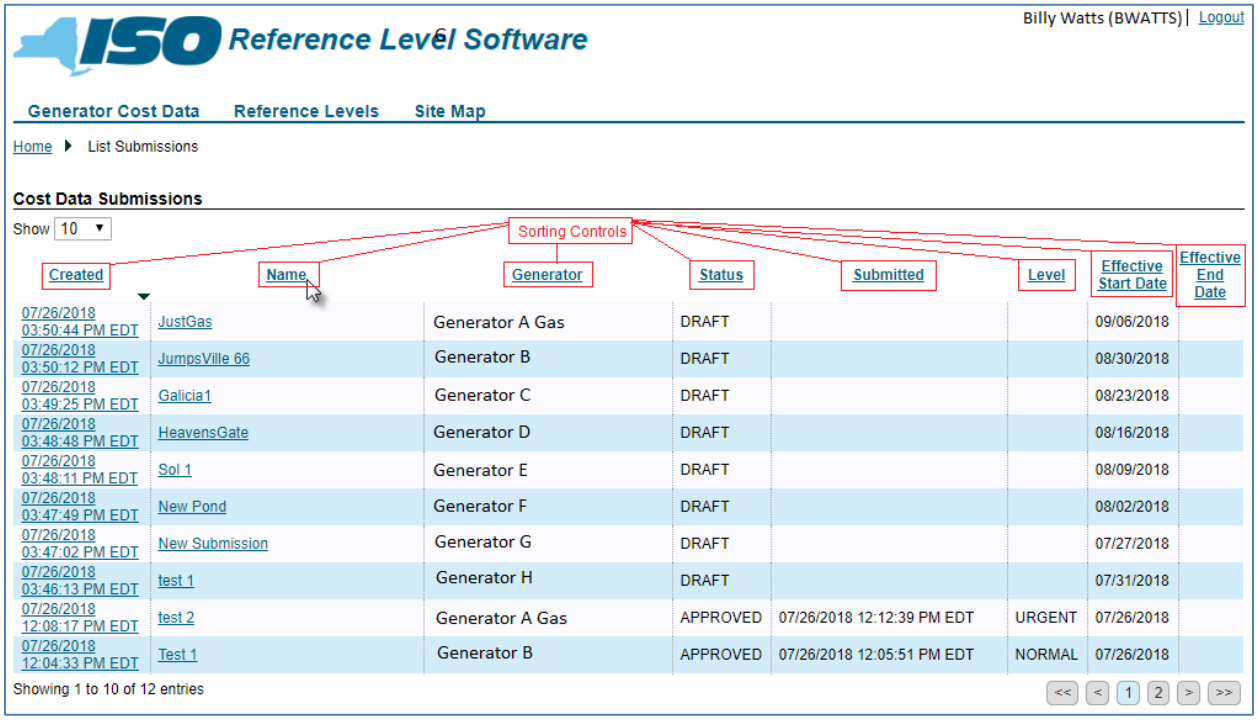
Figure 14 illustrates the RLS List Submission page, where submissions for a selected generator are listed, and the user has the ability to change the sort order for each column displayed.

To control the parameter by which data are sorted

1. Click the column heading to reverse the sort order.

> ***Note:*** Any change in sort order persists until either a subsequent sorting change is requested or the page in question is exited.

Figure 14: Sample Sorting Controls

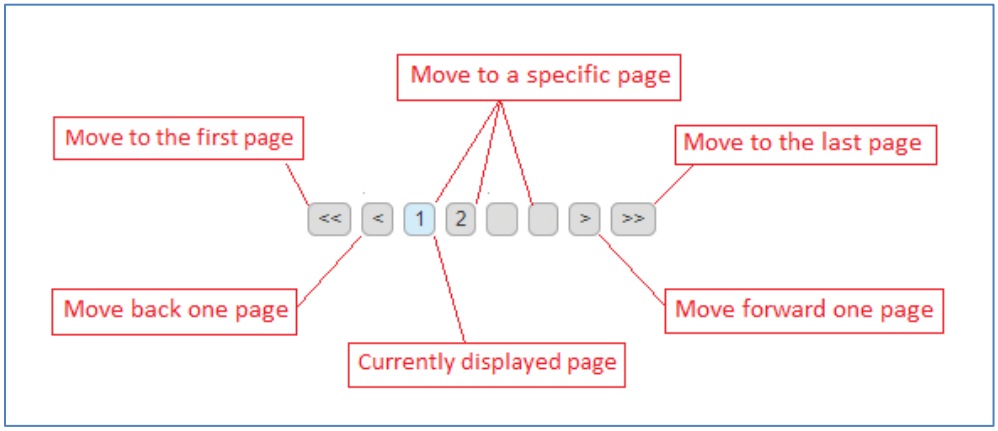


2.4.7. Page Navigation Controls

Data can be navigated by various mechanisms. Scroll bars, which are located on the right side and/or bottom of frames, allow for viewing data that is present on the active page. In addition, the RLS application provides controls (

Figure 15) that, when selected, provide movement between multiple pages of data.

Figure 15: Sample Data Navigation Controls



3. Cost Data Submission

This section describes the RLS application's Cost Data Submission process and all the additional functionality available regarding cost data, outlining the process' sequence of activities.

Aggregations are not eligible to make Cost Submissions. NYISO will assign Cost Templates to DERs as described in Section 11.

3.1. Grouping of Engine Types

The requirements for creating a Cost Data Submission vary based on the engine type group of the generator unit. Subsequent sections of this user guide provide the page definitions and requirements of the engine type group for the data presented on the page. Group A uses require all fields, group B is for units that do not bid a MinGen, group C is for units that may or may not enter a fuel price, and group D is for units with no fuel price. The engine type groups are detailed in Figure 16.

Figure 16: Engine Type Groups

A	B	C	D
Fossil - Coal Mix > 100MW	GT - Frame 5	Fossil - Landfill Gas	Hydro - Pumped Storage
Fossil - Coal Mix < 100MW	GT - Frame 7	Fossil - Wood	Hydro - Run of River
Fossil - Gas and/or Oil > 350 MW	GT - 7EA	Fossil - Refuse	Hydro - Reservoir
Fossil - Gas and/or Oil < 350 MW	GT - LM 6000	Nuclear	Wind

A	B	C	D
Combined Cycle - Frame 5/6	GT - LM 6000 Sprint	Other	Solar
Combined Cycle - 7FA	GT - PW		LESR
Combined Cycle - 7EA	GT - Simple Cycle		Demand Side Ancillary Service Provider
Combined Cycle - LM 6000	GT - Other		
Combined Cycle - 501G	Diesel		
Combined Cycle - V64.3			
Combined Cycle - V84.2			
Combined Cycle – Other			
Combined Cycle – Siemens SGT6 – 5000F			
Rolls Royce Trent 60			
Reciprocating Engine			
Load Monitor			

> ***Note:*** The engine type groups are used to define the cost data input requirements for validation. These engine type groups will be used in subsequent sections when describing the Cost Data Submission requirements.

3.2. Cost Data Submission Components

A Cost Data Submission comprises three main components: Submission Details, Cost Data Segments, and Submission Families. The Submission Families component is further categorized into sub-components (families) that include Generator Contacts, Heat Rate Data, Fuel & Emission Cost Data, Startup Cost Data, Variable Cost Data, Risk & Opportunity Cost Data, and Ancillary Services Data.

When creating a Cost Data Submission, data requirements for each component vary based on the engine type group (Section 3.1).

> ***Note:*** Refer to the conditions matrix under the Page Definitions section for each component input

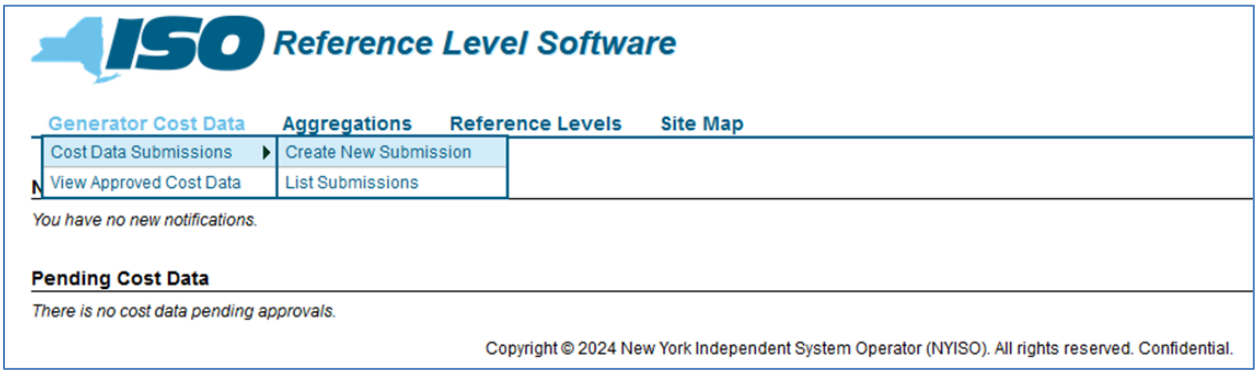
When creating an initial Cost Data Submission for a generator unit, each component is required, while the ***data required*** in each component will be driven by the engine type group.

The sections below list and describe all the data items within each component along with identifying the data requirements by engine class.

3.3. Cost Data Submission Entry Process

A new submission can be initiated via the *Generator Cost Data* menu by choosing the *Create New Submission* option (Figure 17); the user is then prompted to enter cost data for all components mentioned in Section 3.2.

Figure 17: Access Path for Initiating Submission of Cost Data



3.3.1. Create a Cost Data Submission

The following sections detail the requirements to create a cost data submission. The sections will be outlined by the individual components. For each component, a table is provided to list and describe the data in each page, along with indicating by engine class, whether the data field is required, optional, conditionally required, or not applicable.

> ***Note:*** As a user creates each cost data component, the submission is saved in *DRAFT* mode.

3.3.1.1. Submission Details

Figure 18: Submission Details Page Definitions

				Engine Type Group			
Page Field	**Data Type**	**Editable**	**Description**	**A**	**B**	**C**	**D**
Generator Name	Text	N	Chosen from a drop-down list of generator units that the user is authorized for, determined by logon id.	R	R	R	R
Submission Name	Text	Y	Name entered to identify the Cost Data Submission. Entered as 30-character free-form text.	R	R	R	R
Effective Start Date	Date	Y	Start Date of a Cost Data Submission entered as mm/dd/yyyy or chosen from the calendar application.	R	R	R	R

Effective End Date	Date	Y	*End Date of a Cost Data Submission, entered as mm/dd/yyyy or chosen from the calendar application.* ***Note:** A blank value in this field will designate the cost data as open-ended (i.e., the data entered is effective until a new Cost Data is submitted).*	O	O	O	O

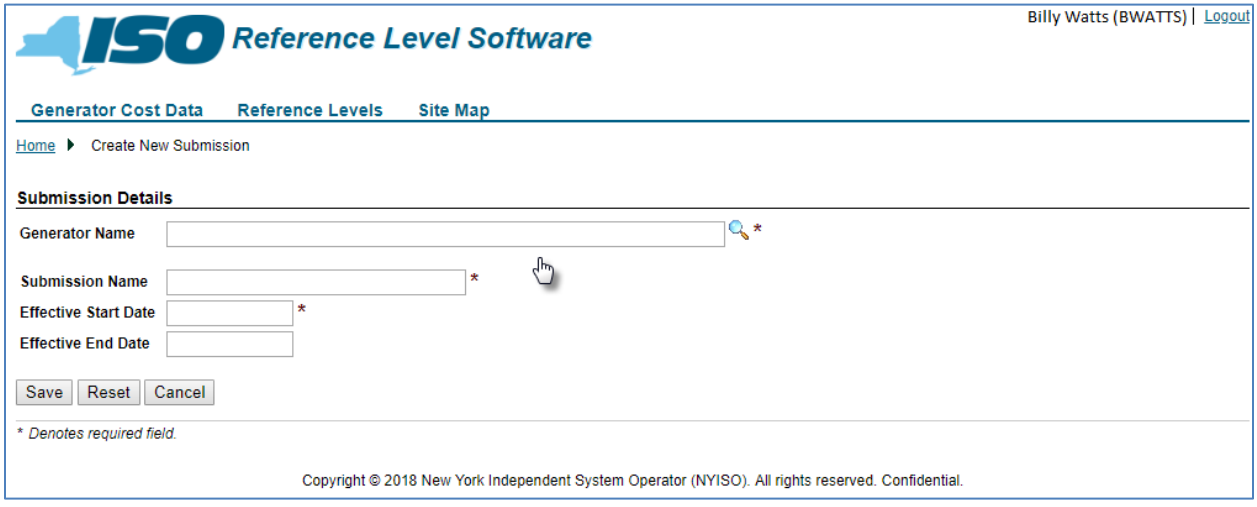
R = Required
O = Optional
CR = Conditionally required
NA = Not applicable

3.3.1.2. How to Enter Submission Details

Upon accessing the *Create New Submission* page, illustrated in

Figure 19, the user then selects a generator from an RLS-prepared list pre-determined based on the user's logon credentials and role. The user will also enter a Submission Name, Effective Start Date, and optional Effective End Date.

Figure 19: Create New Submission Page



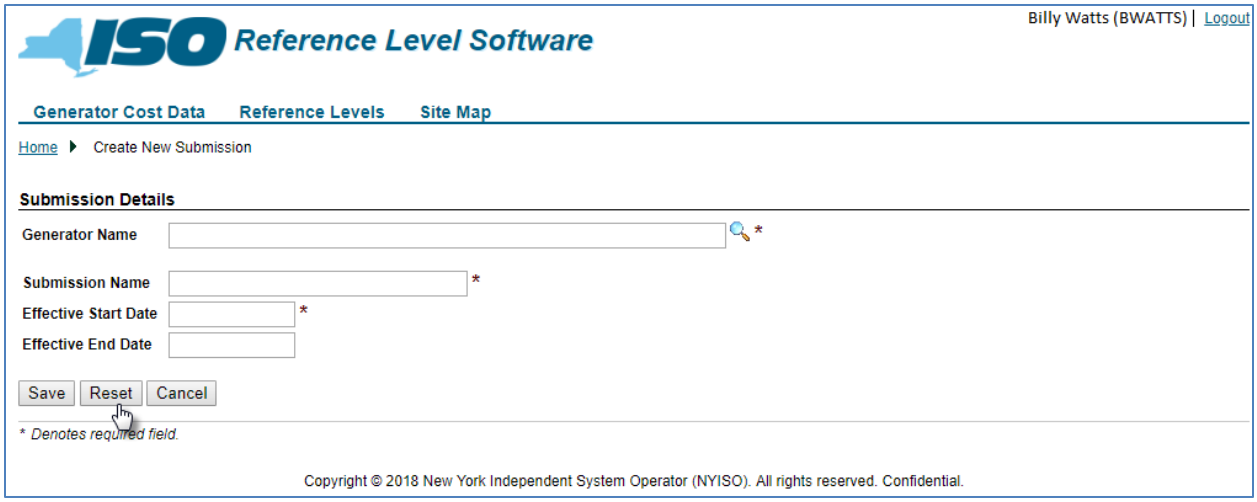
Next, the user has the following options:

- **Save**, to save the data in *DRAFT* form(see Figure 21).
- **Reset,** to remove all data entered, returning the screen to its original state (see Figure 20).

- **Cancel,** to return the user to the RLS home page.

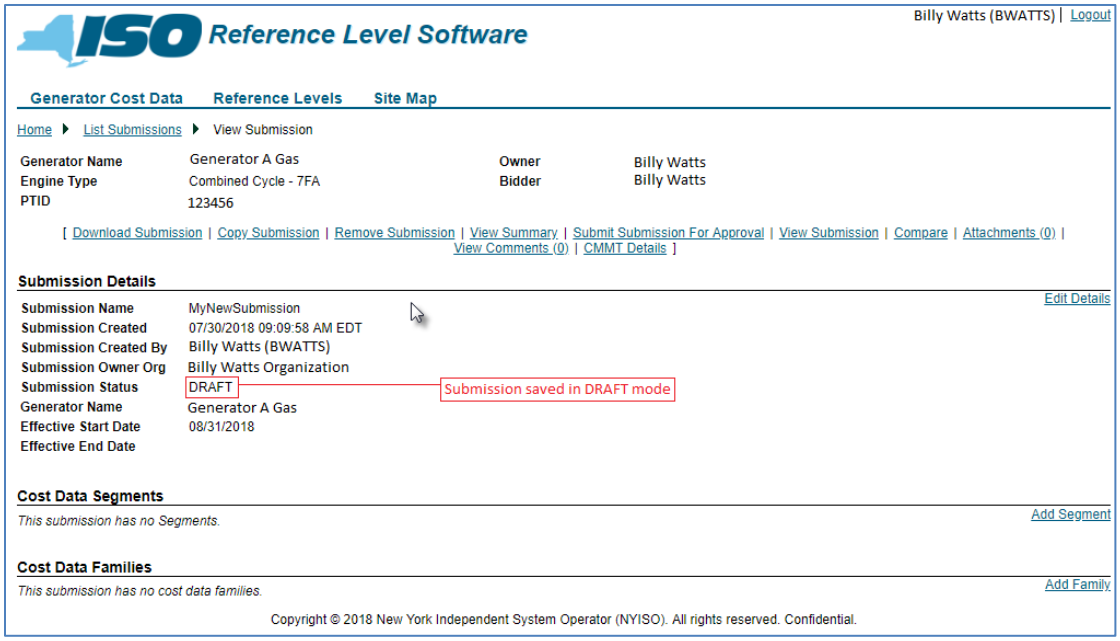
> ***Note:*** The *Submission Name* is an MP-defined value to facilitate keeping track of submissions.
>
> *Effective Start Date* must be greater than or equal to the current date.

Figure 20: Reset New Submission Confirmation Prompt



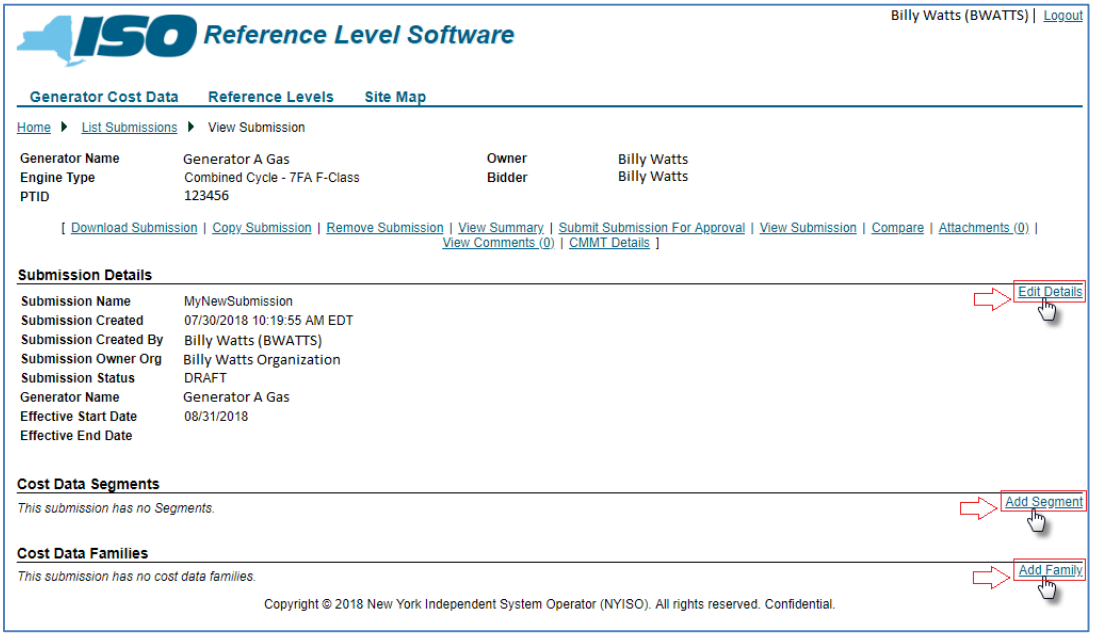
Once the user has invoked the **Save** action, the application saves the submission in Draft form and displays the *View Submission* page (see Figure 21).

Figure 21: View Submission Page Reflecting Saved Submission Details



At this point the user can take several actions like: edit the Submission Details, add Cost Data Segment(s), and add Submission Families (see Figure 22). To do these actions, the user will activate the **Edit Details**, **Add Segment**, or **Add Family** link to invoke the applicable page.

Figure 22: Links to Modify Submission Details and Add Cost Data Segments and Submission Families



3.3.1.3. Cost Data Segments

Figure 23: Cost Data Segments Page Definition

Page Field	Data Type	Editable	Description	Engine Type Group A	B	C	D
Segment Value	Numeric	Y	MP-specified megawatt breakpoint values. The associated megawatt output value for the segment. Entered as a value 00 – 10000. ***Note:*** User is required to enter a minimum of one segment value for a generator.	R	R	R	R
Description	Text	Y	Text entered to describe the segment and the associated output. Entered as 100-character free-form text.	O	O	O	O

R = Required
O = Optional
CR = Conditionally Required
NA = not applicable

3.3.1.4. How to Enter Cost Data Segments

Via the page illustrated in Figure 24, the user can add Cost Data Segments. The user is required to enter a minimum of one segment value for the Cost Data Submission for a new generator. To add a segment, the user is required to enter a Segment Value, while the Description is optional. Once the first segment has been added and saved, the user will have the ability to add additional segments, edit existing segment descriptions, and remove segments (see Figure 25).

> ***Note:*** The user is required to create segments up to greater than or equal to their MIS Upper Operating Limit.
>
> When editing a cost data segment, the user can make changes to the description only. The user is not allowed to change the value of an actual segment. To perform this task, the user will delete the existing segment then add a new segment.
>
> All megawatt output values created will automatically populate the appropriate identical references throughout the pages.

Figure 24: Add Segment Dialog Box

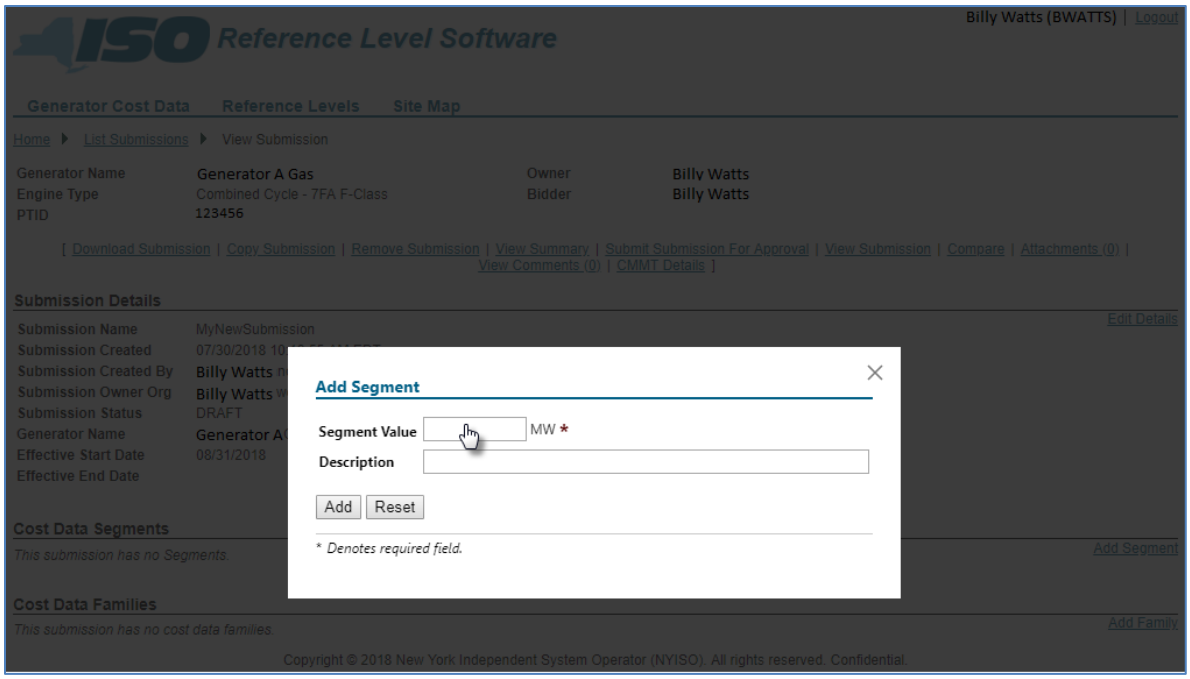
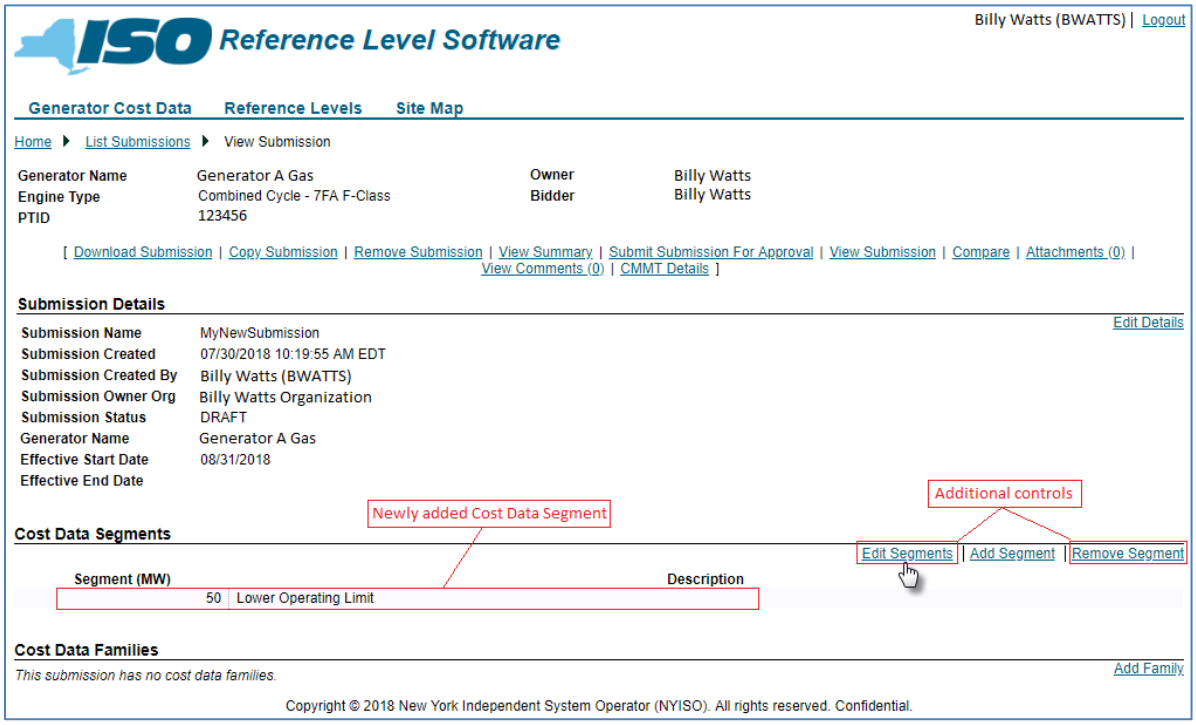
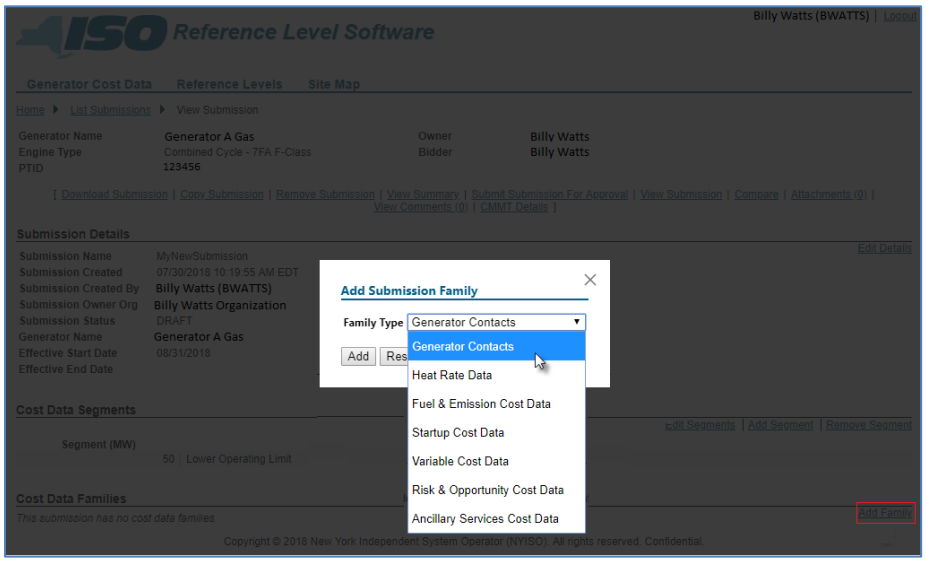


Figure 25: Links to Modify Cost Data Segments



Next, the user can add each of the Submission Families. To add a Submission Family the user invokes the **Add Family** link then, from the drop-down list, chooses which family to add (see Figure 26).

Figure 26: Add Submission Family Dialog Box

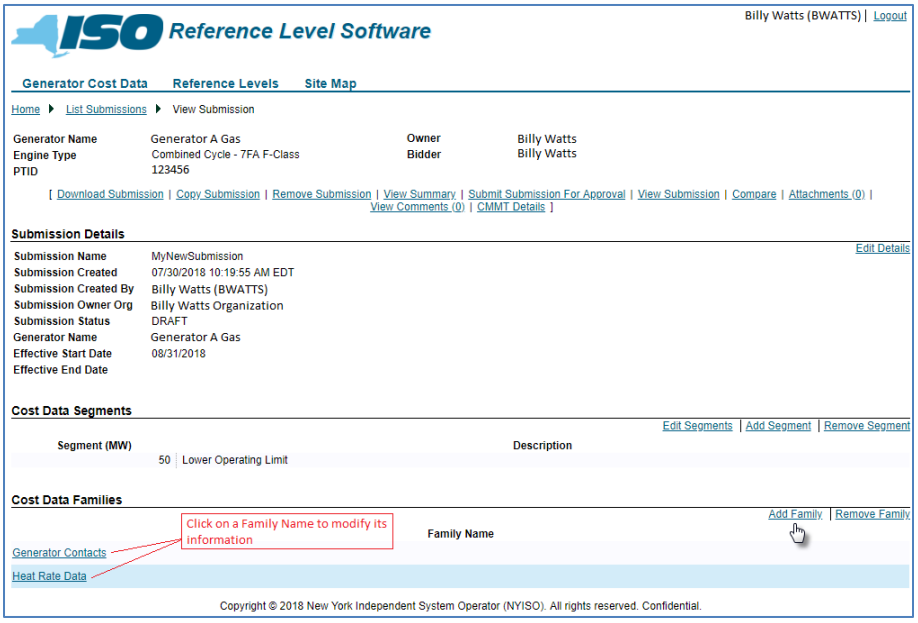


After saving a Submission Family, the user has the option of selecting that family and editing the information (Figure 27 and Figure 28).

> ***Note:*** For an initial Cost Data Submission, the MP needs to access each submission family, even if no data is to be entered for that family. This is done to acknowledge completeness of the Cost Data Submission.

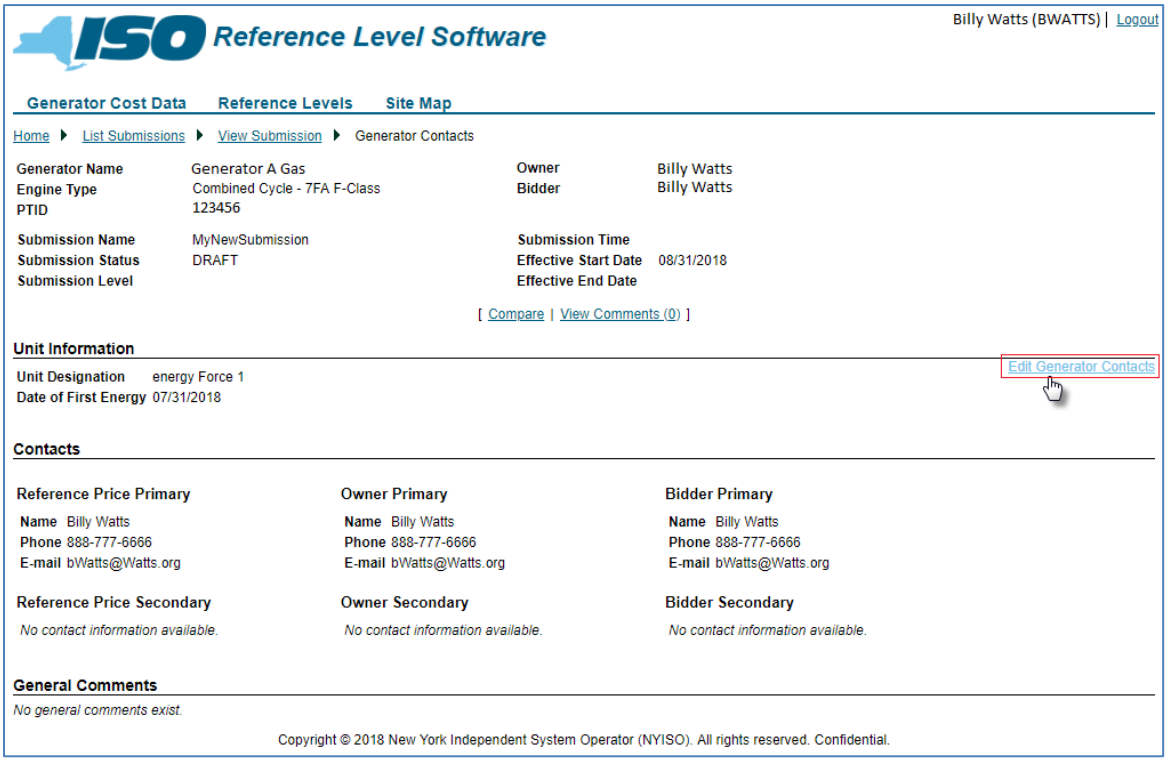
In Figure 27, the user has accessed and saved the Generator Contacts and Heat Rate Data families.

Figure 27: Means of Selecting a Generator Family for Modification



By using the **Generator Contacts** link, the user will be allowed to enter the **Generator Contacts** page. By selecting the **Edit Generator Contacts** link (Figure 28) the user will be able to modify the submission's contact information.

Figure 28: Link to Modifying Generator Contacts



3.3.1.5. Generator Contacts Data

Figure 29: Generator Contacts Page Definition

Page Field	Data Type	Editable	Description	Engine Type Group			
				A	B	C	D
Unit Designation	Numeric	Y	Text entered to describe the unit designation. Entered as 100-character free-form text.	O	O	O	O
Commercial Date	Text	Y	te that generator unit is considered to be in commercial operation. Entered as mm/dd/yyyy or chosen from the calendar application	R	R	R	R
Reference Price Primary Contact Name	Text		The name of the primary contact person, regarding the reference price for a generator unit. Entered as 100-character free-form text.	R	R	R	R
Reference Price Primary Contact Phone	Text	Y	The phone number of the primary contact person, regarding the reference price for a generator unit. Entered as 30-character free-form text.	R	R	R	R

Page Field	Data Type	Editable	Description	Engine Type Group			
				A	B	C	D
Reference Price Primary Contact E-mail	Text	Y	The e-mail address of the primary contact person, regarding reference price of the generator unit. Entered as a valid e-mail address (e.g. address@domain.com) up to 100 characters.	R	R	R	R
Owner Primary Contact Name	Text	Y	The name of the primary contact person, for the owner of the generator unit. Entered as 100-character free-form text.	R	R	R	R
Owner Primary Contact Phone	Text	Y	The phone number of the primary contact person, for the owner of the generator unit. Entered as 30-character free-form text.	R	R	R	R
Owner Primary Contact E-mail	Text	Y	The e-mail address of the primary contact person, for the owner of the generator unit. Entered as a valid e-mail address (e.g. address@domain.com) up to 100 characters.	R	R	R	R
Bidder Primary Contact Name	Text	Y	The name of the primary contact person, regarding bidding for the generator unit. Entered as 100-character free-form text.	R	R	R	R
Bidder Primary Contact Phone	Text	Y	The phone number of the primary contact person, regarding bidding for the generator unit. Entered as 30-character free-form text.	R	R	R	R
Bidder Primary Contact E-mail	Text	Y	The e-mail address of the primary contact person, regarding bidding for the generator unit. Entered as a valid e-mail address (e.g. address@domain.com) up to 100 characters	R	R	R	R
Reference Price Secondary Name	Text	Y	The name of the secondary contact person, regarding the reference price for a generator unit. Entered as 100-character free-form text.	O	O	O	O
Reference Price Secondary Phone	Text	Y	The phone number of the secondary contact person, regarding the reference price for a generator unit. Entered as 30-character free-form text.	O	O	O	O
Reference Price Secondary E-mail	Text	Y	The e-mail address of the secondary contact person, regarding the reference price for the generator unit. Entered as a valid e-mail address (e.g. address@domain.com) up to 100 characters	O	O	O	O
Owner Secondary Name	Text	Y	The name of the secondary contact person, for the owner of the generator unit. Entered as 100-character free-form text.	O	O	O	O
Owner Secondary Phone	Text	Y	The phone number of the secondary contact person, for the owner of the generator unit. Entered as 30-character free-form text.	O	O	O	O
Owner Secondary E-mail	Text	Y	The e-mail address of the secondary contact person, for the owner of the generator unit. Entered as a valid e-mail address (e.g. address@domain.com) up to 100 characters	O	O	O	O

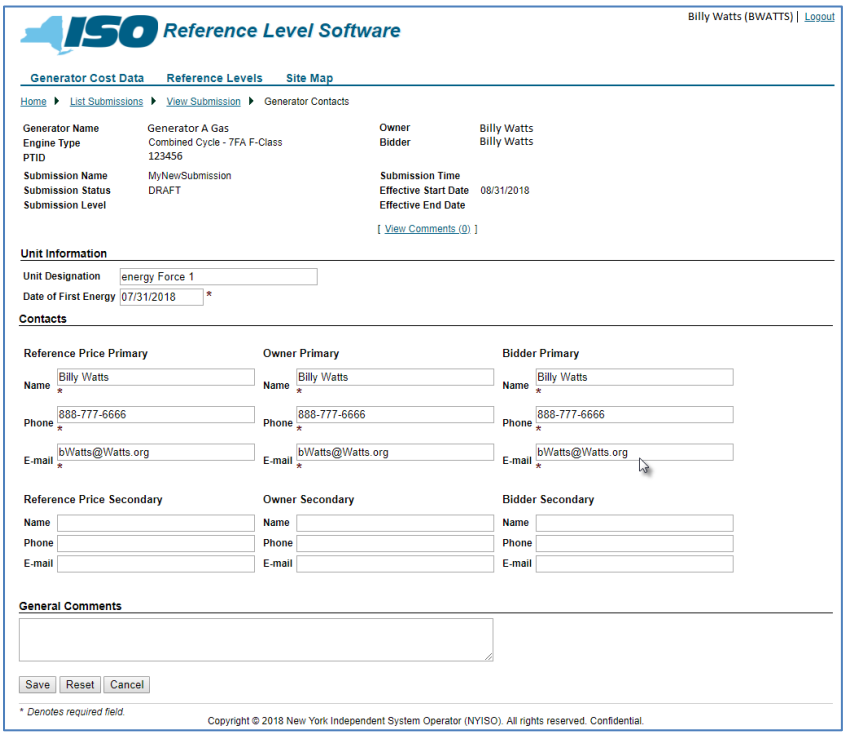
Page Field	Data Type	Editable	Description	Engine Type Group A	B	C	D
Bidder Secondary Name	Text	Y	The name of the secondary contact person, regarding bidding for the generator unit. Entered as 100-character free-form text.	O	O	O	O
Bidder Secondary Phone	Text	Y	The phone number of the secondary contact person, regarding bidding for the generator unit. Entered as 30-character free-form text.	O	O	O	O
Bidder Secondary E-mail	Text	Y	The e-mail address of the secondary contact person, regarding bidding for the generator unit. Entered as a valid e-mail address (e.g. address@domain.com) up to 100 characters	O	O	O	O
General Comments	Text	Y	Free-form area, entered as 4000-character free-form text	O	O	O	O

R = Required
O = Optional
CR = Conditionally Required
NA = not applicable

3.3.1.6. How to Enter Generator Contacts

The *Generator Contacts* page (Figure 30) is used to enter or modify administrative data for the generator, including information for the both the primary and secondary contacts.

Figure 30: Generator Contacts Page



Note: Once the data has been saved via activation of the corresponding button, the user always has the option to **Edit Generator Contacts** data by invoking the Edit Generator Contacts link (see Figure 30 above) then completing the additional necessary actions. ***The MP is responsible for keeping its contact information up to date.***

3.3.1.7. Heat Rate Data

Figure 31: Heat Rate Details Page Definition

				Engine Type Group			
Page Field	**Data Type**	**Editable**	**Description**	**A**	**B**	**C**	**D**
Unit Minimum Generation (MW)	Numeric	N	The minimum operating level for a generator unit. Drop-down values populated from Cost Data Segments.	R	R	R	R
Heat Input at Min Gen (mmBTU/hour)	Numeric	Y	The heat input required to bring a generator unit to minimum generation. Entered as value 0 – 99999.	O	O	O	O
Unit Capacity (MIS)	Numeric	N	Automatically populated from MIS data.	NA	NA	NA	NA
Unit Capacity (RLS)	Numeric	Y	The maximum value (in megawatts) at which generator unit can operate. Entered as value 0 – 9999.99	R	R	R	R

R = Required
O = Optional
CR = Conditionally Required
NA = not applicable

Figure 32: Heat Rate Data Segments Page Definition

				Engine Type Group			
Page Field	**Data Type**	**Editable**	**Description**	**A**	**B**	**C**	**D**
Segment (MW)	Numeric	N	Automatically populated from Cost Data Segments component.	R	R	R	R
Incremental Heat Rate (BTU/KWh)	Numeric	Y	Heat rate by segment. Entered as value 0 – 99999.	O	O	O	O

R = Required
O = Optional
CR = Conditionally Required
NA = not applicable

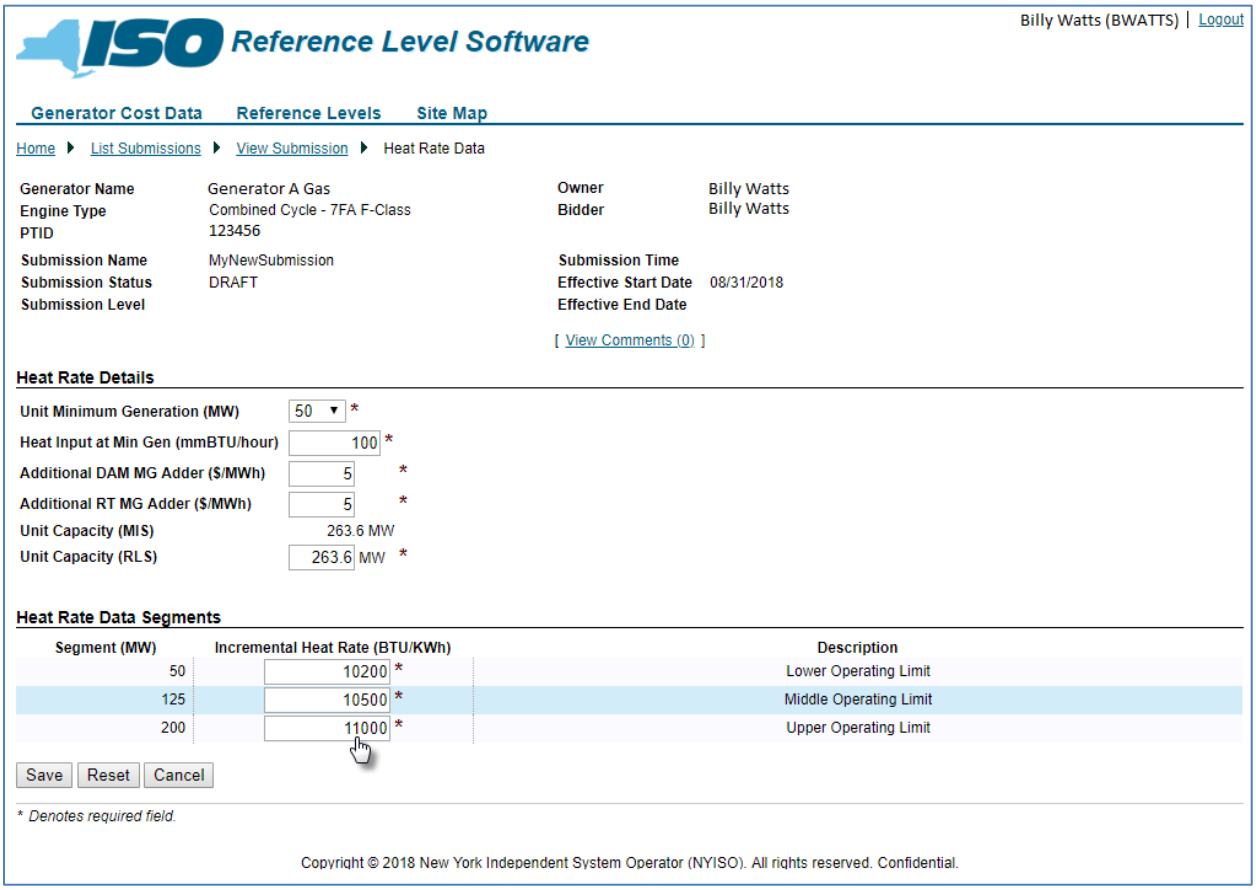
3.3.1.8. How to Enter Heat Rate Data

The *Heat Rate Data* page (Figure 33) is used to enter a generator unit's heat rate information. The *Heat Rate Details* page allows the user to choose the generator unit's minimum generation value from a drop-down list of the values previously entered via the *Cost Data Segments* page. The user will also enter a value for the generator unit's capacity. The page displays the generator unit's capacity as stored in the MIS.

The heat rate segments on this page are brought forward from the segments that were entered on the *Cost Data Segments* page. The user enters the heat rate as a numeric value representing the BTU/KWh for that segment of the generated power.

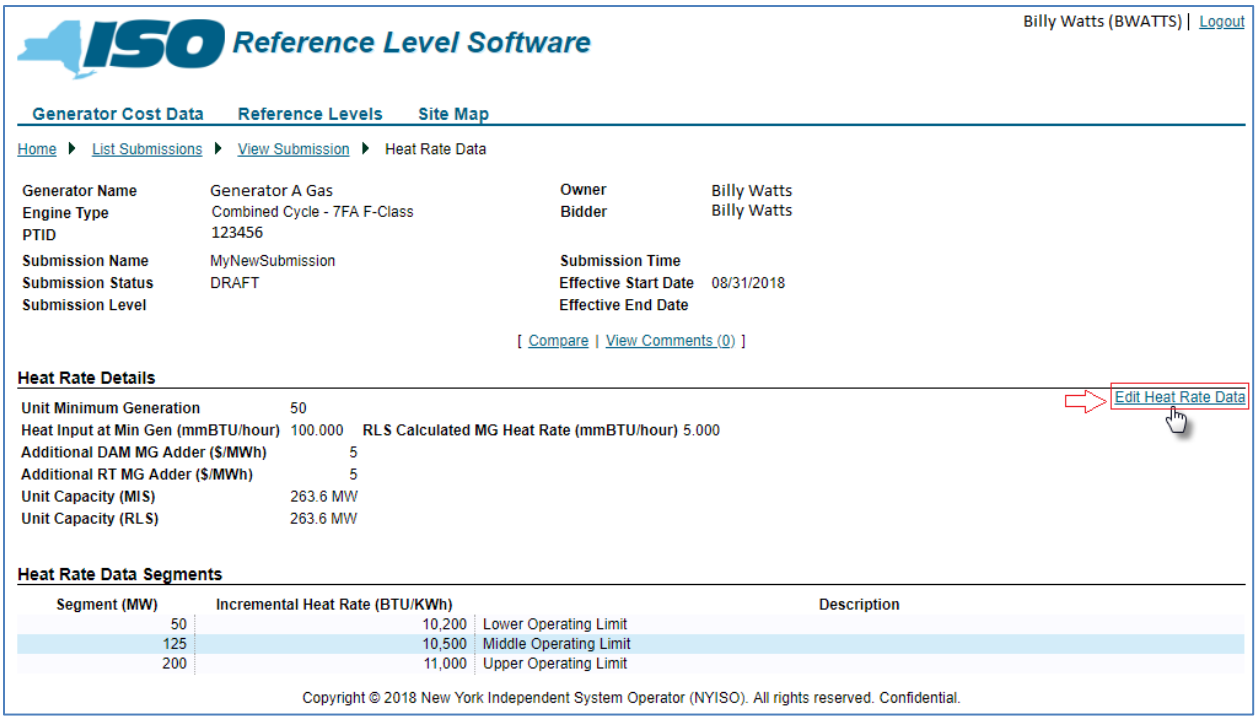
> ***Note:*** Heat rates are incremental heat rates and ***must*** be monotonically increasing.

Figure 33: Heat Rate Data Page



> ***Note:*** Once the data has been saved via activation of the corresponding button, the user always has the option to **Edit Heat Rate** data, by invoking the corresponding link (Figure 34) then completing the additional necessary actions. If a cost data segment is deleted, its associated heat rate data is automatically deleted as well.

Figure 34: Link to Modifying Heat Rate Data



3.3.1.9. Fuel and Emission Cost Data

Figure 35: Fuel and Emission Cost Data Page Definition

				Engine Type Group			
Page Field	**Data Type**	**Editable**	**Description**	**A**	**B**	**C**	**D**
Fuel Type	Text	N	Selected from a drop-down list of values from MIS. See Figure 36, on page 28.	R	R	R	R
Default Energy for Markets	Radio Button	N	Checkbox selection for Day-Ahead Market (DAM) and/or Real-Time market (RT)	R	R	R	R
Price ($/mmBTU)	Numeric	Y	Unburdened (no tax or delivery) price associated to fuel type. Entered as a value 0 – 99.9999.	R	R	O	NA
Effective Date	Text	Y	Effective date of fuel type/price entered as mm/dd/yyyy or chosen from the calendar application.	R	R	O	NA
Tax Rate (%)	Numeric	Y	Entered as a value 0 – 99.9999999. Applicable ad valorem tax on fuel	R	R	O	NA
Tax Description	Text	Y	Tax Description, entered as 100-characters of free-form text.	O	O	O	NA

				Engine Type Group			
Page Field	**Data Type**	**Editable**	**Description**	**A**	**B**	**C**	**D**
DAM Adder ($/mmBTU)	Numeric	Y	Entered as value 0 – 99.99. Applicable flat rate taxes and/or applicable transport and distribution costs and applicable fuel acquisition brokerage fees.	O	O	O	NA
Description	Text	Y	Adder description, entered as 100-characters of free-form text.	O	O	O	NA
RT Adder ($/mmBTU)	Numeric	Y	Entered as value 0 – 99.99. Applicable flat rate taxes and/or applicable transport and distribution costs and applicable fuel acquisition brokerage fees.	O	O	O	NA
Description	Text	Y	Adder description, entered as 100-characters of free-form text.	O	O	O	NA
Emission Heat Rate (BTU/KWh)	Numeric	Y	Entered as value 0 – 99999.	CR	CR	CR	NA
Emission Type	Text	N	Selected from a drop-down list of values populated from MIS.	R	R	R	NA
Emission Rate (lb/mmBTU)	Numeric	Y	Entered as value 0 – 99.9999.	R	R	CR	NA
Allowance Cost ($/Ton)	Numeric	Y	Entered as value 0 – 99999.99.	R	R	CR	NA
Allowance Cost Date	Text	Y	Effective date of allowance value, entered as mm/dd/yyyy or chosen from the calendar application.	R	R	CR	NA
Adder ($/MWh)	Numeric	Y	Entered as value 0 – 999.99.	O	O	CR	NA

R = Required
O = Optional
CR = Conditionally Required
NA = not applicable

3.3.1.10. Fuel Type

Figure 36: Fuel Types Available as of January 1, 2024

RLS Fuel Type ID	RLS Fuel Type Name	Fuel Type Detailed Description
1	OIL #6 PRICE INDEX	Argus US Products: Fuel oil No6 0.3% high-pour NYH
3	AVG KEROSENE	Argus US Products: Jet/kerosene 55NYH cargo
4	AVG FUEL OIL #2	Argus US Products: Heating Oil 2000ppm NYH delivered
53	ULSD 15ppm NYH barge	Argus US Products: Diesel 15ppm NYH barge – Low
58	ULSK 15ppm NYH barge	Argus US Products: Kerosene 15ppm NYH barge – Low
2	NG TRANSCO Z6NY	Argus North American Natural Gas: Transco Zone 6 NY
31	NG ALGONQUIN	Argus North American Natural Gas: Algonquin City gates
32	NG IROQUOIS	Argus North American Natural Gas: Iroquois Waddington
37	NG DOMINION SP	Argus North American Natural Gas: Dominion South Point
38	NG DOMINION NP	Argus North American Natural Gas: Dominion North Point
43	NG NIAGARA	Argus North American Natural Gas: Niagara
44	NG TEXAS EAST M3	Argus North American Natural Gas: Texas Eastern Zone M3
45	NG COLUMBIA	Argus North American Natural Gas: Col Gas Appalachia
52	NG IROQUOIS Z2	Argus Natural Gas Americas: Iroquois Zone 2 day-ahead index
54	NG TENNESSEE ZONE 6	Argus Natural Gas Americas: Natural gas hub TGP zone 6 day-ahead Index
55	NG NIT/AECO	Argus Natural Gas Americas: Natural gas hub NIT/AECO day-ahead Index
56	NG HENRY HUB	Argus Natural Gas Americas: Natural gas hub Henry Hub day-ahead Index
57	NG TENN Z-4 200 LINE	Argus Natural Gas Americas: Natural gas hub TGP zone 4 day-ahead Index
59	NG DAWN ONTARIO USD	Argus North American Natural Gas: Dawn Ontario
61	NG TENN Z-5 200 LINE	Argus Natural Gas Americas: Natural gas hub TGP zone 5 day-ahead Index
46	75 TRANSCO 25 OIL #6	(blended from daily index price)
47	25 TRANSCO 75 OIL #6	(blended from daily index price)
48	50 TRANSCO 50 OIL #6	(blended from daily index price)
49	80 TRANSCO 20 OIL #6	(blended from daily index price)
50	75 TRANSCO 25 IROQUS	(blended from daily index price)
51	75 OIL #6, 25 IROQUS	(blended from daily index price)
13	COAL ANTHRACITE	(Not indexed)
14	COAL BIT	(Not indexed)
19	COAL COKE	(Not indexed)
22	HYDRO	(Not indexed)
23	NUCLEAR	(Not indexed)
28	REFUSE	(Not indexed)
30	DIESEL	(Not indexed)
33	WIND	(Not indexed)
34	OTHER	(Not indexed)
39	NG LANDFILL	(Not indexed)
40	WOOD	(Not indexed)
41	TIRES	(Not indexed)
42	BIOMASS	(Not indexed)
62	SOLAR	(Not indexed)
63	STORAGE	(Not indexed)

Note: Fuel types that are indexed daily, are currently indexed using Argus, the service that the NYISO uses to index fuel types may be subject to change.

Fuel types that are ***not*** indexed daily, will have the fuel price entered (RLS) as a static value. The MP should periodically review this data and update as necessary with a Cost Data Submission.

Canned fuel blends are available but require initial set-up by the NYISO.

3.3.1.11. Emission

Figure 37: Emission Types Available as of September 1, 2010

RLS Emission Type Name	Emission Type Description	Indexed Daily
CO2	CO2: RGGI US Allowance Prompt	Y
NOx CrossSt Annual	CSAPR NOx US annual assessments	Y
NOx Season CSAPR Gp3	CSAPR NOx US seasonal assessments Group 3	Y
SO2 CrossState Grp1	CSAPR SO2 US annual assessments	Y
SO2 (Fed)	SO2 US daily assessment	Y

Note: Emission Types that are indexed daily (*Y*), are currently using Argus, which can be subject to change. Emission Types that are ***not*** indexed daily (*N*), will have the emission price entered (RLS) as a static value. The MP should periodically review this data and update as necessary with a Cost Data Submission.

3.3.1.12. How to Enter Fuel and Emission Cost Data

The Add Fuel Cost page (Figure 38) which can be reached via the Fuel & Emissions Cost Data page, is used to enter the generator fuel and emission costs. For each fuel price entered, the user can add emission costs. When the fuel cost data is saved (

Figure 39), the user can invoke the link to add the emission cost (Figure 40).

Figure 38: Add Fuel Cost Data Page

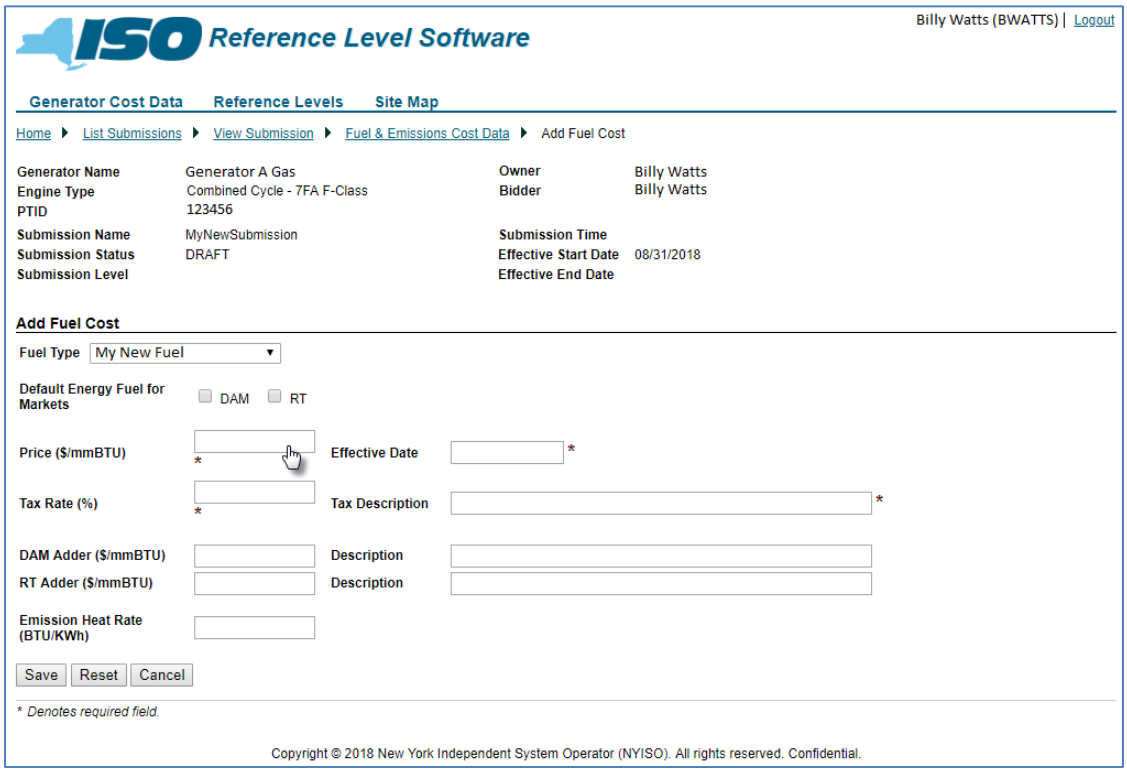


Figure 39: Link to Adding Emission Costs

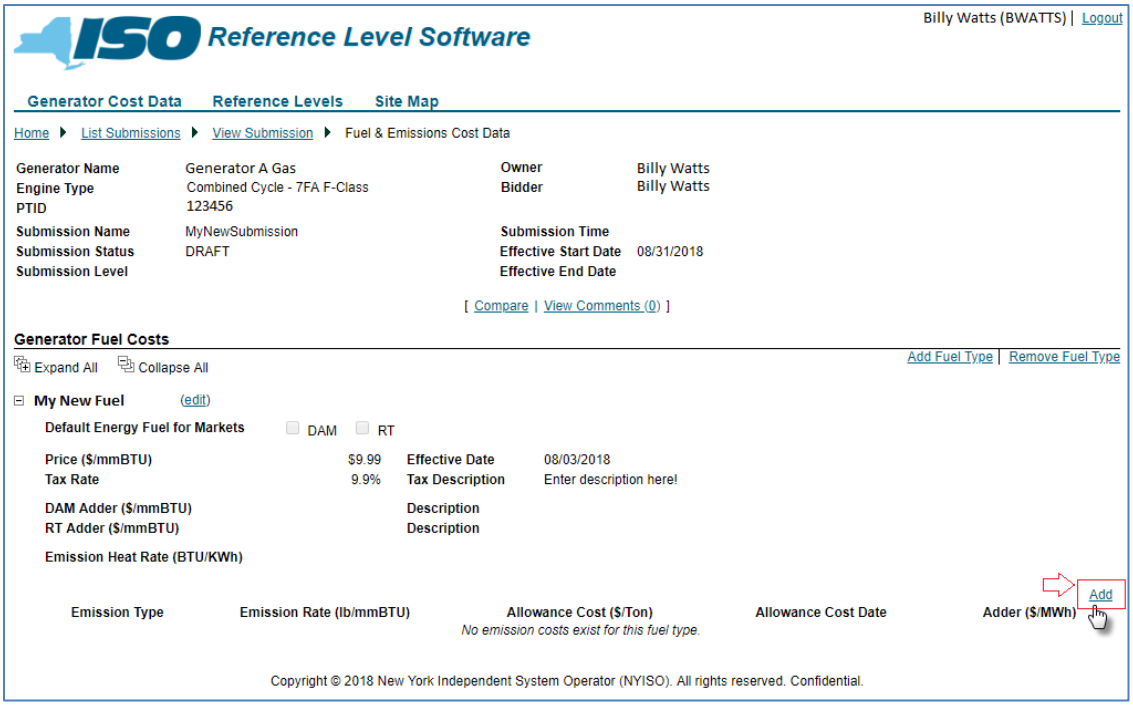
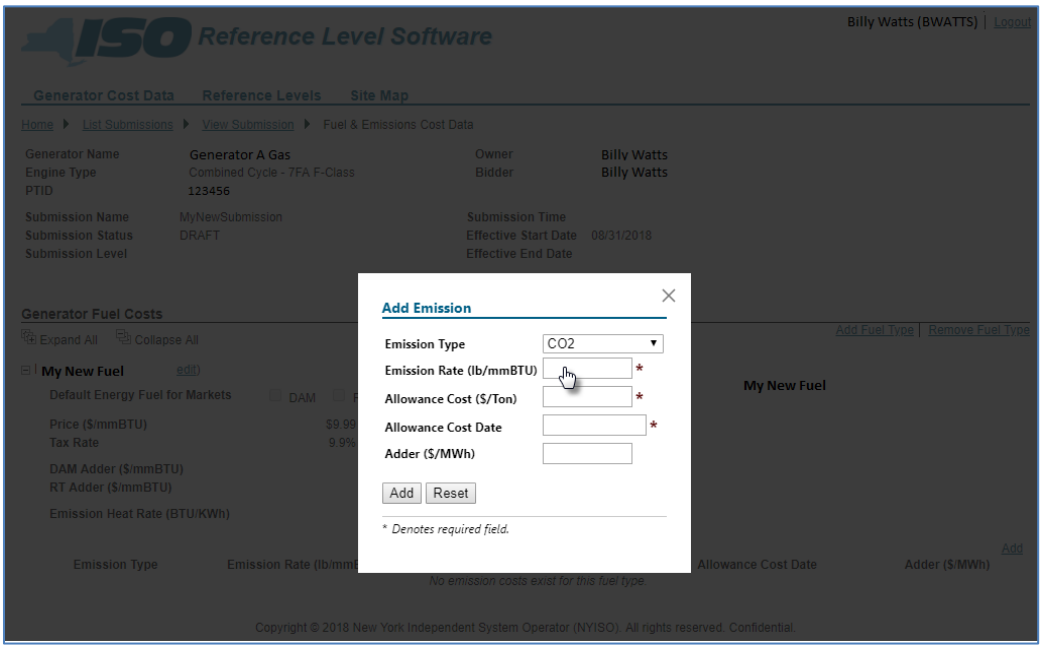
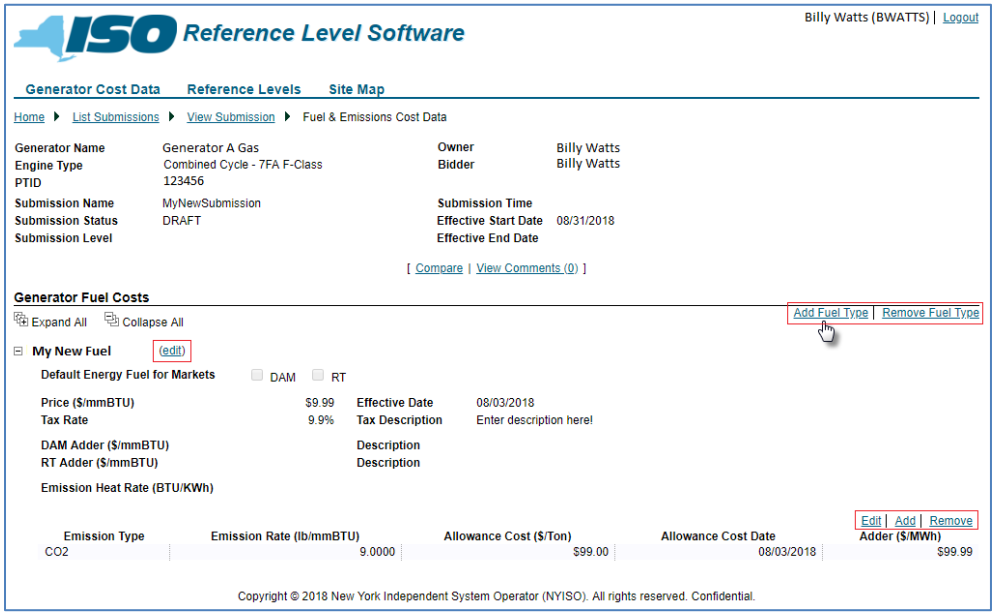


Figure 40: Add Emission Dialog Box



Note: Once the Fuel Cost data and Emission Cost data has been saved via activation of the corresponding button, the user always has the option to **Add Fuel Type**, **Edit Fuel Type**, or **Remove Fuel Type**, or **Edit**, **Add**, or **Remove Emission Type** data, by invoking the applicable link (Figure 41) then completing the additional necessary actions. The *Add Fuel Type* link is available while there are remaining defined fuel types for that generator to be added.

Figure 41: Links to Modifying Fuel Cost and Emission Data



3.3.1.13. Startup Cost Data

Figure 42: Startup Fuel Type Page Definition

				Engine Type Group			
Page Field	**Data Type**	**Editable**	**Description**	**A**	**B**	**C**	**D**
Fuel Type	Text	N	Selected from a drop-down list of values populated from MIS.	R	R	R	R
Default Startup Fuel for Markets	Radio Button	N	Checkbox selection for DAM and/or RT.	R	R	R	R

R = Required
O = Optional
CR = Conditionally Required
NA = not applicable

Figure 43: Startup Intervals Page Definition

				Engine Type Group			
Page Field	**Data Type**	**Editable**	**Description**	**A**	**B**	**C**	**D**
Relevant Markets	Radio Button	N	Checkbox selection for DAM and/or RT	R	R	R	R
Hours Offline	Numeric	Y	Also referred to as downtime. Entered as value 01 – 999.	R	R	R	R
Description	Text	Y	Description for interval. Entered as up to100-character of free-form text.	O	O	O	O
Fuel Required (mmBTU)	Numeric	Y	Required if a value was entered in Hours Offline. Entered as value 0 – 999999.99.	R	R	CR	CR
Adder ($/Start)	Numeric	Y	Entered as value -999999.99 – 999999.99.	O	O	CR	CR

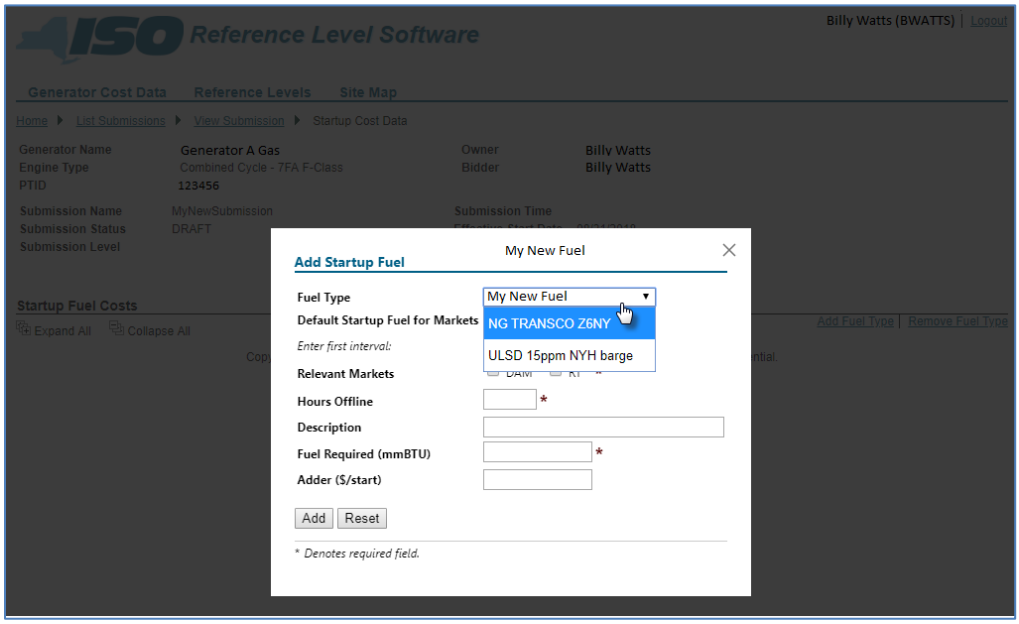
R = Required
O = Optional
CR = Conditionally Required
NA = not applicable

3.3.1.14. How to Enter Startup Data

The Startup Cost Data page (

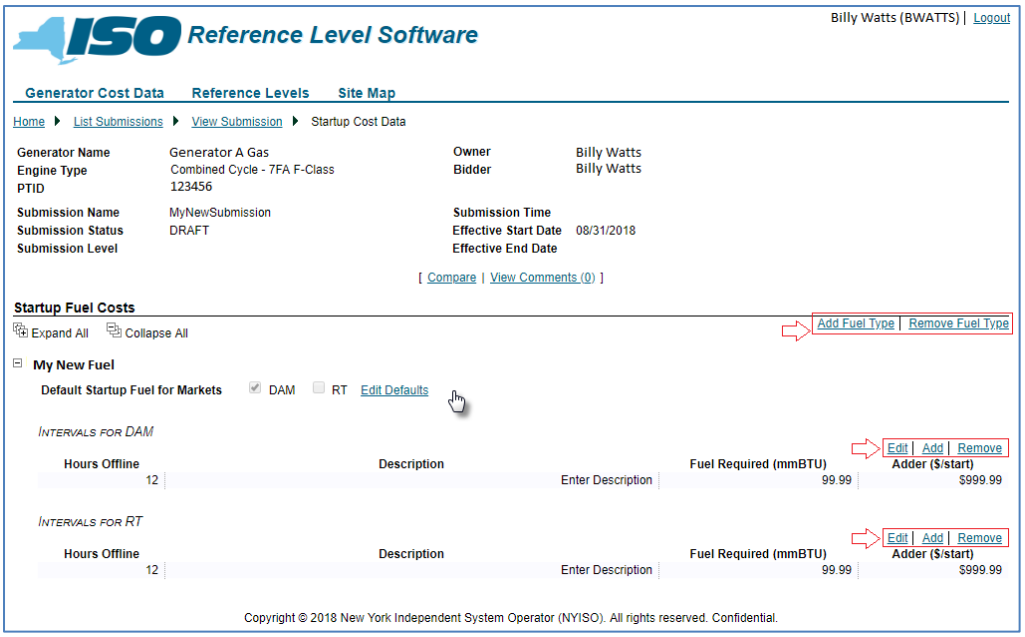
Figure 44), is used to enter startup costs for a generator unit. All generators are expected to create a submission that reflects their startup costs.

Figure 44: Add Startup Fuel Dialog Box



Note: Once the data has been saved via activation of the corresponding button, the user always has the option to **Add Fuel Type**, **Remove Fuel Type**, or **Edit**, **Add**, or **Remove** data by invoking the applicable link (Figure 45) then completing the additional necessary actions. The *Add Fuel Type* option is available if the generator has additional fuel types available.

Figure 45: Links to Modifying Startup Fuel Cost Data



3.3.1.15. Variable Cost Data

This is an optional family for entering variable cost data. Fixed costs are not appropriate.

Figure 46: Variable Production & Operating Maintenance Costs Page Definition

				Engine Type Group			
Page Field	**Data Type**	**Editable**	**Description**	**A**	**B**	**C**	**D**
Segment (MW)	Numeric	N	Pre-populated from Cost Data Segments.				
Var O&M Cost ($/MWh)	Numeric	Y	Entered as value 0 – 999.99	O	O	O	O
Var O&M Description	Text	Y	Entered as 100-character of free-form text. ***Note:*** If you choose to identify a Variable O&M Cost for one or more megawatt segments, A description for each of those megawatts segments is required.	CR	CR	CR	CR
Other Var Cost ($/MWh)	Numeric	Y	Entered as value 0 – 999.99	O	O	O	O
Other Var Description	Text	Y	Entered as 100-character of free-form text. ***Note:*** If you choose to identify any Other Variable O&M Cost for one or more megawatt segments, A description for each of those megawatt segments is required.	CR	CR	CR	CR

Page Field	Data Type	Editable	Description	Engine Type Group A	B	C	D
				R = Required O = Optional CR = Conditionally Required NA = not applicable			

Figure 47: Regulatory & Related Costs Page Definition

Page Field	Data Type	Editable	Description	Engine Type Group A	B	C	D
Source Name	Numeric	N	Name associated to the cost. Entered as 30-character free-form text.	R	R	R	R
Description/ Assumptions	Numeric	Y	Free-form area to describe the source cost. Entered as 4000-character free-form text. ***Note:*** If you choose to identify a Regulatory Cost for one or more megawatt segments, Summary Description will be required.	CR	CR	CR	CR
Segment (MW)	Text	Y					
Cost ($/MWh)	Numeric	Y	Source cost entered as a value -999.99 – 999.99. ***Note:*** Cost is required for a minimum of one segment.	CR	CR	CR	CR
Description	Text	Y	Entered as 100-character free-form text.	O	O	O	O

3.3.1.16. How to Enter Variable Cost Data

The *Variable Production/O&M Cost* page (Figure 48) is used to enter any variable costs that pertain to the operating and maintenance costs for a generator unit. In addition, this page allows the user to enter regulatory and other costs (Figure 49) that are deemed important in calculating total cost.

Figure 48: Variable Production/O&M Costs Page

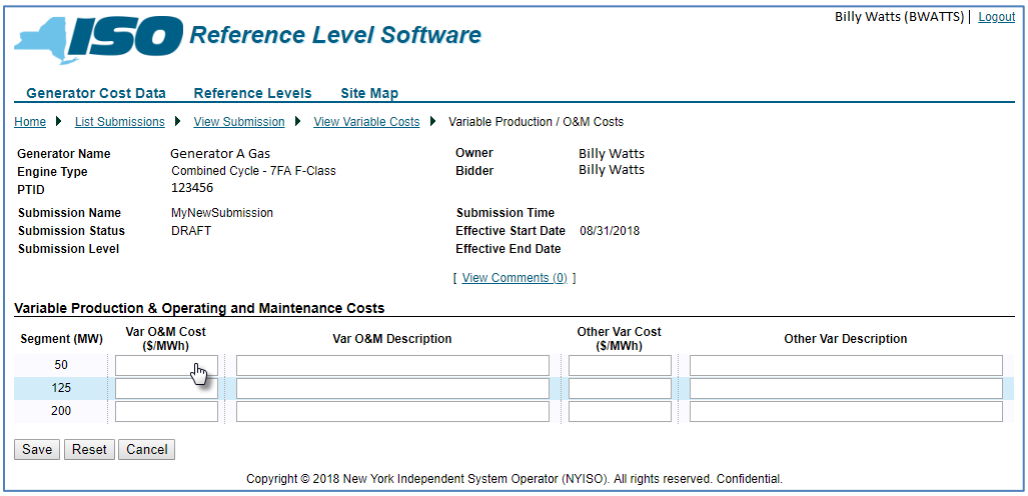
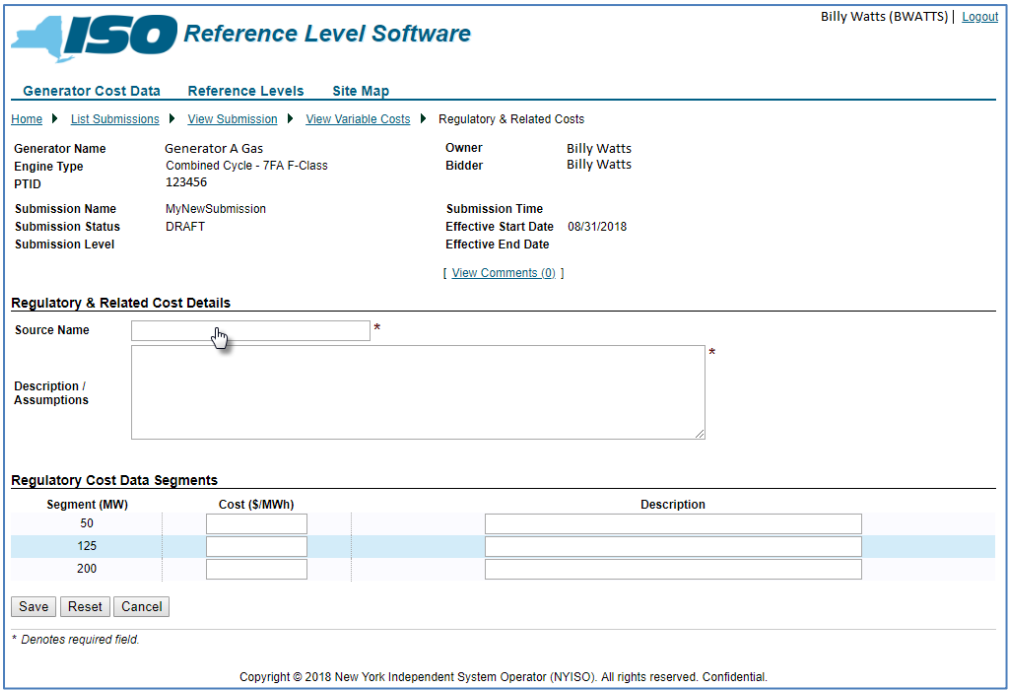
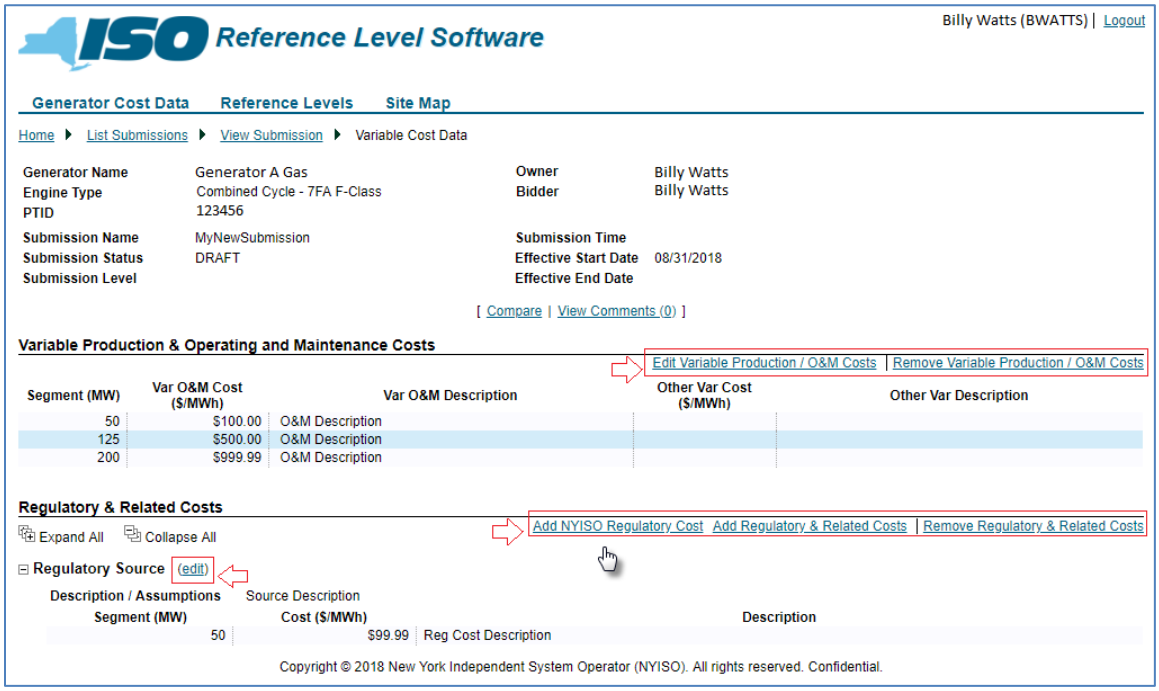


Figure 49: Regulatory & Related Costs Page



Note: Once the data has been saved via activation of the corresponding button, the user always has the option to **Edit Variable Production/ O&M Costs**, **Remove Variable Production/O&M Costs**, or **Add Regulatory & Related Costs**, **Remove Regulatory & Related Costs**, or **Edit** regulatory and related cost data by invoking the applicable link (Figure 50) then completing the additional necessary actions.

Figure 50: Links to Modifying Variable Production & Operating and Maintenance Costs and Regulatory & Related Costs



3.3.1.17. Risk and Opportunity Cost Data

This is an optional family. If the generator chooses to identify any opportunity costs, the corresponding page is used to enter other costs not pertaining to variable operating costs. This includes risk opportunity and emergency output costs.

Figure 51: Emergency Output Details Page Definition

				Engine Type Group			
Page Field	**Data Type**	**Editable**	**Description**	**A**	**B**	**C**	**D**
Emergency Cost DAM ($/MWh)	Numeric	Y	Entered as value 0 – 999.99.	O	O	O	O
Emergency Cost RT ($/MWh)	Numeric	Y	Entered as value 0 – 999.99.	O	O	O	O
Emergency Output MW	Numeric	N	Drop-down from segments.	CR	CR	CR	CR
DAM or RT Method of Calculation	Text	Y	Allows user to type in text describing their methodology. Entered as 100-character free-form text.	CR	CR	CR	CR

R = Required
O = Optional
CR = Conditionally Required
NA = not applicable

Note: Cost and Method of Calculation fields are required for at least one market.

Figure 52: Opportunity Cost Details Page Definition

				Engine Type Group			
Page Field	**Data Type**	**Editable**	**Description**	**A**	**B**	**C**	**D**
Cost ($/MWh)	Numeric	Y	Entered as value -999.99 – 999.99	O	O	O	O
Segment (MW)	Text	N	Pre-populated from cost data segments.				
Source Name	Text	Y	Entered as 30-character free-form text.	CR	CR	CR	CR
Relevant Market**(**s**)**	Radio Button	N	Checkbox selection for DAM and/or RT	CR	CR	CR	CR
Descriptions/ Assumptions	Text	Y	Entered as 4000-character free-form text. List all assumptions and/or methods of calculation.	CR	CR	CR	CR
Description	Text	Y	Entered as 100-character free-form text. Enter any additional description pertaining to the MW segment.	O	O	O	O

Figure 53: Risk Premium Details Page Definition

				Engine Type Group			
Page Field	**Data Type**	**Editable**	**Description**	**A**	**B**	**C**	**D**
Cost ($/MWh)	Numeric	Y	Dollar figure representing the risk factor. Entered as a numeric value in the format in the range -999.999 to 999.999.	O	O	O	O
Risk Factor	Text	Y	Allows user to enter risk factor in text form. Entered as a 50-character free-form text.	CR	CR	CR	CR
Relevant Market**(**s**).**	Radio Button	N	Checkbox selection for DAM and/or RT	CR	CR	CR	CR
Description/Assumptions	Text	Y	Allows user to enter their description/assumption that specifies their method of calculating the risk factor. Entered as 4000-character free-form text.	CR	CR	CR	CR
Segment (MW)	Numeric	N	Pre-populated from cost data segments				
Description	Text	Y	Entered as 100-character free-form text. Enter any additional description pertaining to the MW segment.	O	O	O	O

R = Required
O = Optional
CR = Conditionally Required
NA = not applicable

3.3.1.18. How to Enter Risk and Opportunity Cost Data

The *Risk & Opportunity Cost Data* page (Figure 54, Figure 55, and, Figure 56) serves as the portal for entering other costs not pertaining to variable operating costs.

Figure 54: Emergency Output Details Dialog Box as Accessed from Risk & Opportunity Cost Data Page

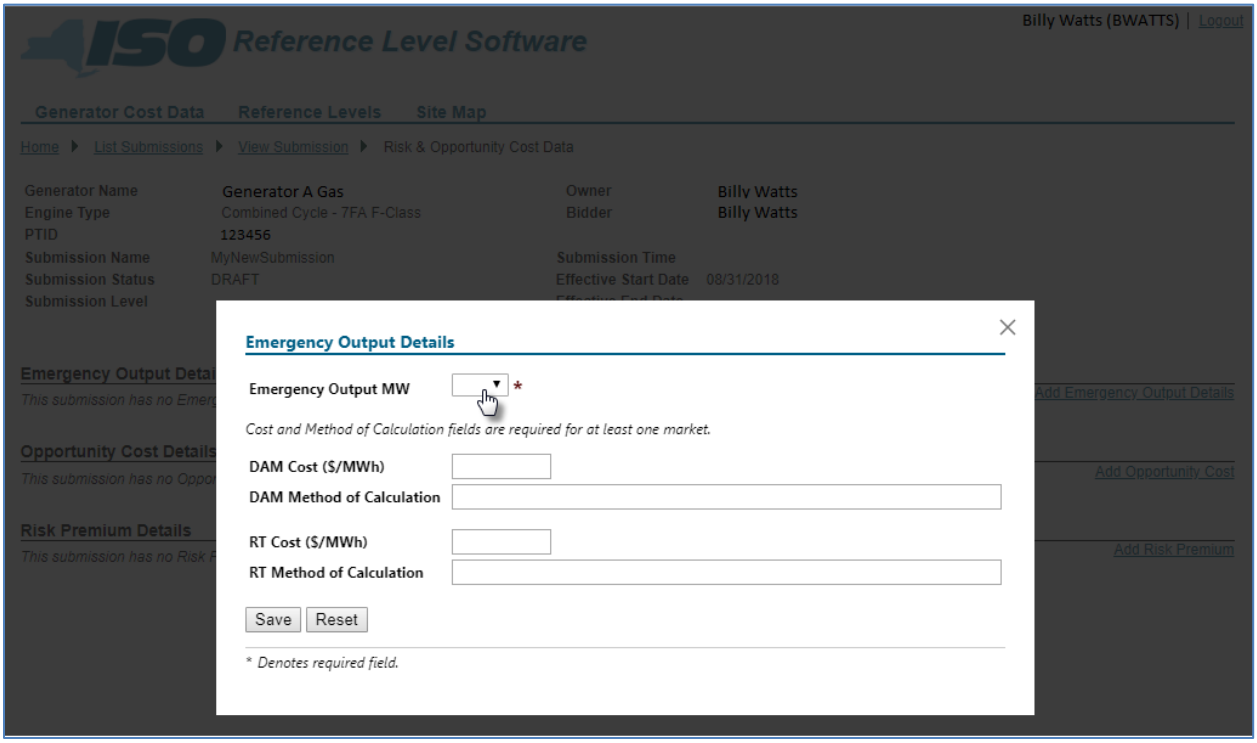


Figure 55: Add Opportunity Cost Page

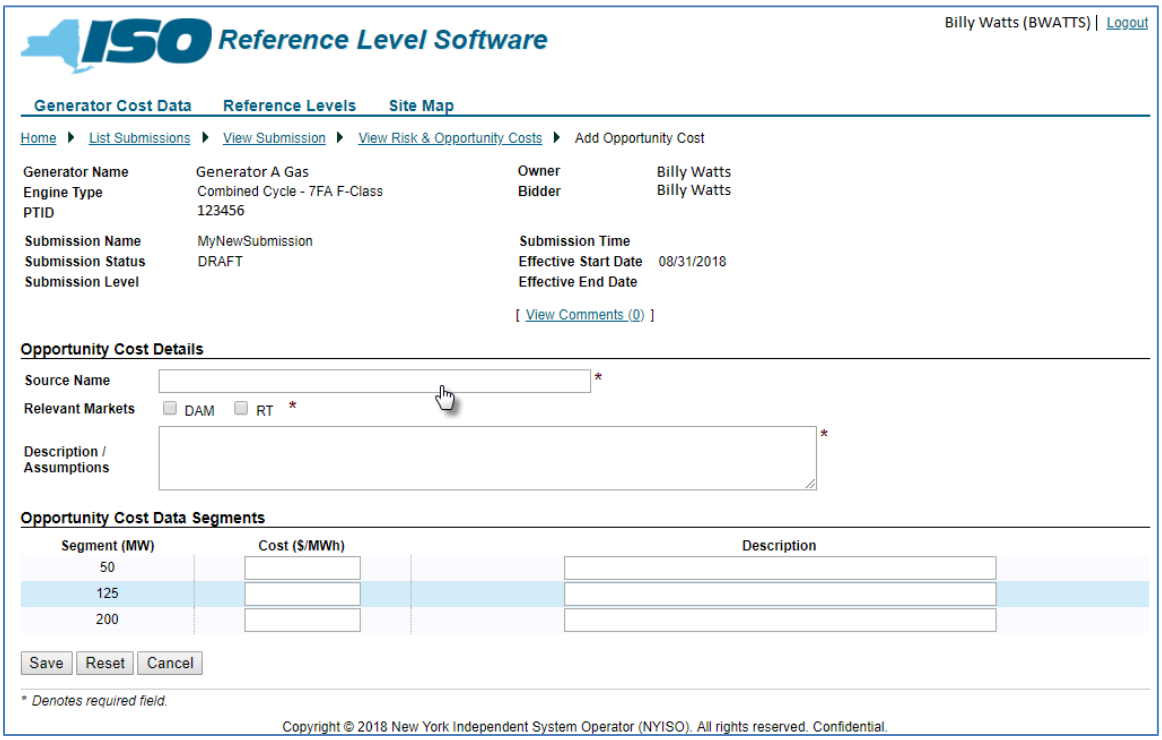
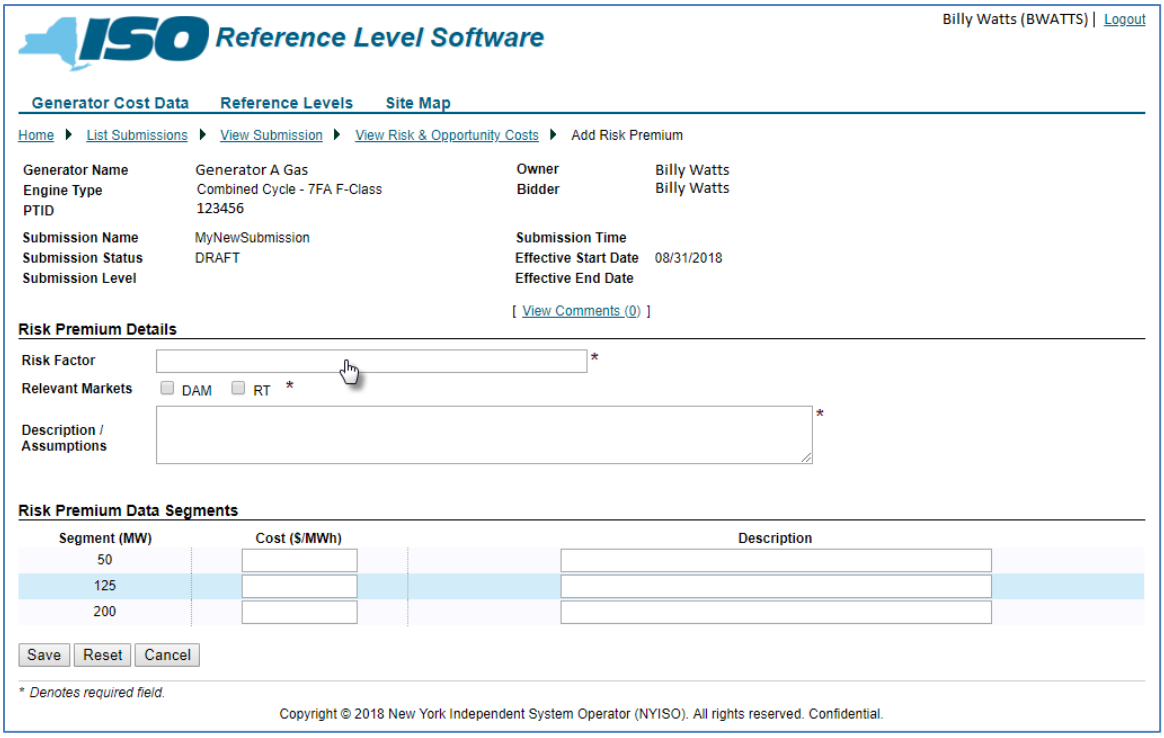
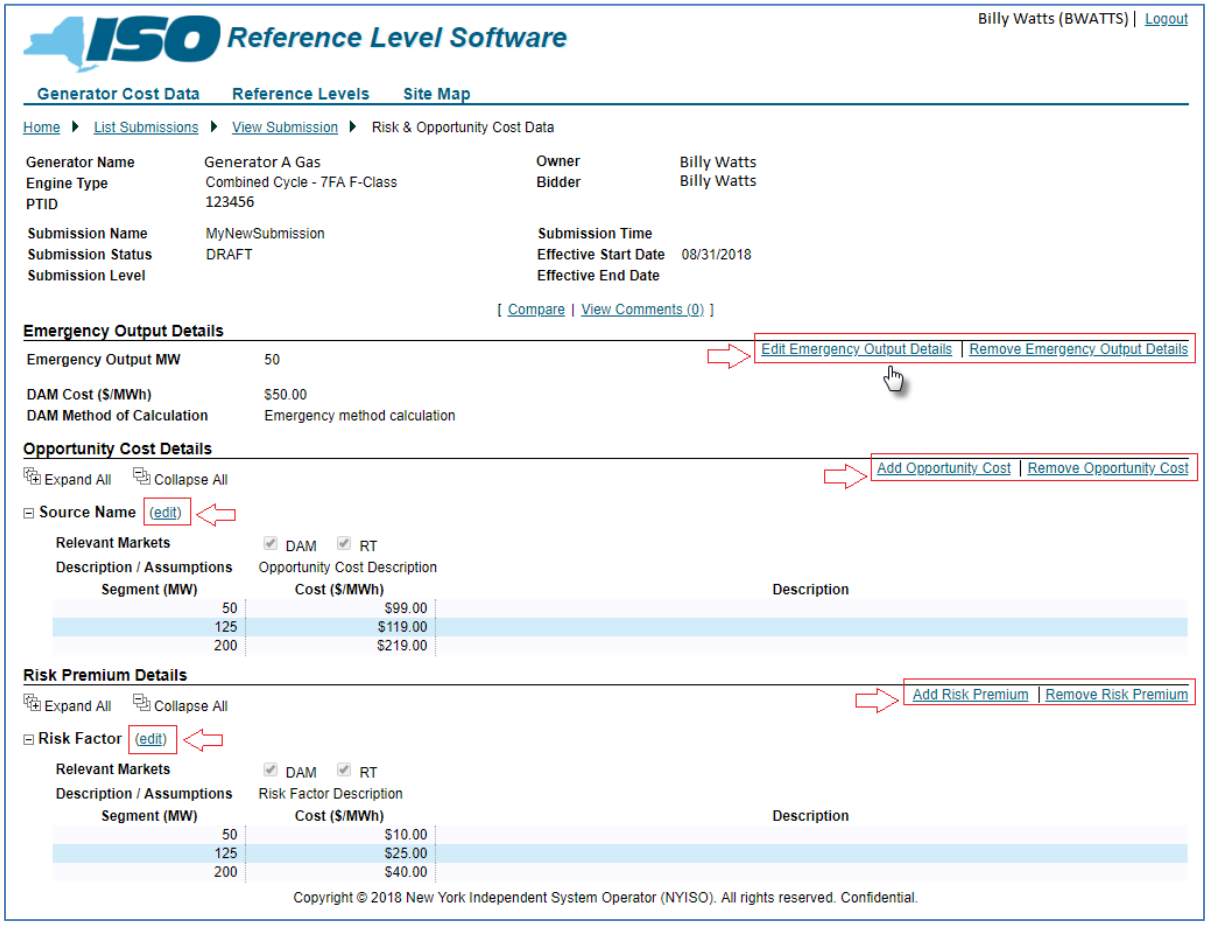


Figure 56: Add Risk Premium Page



> ***Note:*** Once the data has been saved via activation of the corresponding button, the user has the option to **Edit Emergency Output Data**, **Remove Emergency Output Data**, or **Add Opportunity Cost**, **Remove Opportunity Cost**, or **Add Risk Premium or Remove Risk Premium** by invoking the applicable link (Figure 57) then completing the additional necessary actions.

Figure 57: Links to Modify Emergency Output Details, Opportunity Cost Details, and Risk Premium Details



3.3.1.19. Ancillary Services Family

This family is required in order to complete a data submission in RLS. If a generator is capable of providing Regulation services, it is expected that cost data will be provided, however the data fields can be left blank. The corresponding page is used to enter costs pertaining to Regulation Movement variable operating costs. See

Figure 59, Figure 60, and Figure 61 below.

Figure 58: Regulation Movement Cost Details Page Definition

				Engine Type Group			
Page Field	**Data Type**	**Editable**	**Description**	**A**	**B**	**C**	**D**
Regulation Movement Incremental Energy based Heat Rate Multiplier	Numeric	Y	Entered as value	O	O	O	O
Regulation Movement Default Heat Rate BTU/KWhr	Numeric	Y	Entered as value				
Regulation Movement Default Heat Rate Multiplier	Numeric	Y	Entered as value	O	O	O	O
Regulation Movement Incremental Energy based VOM Multiplier	Numeric	Y	Entered as value	O	O	O	O
Regulation Movement Default VOM $/MW-Hr	Numeric	Y	Additional VOM due to movement. Entered as value.	O	O	O	O
Regulation Movement Default VOM Multiplier	Numeric	Y	Entered as value	O	O	O	O
Regulation Movement Adder $/MW-Hr	Numeric	Y	Entered as value	O	O	O	O
				R = Required O = Optional CR = Conditionally Required NA = not applicable			

3.3.1.20. How to Enter Regulation Movement Cost

Figure 59: Link to Adding Ancillary Services Family

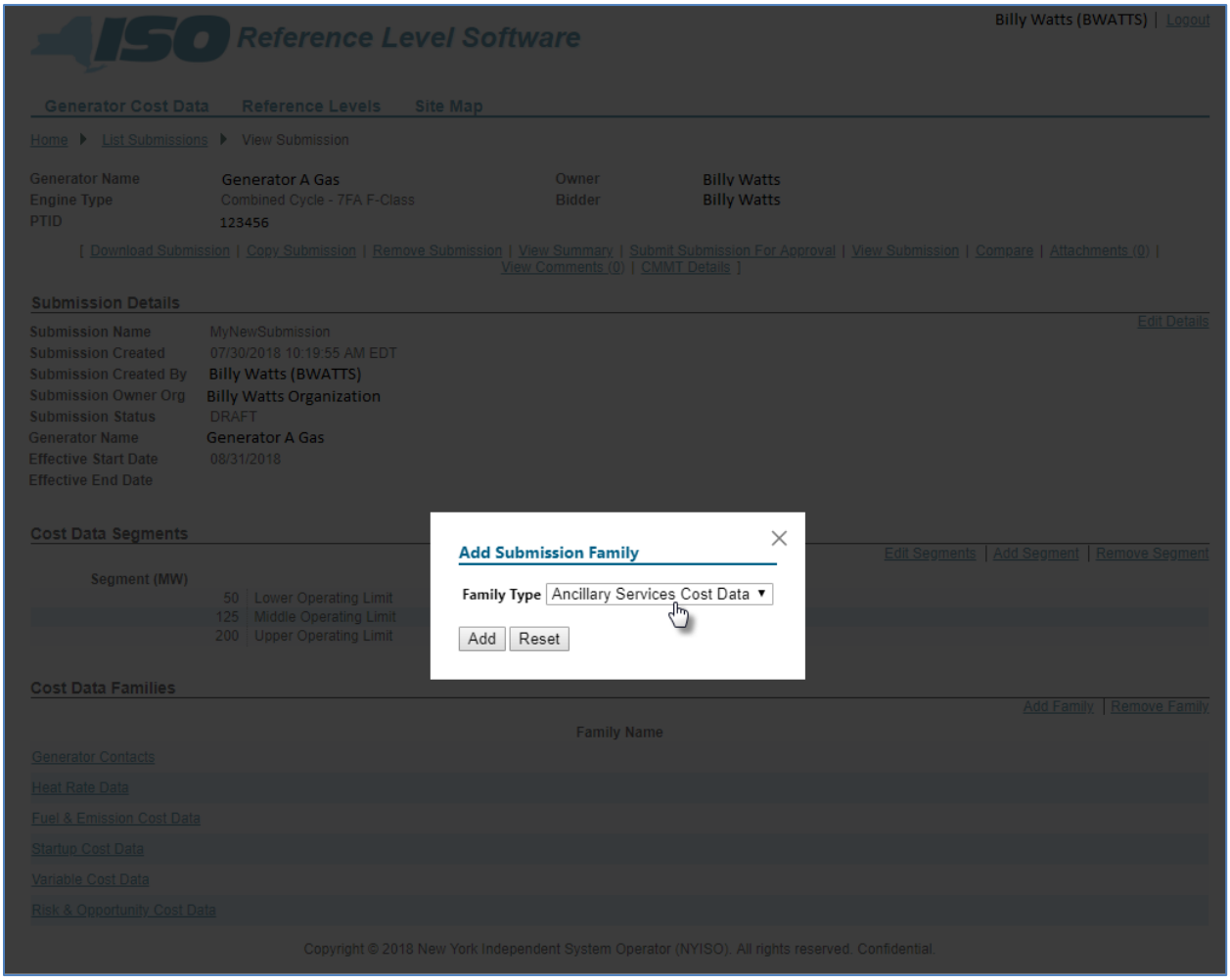
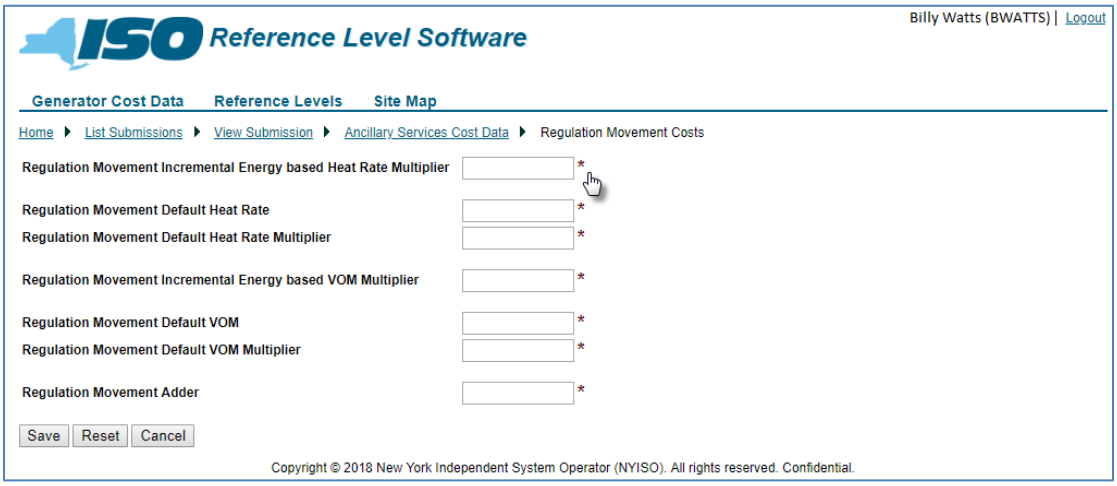


Figure 60: Link to Entering Regulation Movement Cost Components

Figure 61: Regulation Movement Costs



Note: Once the data has been saved via activation of the corresponding button, the user has the option to **Edit Regulation Movement Cost Data**,

3.3.2. How to Copy a Submission

Users can copy the information from an existing Cost Data Submission via a link on the *View Submission* page (Figure 62). Invoking this link will open a dialog box where the user can enter a new submission name and new effective start date and effective end date, as well as choose which cost data families to copy (Figure 63). If necessary, the user can cancel out of the copy process by clicking on the **X** in the upper-right corner of the dialog box.

Figure 62: Copy Submission Link

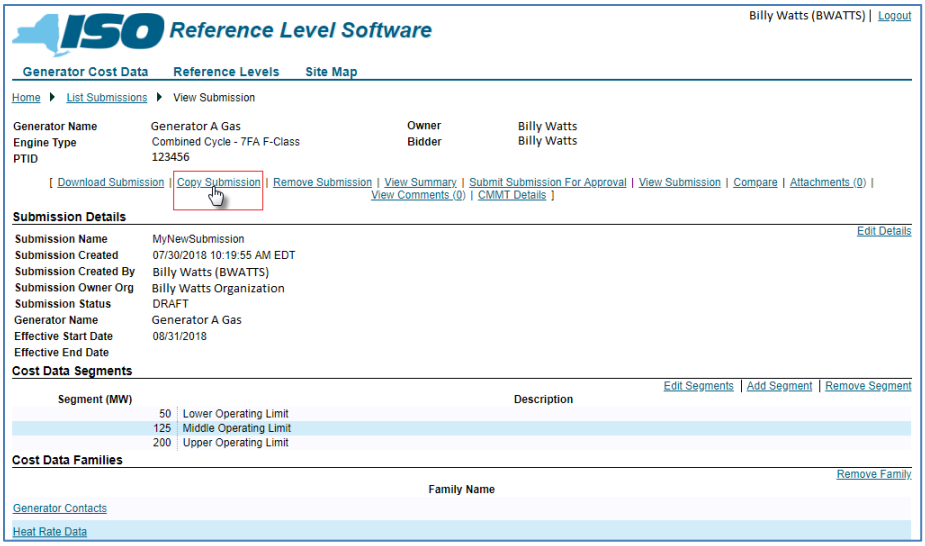
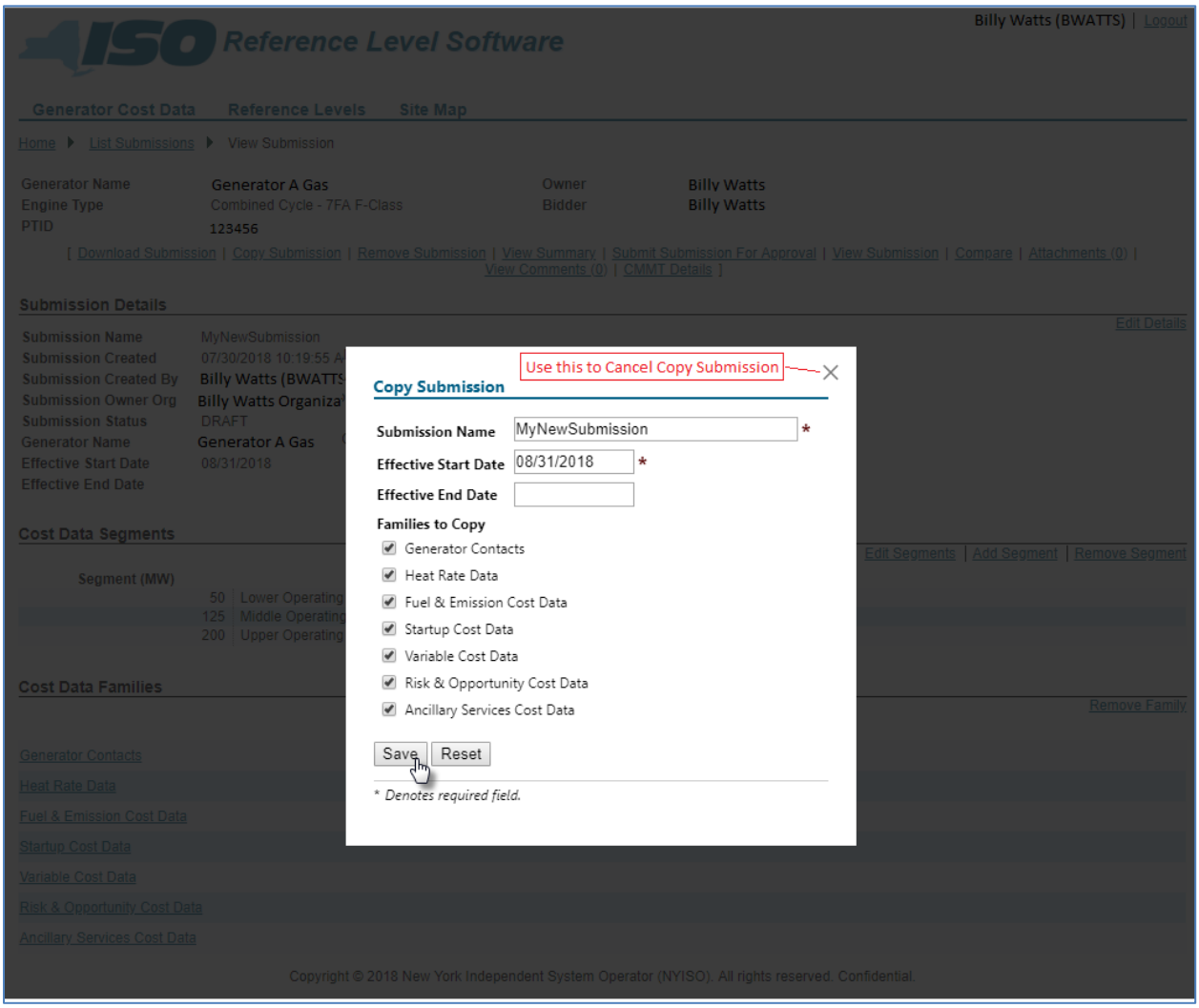


Figure 63: Copy Submission Dialog Box



Note: The *Submission Name*, *Effective Start Date*, and *Effective End Date* are populated by default with the name and dates of the submission that is being copied. Even if the user does not enter new data in these fields, the copy will be saved with a new *Created Date*.

After a copied submission is successfully saved, the application will display the copied submission rather than the original submission.

3.3.3. How to Remove a Submission

Only those Cost Data Submissions having a status of *DRAFT* can be removed.

Figure 64 illustrates the **Remove Submission** link on the *View Submissions* page, Invoking this link results in the display of a confirmation prompt via which the user indicates whether to complete the removal process (Figure 65). If necessary, the user can cancel out of the removal process by clicking on the **X** in the upper-right corner of the confirmation prompt.

Figure 64: Remove Submission Link

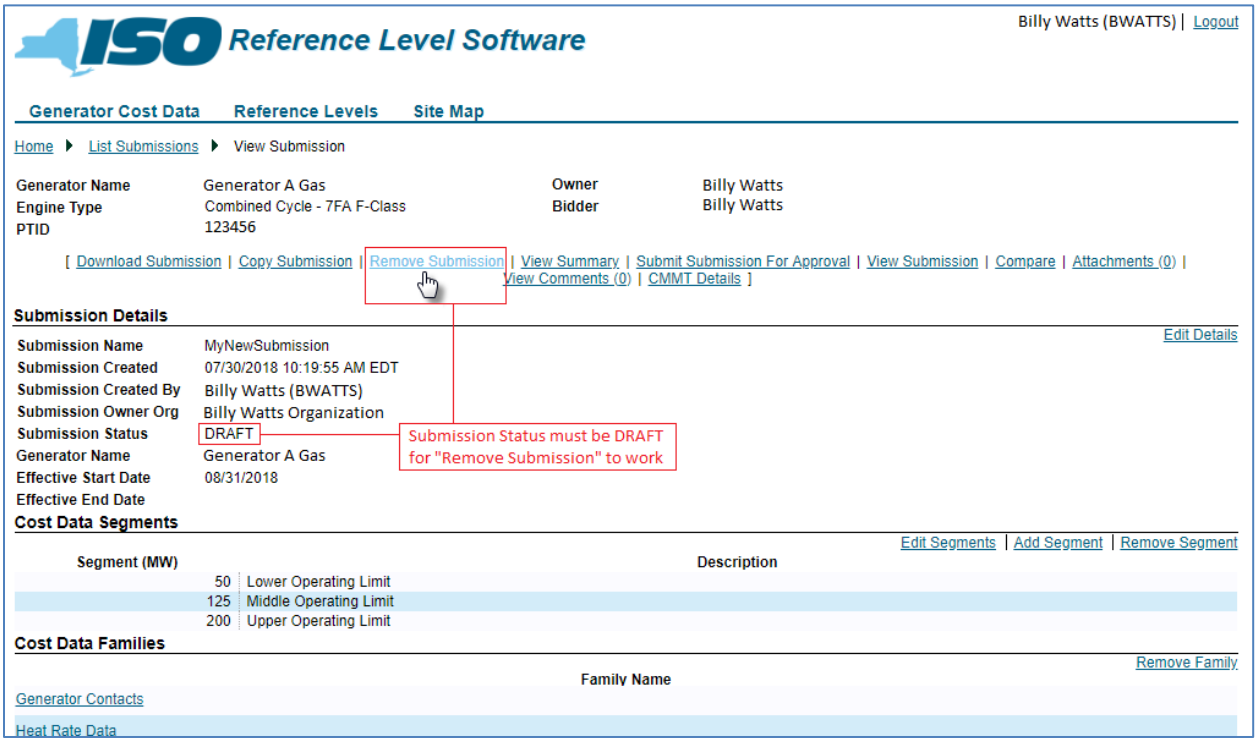
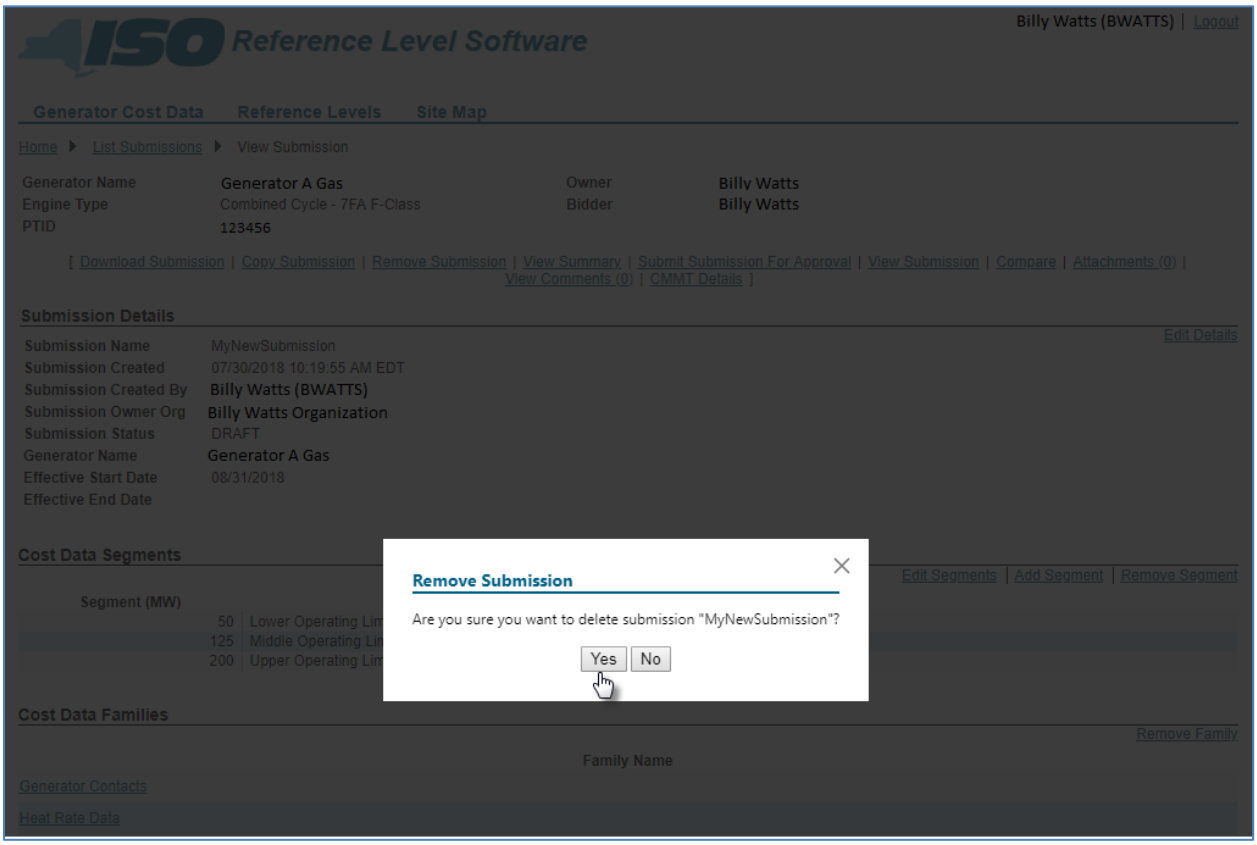


Figure 65: Remove Submission Confirmation Prompt



3.3.4. How to Rescind a Submission

Only those Cost Data Submission having a status of *SUBMITTED*, can be rescinded.

Figure 66 illustrates the **Rescind Submission** link on the *View Submissions* page. Invoking this link results in the display of a confirmation prompt via which the user indicates whether to complete the rescinding process (

Figure 67). If necessary, the user cancels out of the rescinding process by clicking on the **X** in the upper-right corner of the confirmation prompt.

> ***Note:*** Once a submission has been rescinded, the submission can no longer be edited or removed. The user can copy the submission, make any changes and then submit the new submission.

Figure 66: Rescind Submission Link

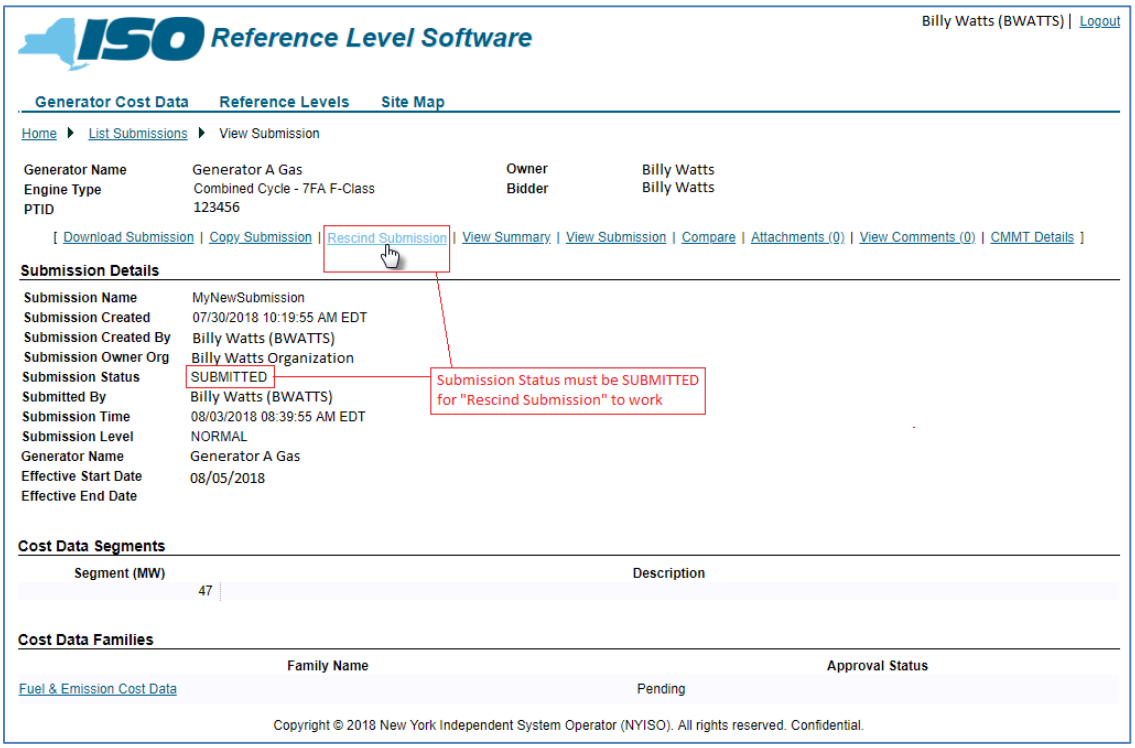
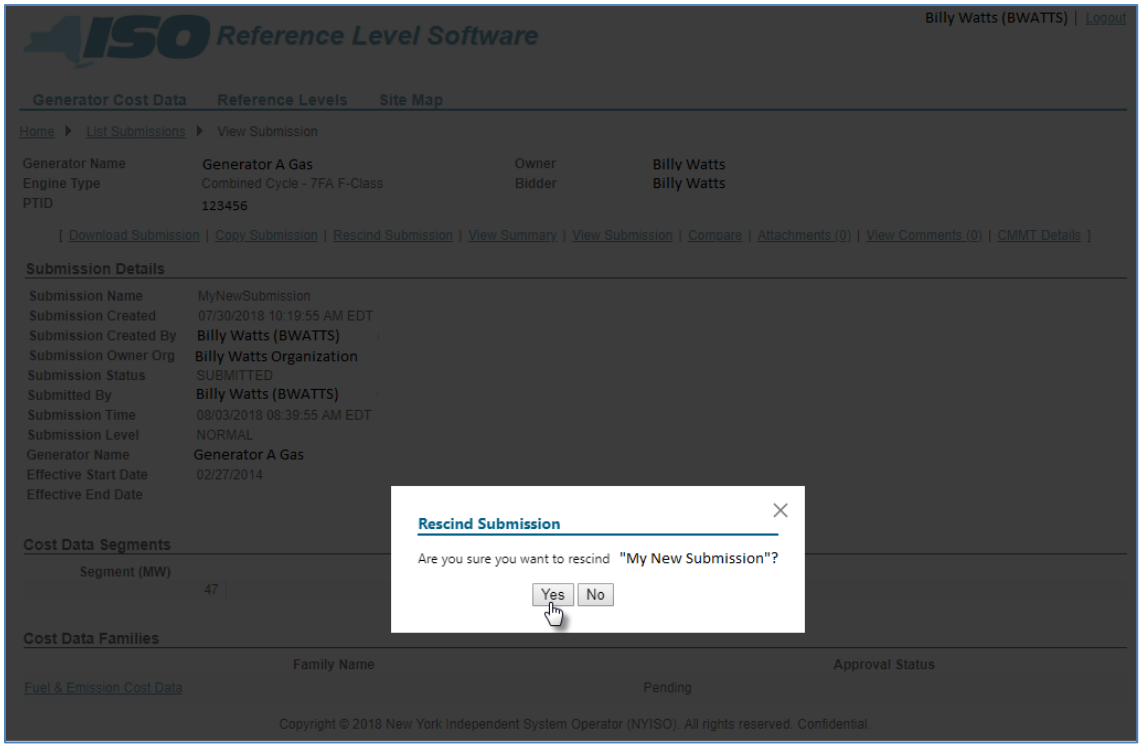


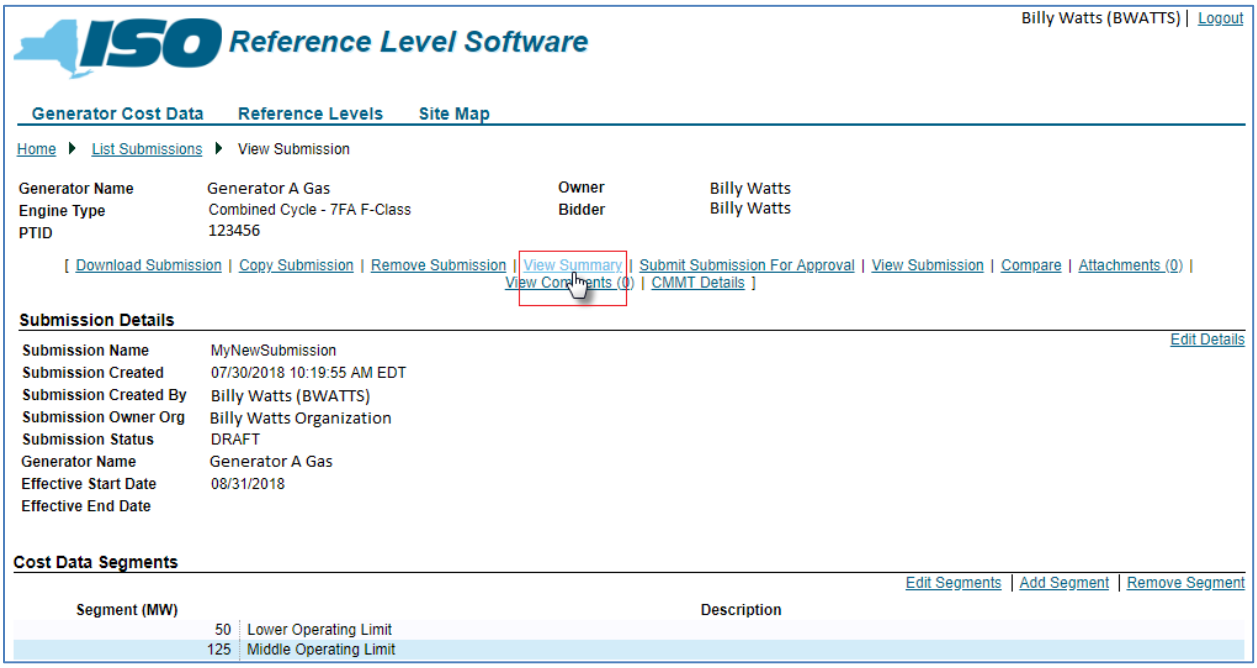
Figure 67: Rescind Submission Confirmation Prompt



3.3.5. How to View a Submission Summary

Via the **View Summary** link on the *View Submission* page (Figure 68), users can verify the cost data and total calculations before submitting the cost data to the NYISO for approval, as well as view validation checks before submitting the cost data.

Figure 68: View Summary Link



When the user invokes the *View Summary* link, the RLS application performs checks and validations against the data on the Cost Data Submission. Figure 75, on the *Submission Validation Errors* section, lists all the edits performed by the RLS application. Those checks and validations having a *Y* in the *Check on View Summary* column of the table, are performed when the user invokes the *View Summary* link. Any violations (i.e., errors) found will be displayed to the user (Figure 69). If no errors exist, the user may view the summary. Otherwise, the errors must be corrected before viewing the summary.

In response to the user invoking the *View Summary* link, the RLS application will calculate sample cost based references for Start-Up, MinGen and Energy references based on the Cost Data Submission data. The application will also plot Energy and MinGen values to show a cost based reference curve.

Figure 70 illustrates the results of the Cost-Based reference curve calculation.

Figure 69: Submission Summary with Violations (Errors)

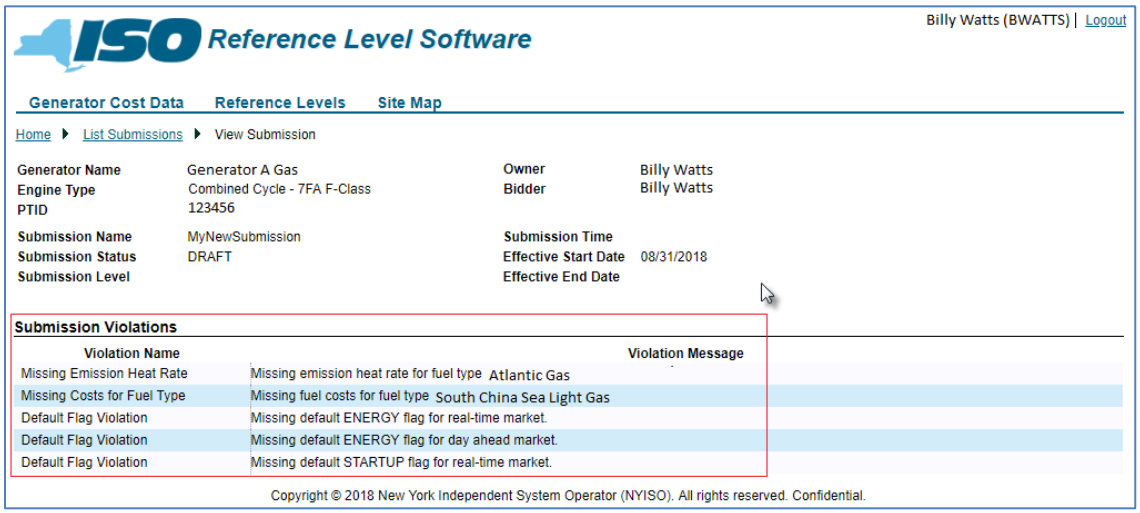
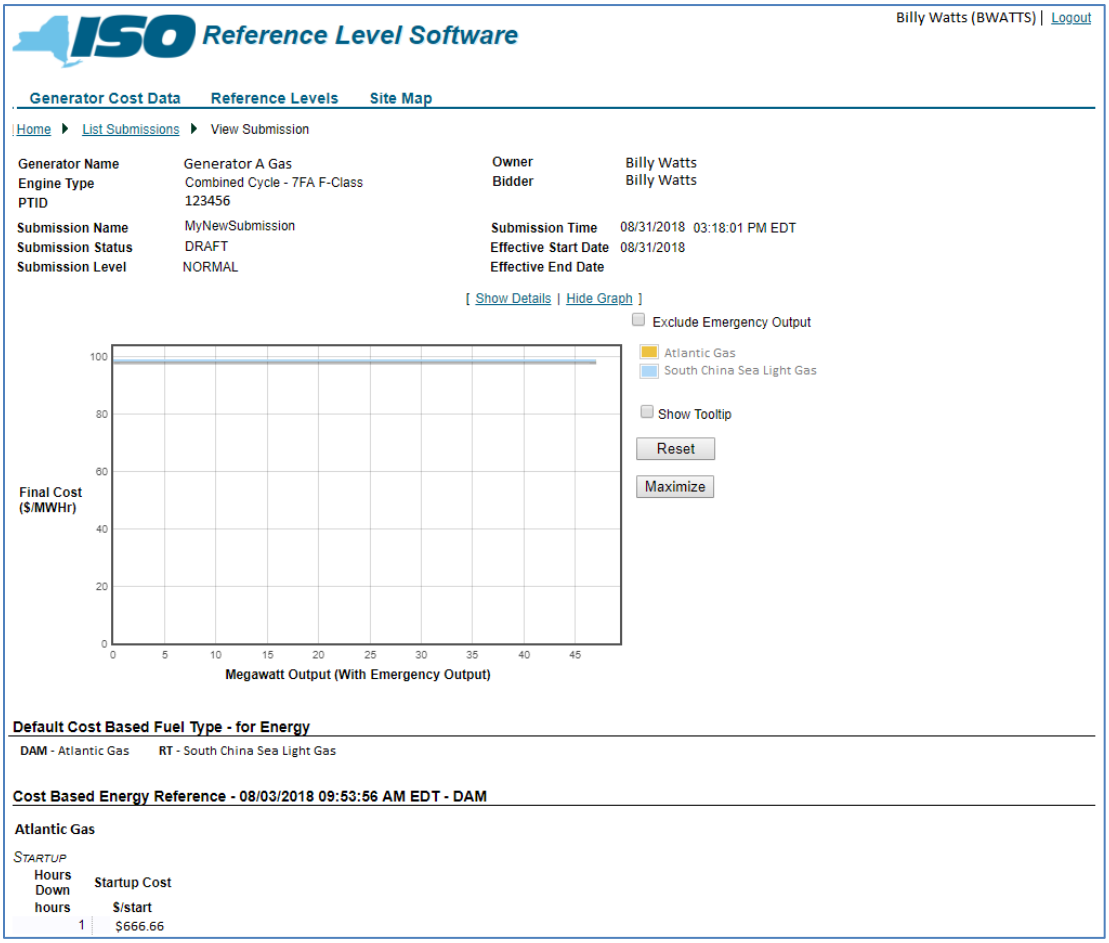


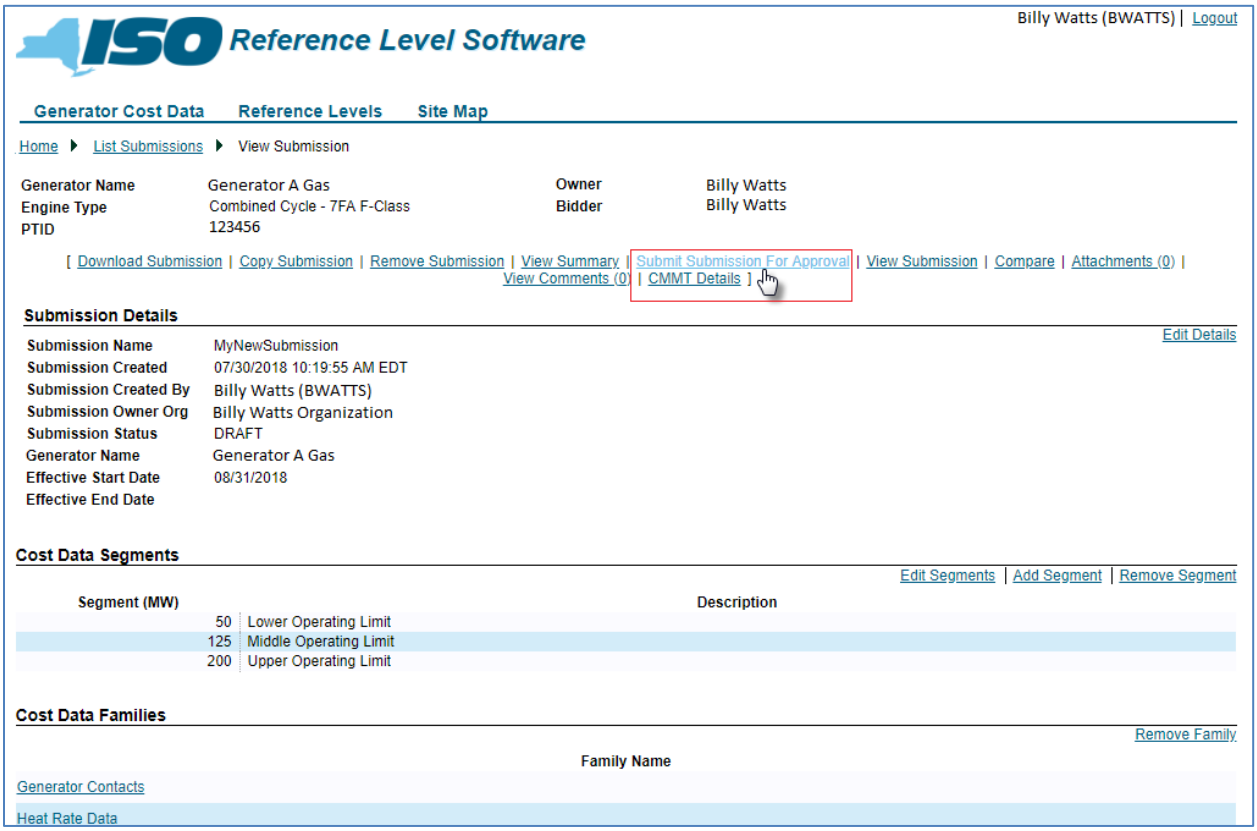
Figure 70: Submission Summary



3.3.6. How to Submit a Submission for Approval

After completing the entry for a Cost Data Submission and viewing the corresponding summary, the user would next submit the Cost Data Submission for NYISO approval by invoking the **Submit For Approval** link on the *View Submission* page (Figure 71).

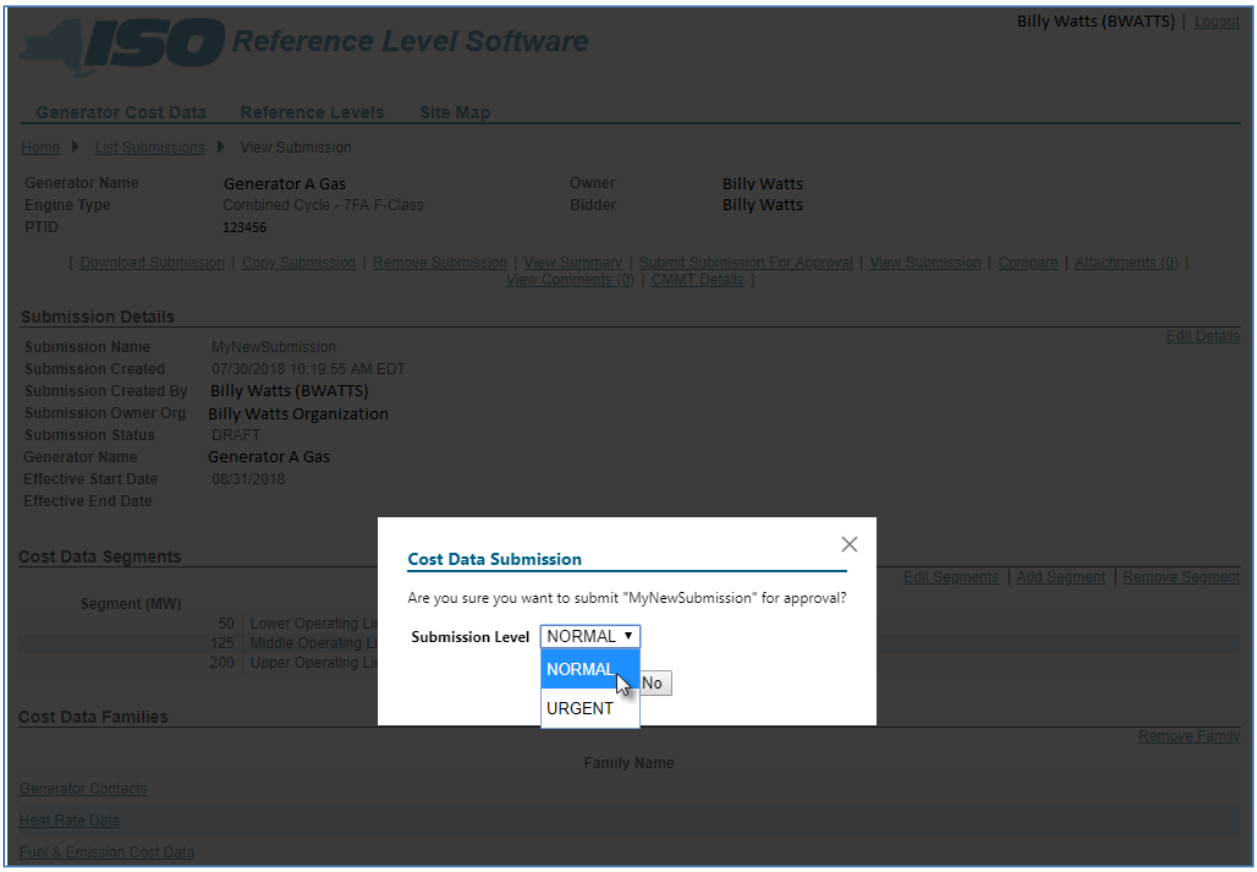
Figure 71: Submit For Approval Link



In response, the RLS application displays a confirmation prompt. If necessary, the user can cancel out of the submission process by clicking on the **X** in the upper-right corner of the confirmation prompt. To instead proceed with the submission process, the user must first choose from the drop-down list displayed in the prompt either *Normal* or *Urgent* to indicate the appropriate level of submission (Figure 72).

> ***Note:*** The Urgent level should be used for significant increases/decreases in costs requiring immediate attention.

Figure 72: Cost Data Submission Confirmation Prompt Reflecting Submission Level Drop-down List



After choosing the submission level, the user must then choose *Yes* to proceed with the submission process. In response, the RLS application will perform validations against the data on the Cost Data Submission. Figure 75, on the *Submission Validation Errors* section, lists all the checks and validations performed by the RLS application. Those checks and validations having a *Y* in the *Check on Submit* column are performed when the user invokes the *Submit For Approval* link. Any violations (i.e., errors) found will be displayed to the user (Figure 73). The MP cannot submit a Cost Data Submission until it is error free. Once the Cost Data Submission is free of errors, the RLS application will display a message indicating the submission has occurred (Figure 74).

> ***Note:*** Once a submission has been submitted, it can no longer be edited or removed. However, the user can copy the submission, make desired changes, and then submit a new submission.

Figure 73: Submission for Approval with Violations (Errors)

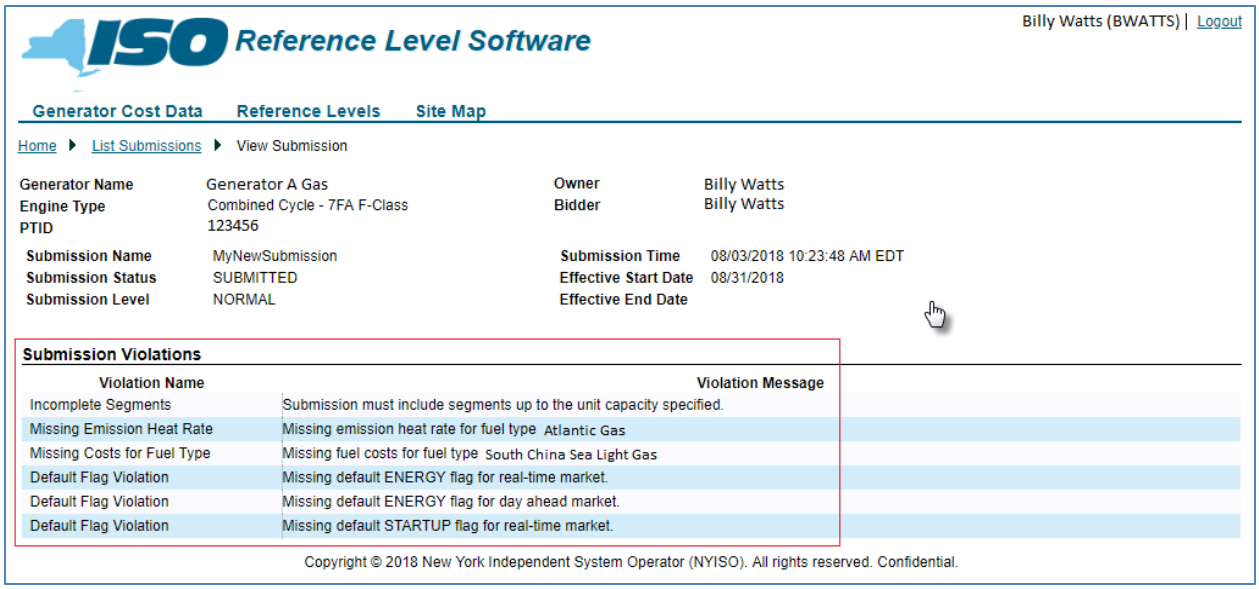
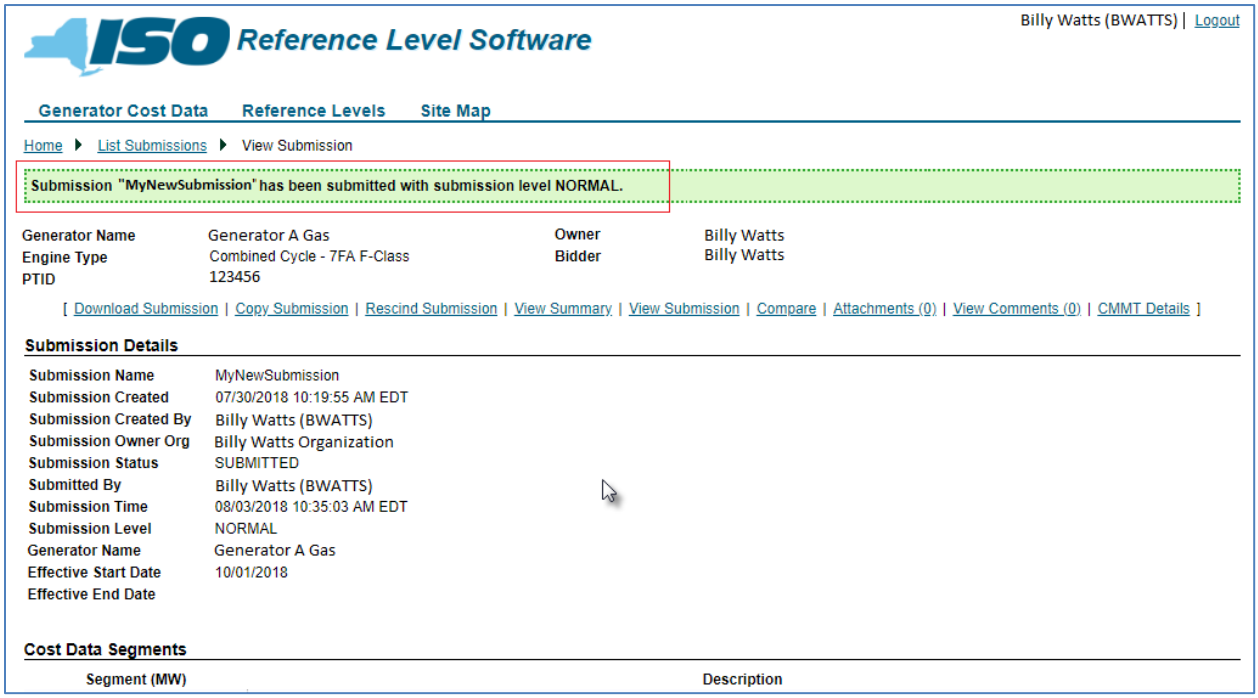


Figure 74: Successful RLS Submission for Approval



3.3.6.1. Submission Validation Errors

Figure 75: Submission Violations

Violation Name	Check on Submit	Check on View Summary	Violation Message	Clarification
Empty Submission	Y	Y	Submission must include at least one cost data family.	
Invalid Submission Effective Dates	Y	N	Submission effective end dates may not be in the past.	If effective end dates are in the past, the submission would never be used for cost based reference data in the RCE.
Conflicting Fuel Type	Y	Y	Submissions can't have conflicting fuel configurations for the effective date period.	Fuel types for generators have effective dates. A submission specifying fuel configurations must specify them for the entire submission period. If the submission period were to stretch beyond the effective period for a fuel type, the configuration would be invalid for that fuel type.
Conflicting Engine Type Group	Y	Y	Submission can't have conflicting engine type group for the effective date period.	Like fuel types, engine type group for generators have effective dates.
Overlapping Submission	Y	N	Pending submission '[overlapping submission]' name overlaps the effective date range of this submission and contains [overlapping families]. Rescind submission '[overlapping submission name]', wait for '[overlapping submission name]' to be approved, or remove the conflicting families.	Users cannot submit multiple submissions with the same families at the same time. I.e., there can only be one family of each type in the approval process. This violation is triggered if there exists a submission with state *SUBMITTED* that has at least one family the current submission has.
No Segments	Y	Y	A submission with segmented families must include at least one segment.	
Invalid Incremental Heat Rate	Y	Y	Incremental heat rate not allowed for this engine type group.	Incremental heat rate is not applicable for some engine types (e.g., wind, hydro)
Missing Approved Cost Data	Y	Y	There is no approved cost data for the period ranging from [submission start date] to [submission end date]. Please include all families in this submission.	Approved cost data must always have all six families, so if there is a period of time the submission overlaps that has no cost data; it must have all families to fill the period.
Inconsistent Segments	Y	Y	Submission segments are not consistent with the approved cost data for the period ranging from [submission start date] to [submission end date]. Please include all segmented families in this submission.	Segmented cost data families must all specify cost data for the same segments. So if segments change for one segmented family, they change for all segmented families.

Violation Name	Check on Submit	Check on View Summary	Violation Message	Clarification
Incomplete Segments	Y	Y	Submission must include segments up to the unit capacity specified.	There must be a segment with a megawatt value of the unit capacity specified in the heat rate cost family.
Unit Capacity Too Small	Y	N	Unit capacity specified must be equal to or greater than the MIS value.	Unit capacity is specified in RLS and in MIS. If the user specifies an RLS value smaller than the value in MIS, to the user must either change the value in RLS or update their unit capacity in MIS.
Missing Emission Heat Rate	Y	Y	Missing emission heat rate for fuel type [fuel type].	If a Fuel & Emission Cost Data Family has emission costs entered for a fuel type, the generator must have an emission heat rate entered.
Missing Costs for Fuel Type	Y	Y	Missing fuel costs for fuel type [fuel type].	A Fuel & Emission Cost Data Family must have a generator fuel cost for every fuel type available to the generator.
Invalid Fuel for Generator Fuel Cost	Y	Y	The fuel type [fuel type] is not available for generator [generator] in the period ranging from [invalid start date] to [invalid end date].	Fuel types have effective start and end dates. They must be effective across the entire submission. (If the submission start date is in the past, the fuel type must be effective from the current date to the submission end date.) This violation is triggered if the fuel emission family of the submission has a gen fuel cost defined for an invalid fuel type.
Invalid Startup Fuel Type	Y	Y	The fuel type [fuel type] is not available for generator [generator] in the period ranging from [invalid start date] to [invalid end date].	Fuel types have effective start and end dates. They must be effective across the entire submission. (If the submission start date is in the past, the fuel type must be effective from the current date to the submission end date.) This violation is triggered if the startup family of the submission has startup intervals defined for an invalid fuel type.
Invalid MinGen Segment	Y	Y	MinGen not allowed for a unit with this engine type group.	Some engine types (e.g., gas turbines) do not ordinarily incorporate a minimum generation component in their offers.

Violation Name	Check on Submit	Check on View Summary	Violation Message	Clarification
Default Flag Violation	Y	Y	(If there are no defaults) Missing default [energy or startup] flag for [DAM orRT] market. (If there is more than one default) More than one default [energy or startup] flags for [DAMorRT] market.	One default fuel is required for each market in the fuel emissions family. One default startup fuel is required for each market in the startup family.
Missing Engine Type	N	N	Engine class <class> is not permitted for generators with PTID <ptid> because it has no engine type.	The user tried to upload cost data for a generator that has no engine type assigned to it for the date specified. **THIS IS AN XML VALIDATION ONLY. CHECKED WHEN UPLOADING XML data.** **Note: Please contact your Customer Service Representative.**
Missing Ancillary Cost Data	Y	N	Missing Ancillary Services Cost Data.	The user tried to summit cost data without adding The Ancillary Services Family

3.3.7. How to Compare a Submission

Users can compare a Cost Data Submission to either the current *Approved* cost data for the generator or to another Cost Data Submission by invoking the **Compare Cost Data** link on the *View Submission* page (Figure 76).

Figure 76: Compare Link

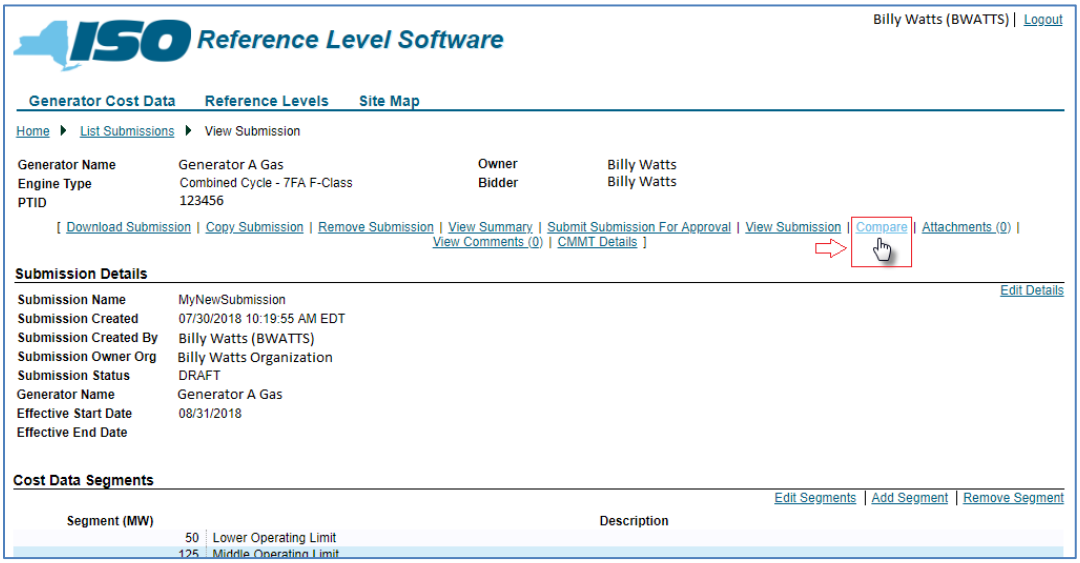


Figure 77 and Figure 78, illustrate the Compare Cost Data page, where the user can choose the *Approved* cost data or another Cost Data Submission for comparison.

Figure 77: Approved Cost Data on Compare Cost Data Page

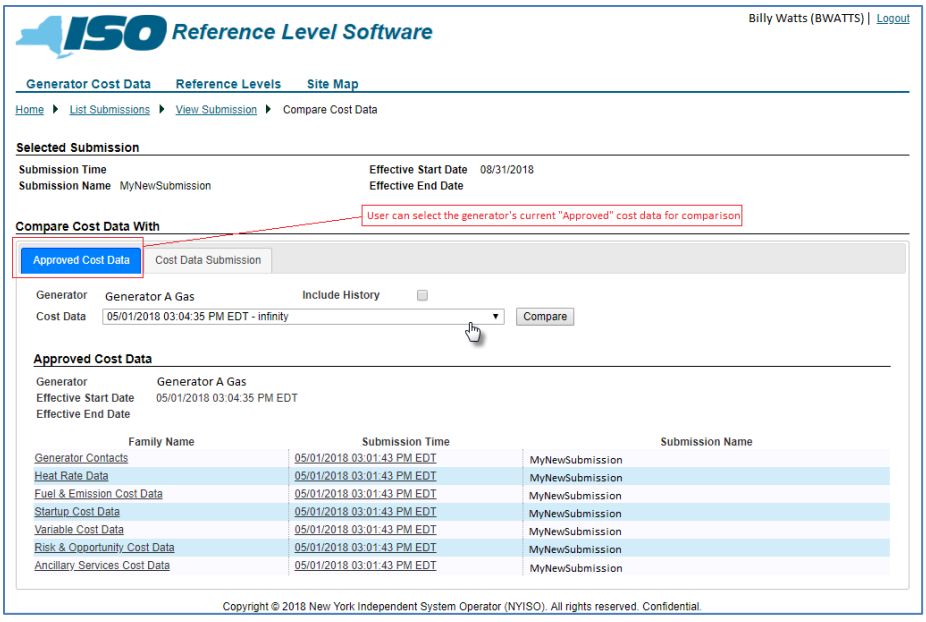
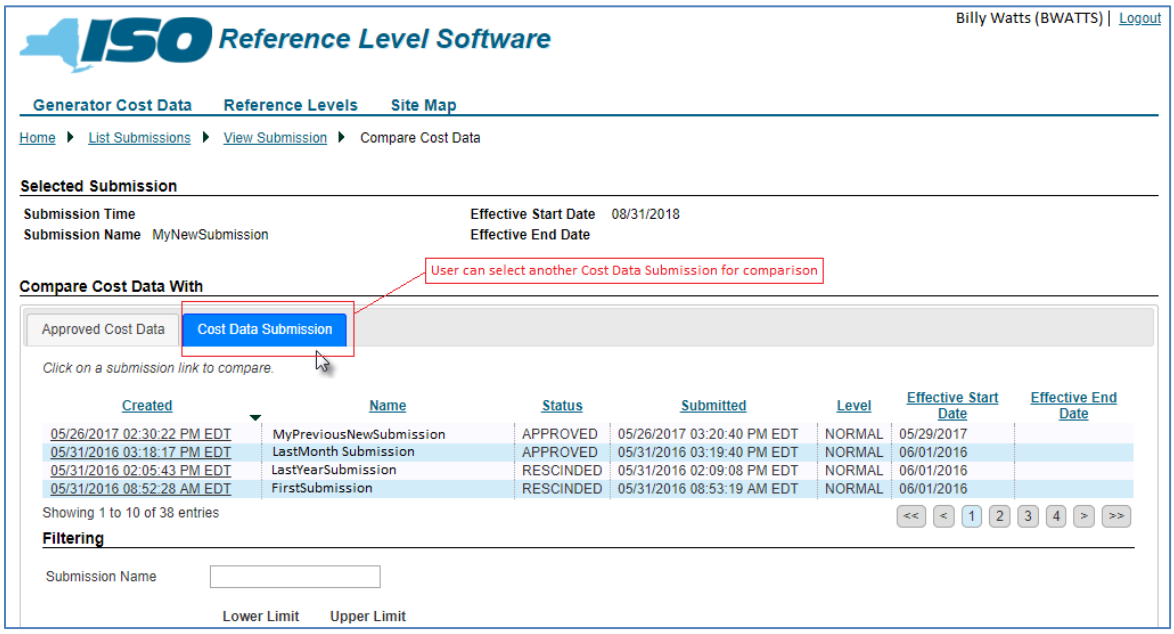
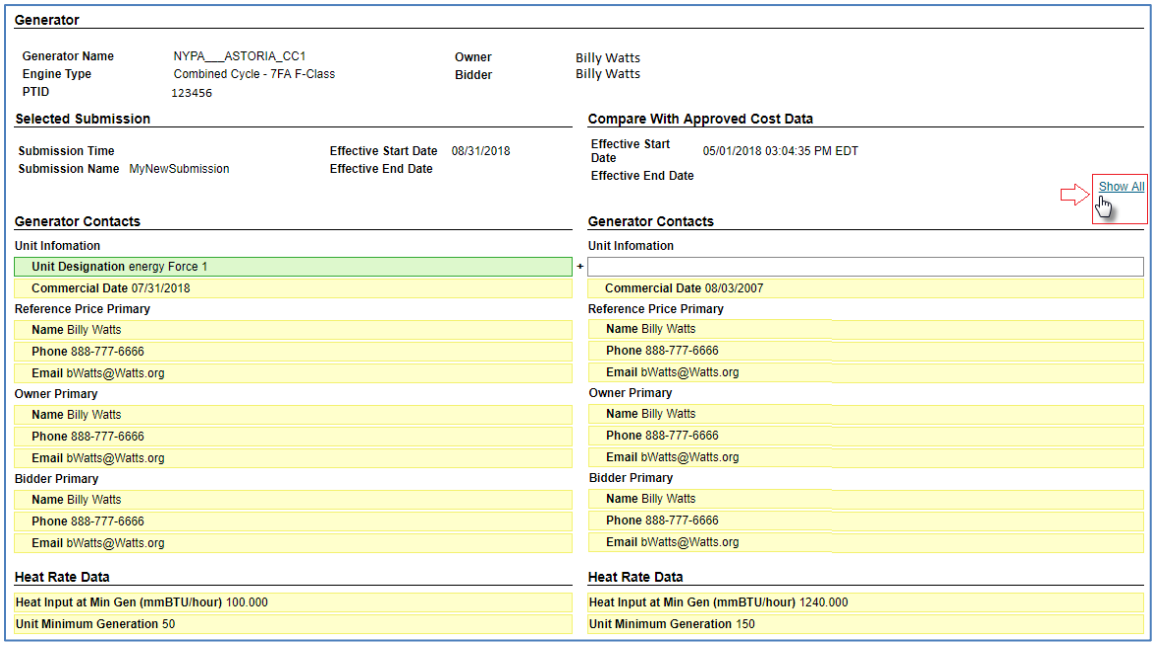


Figure 78: Other Cost Data Submissions on Compare Cost Data Page



The RLS application compares the cost data and displays the data side by side (Figure 79). By default only the cost data families with differences are displayed and the differences highlighted. By invoking **Show All** link (Figure 29); however, the user can instruct the application to display all the cost data families, regardless of any differences.

Figure 79: Side-by-Side Cost Data Comparison



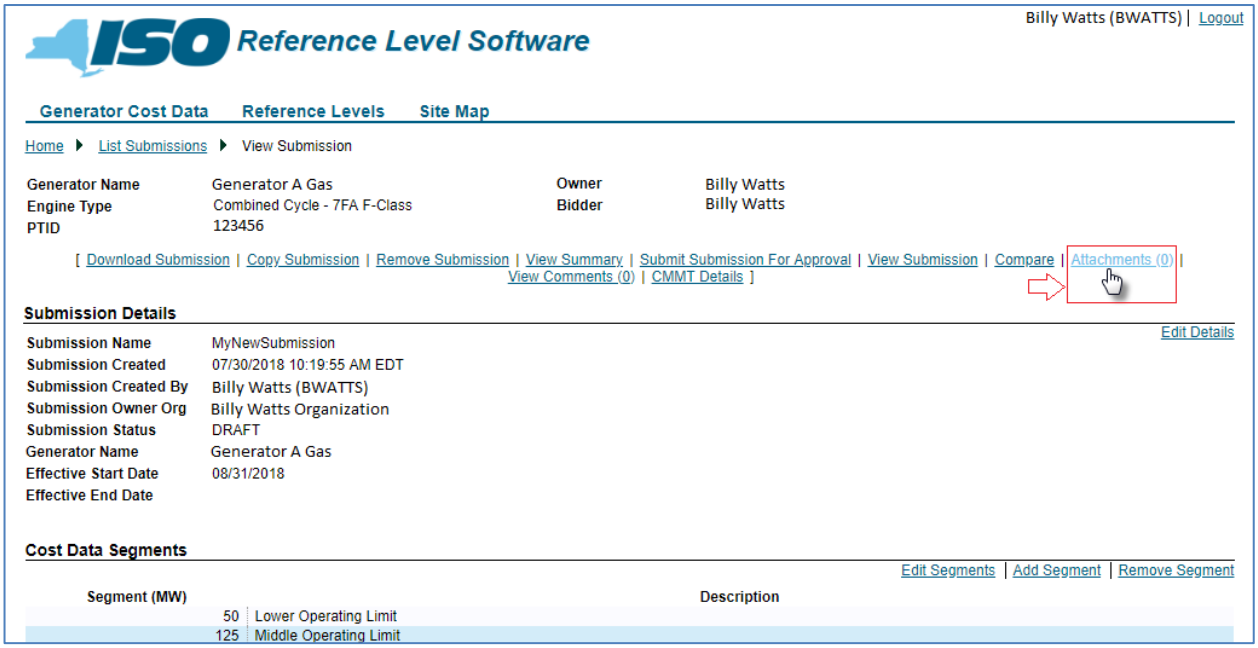
3.3.8. How to Add an Attachments to a Submission

Users can upload and attach any pertinent documentation that supports the Cost Data Submission. The RLS application supports all document types (i.e., .doc, .xls, .ppt, .pdf, .zip, .wpd, .xlsx), with attachment file size and quantity limitations being as follows:

- 2 mb per attachment
- 20 mb total per Cost Data Submission
- 10 total attachments per Cost Data Submission

Attachments upload is initiated by invoking the **Attachments** link (Figure 80) on the *View Submission* page, which results in the display of the *View Cost Data Attachment* page.

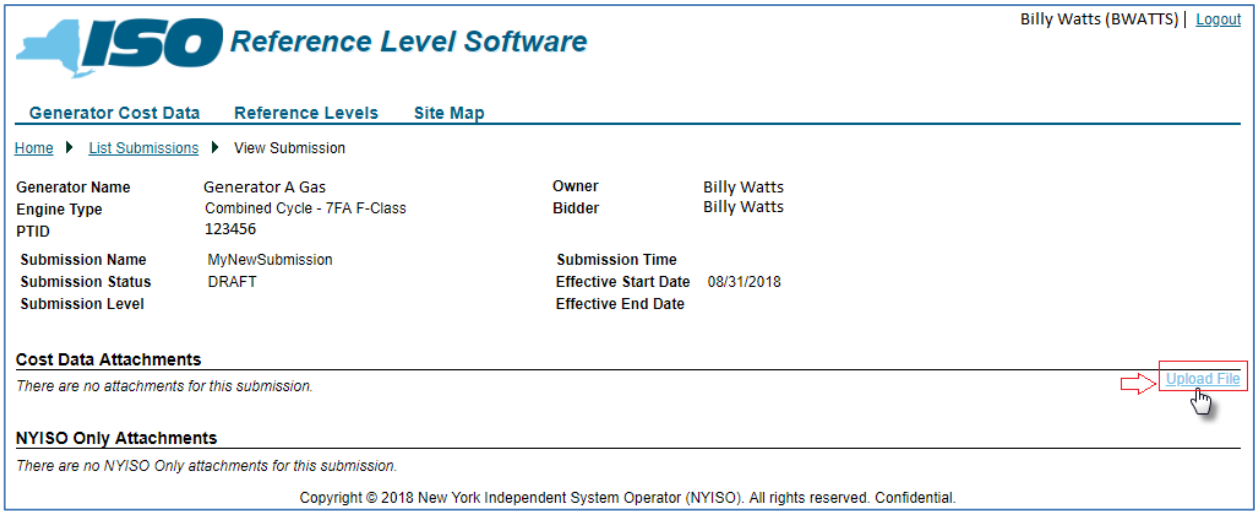
Figure 80: Attachments Link



To proceed with the attachment upload, the user would next invoke the **Upload File** link (

Figure 81), which results in the display of the *Upload Cost Data Attachment* page.

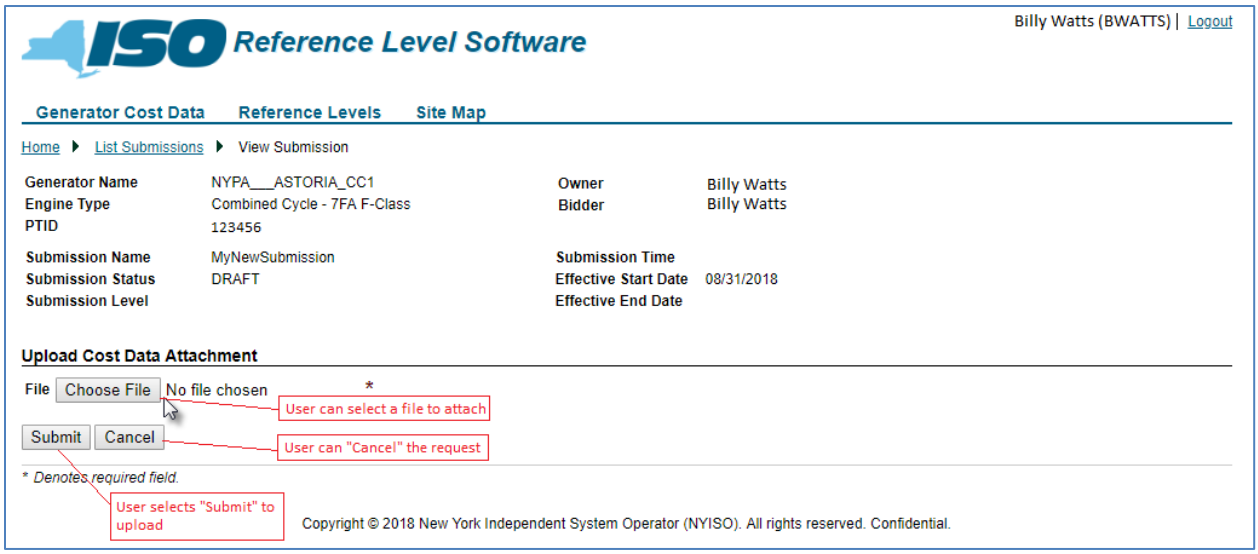
Figure 81: Attachment Upload File Link



On the *Upload Cost Data Attachment* page (Figure 82), the user would next choose the file to be uploaded, invoking the **Browse** button then in the File Open dialog box taking the necessary steps to locate and choose the file in question. Finally, the user would invoke the **Submit** button to upload the file.

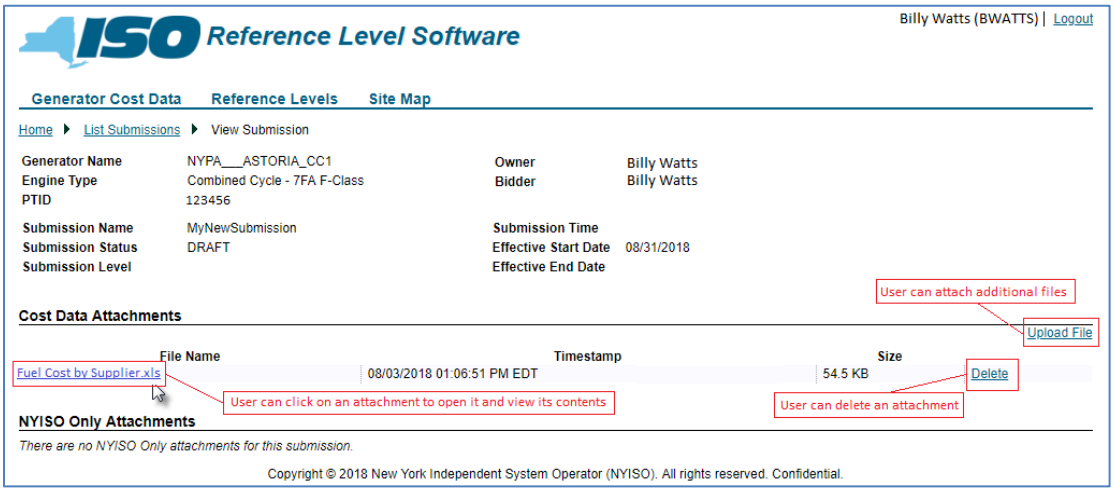
> ***Note:*** The user can also cancel the upload attachment process by invoking the **Cancel** button prior to submitting the request.

Figure 82: Mechanisms for Selecting an Attachment File for Upload and Submitting or Canceling Upload



After a file has been uploaded, the RLS application displays the details from the file that was uploaded, and the user can upload additional files or delete any existing attachments (Figure 83).

Figure 83: View Cost Data Attachments Page Reflecting Uploaded Attachments and Related Options

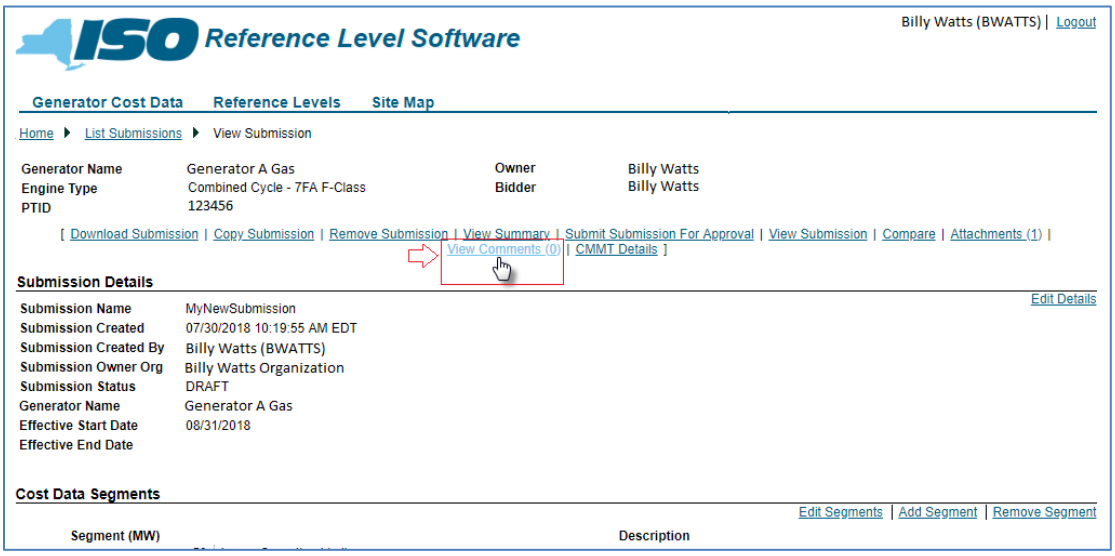


3.3.9. How to Add or View Comments for a Submission

The RLS application provides a means for communication between the MP and NYISO via comments, which can be added and viewed by both parties on two levels: Cost Data Submission family and overall Cost

Data Submission. The MP initiates comment submission by invoking the **View Comments** link on the *View Submission* page (Figure84).

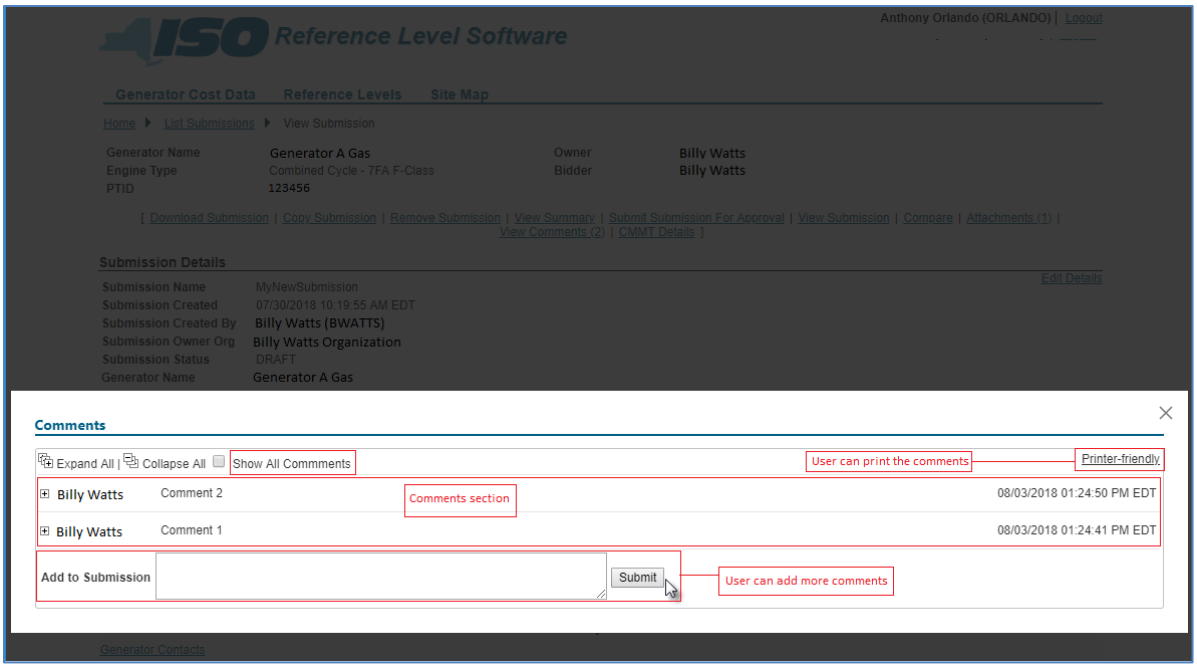
Figure 84: View Comments Link



In response, the RLS application displays the *Comments* dialog box (Figure 85), where the user can view the comments for the Cost Data Submission, add/submit a comment, and print the comments. By default, the RLS application displays only those comments entered at the overall Cost Data Submission level. The user can, however, have the RLS application also display comments for the Cost Data Submission families, by enabling the **Show All Comments** option.

> ***Note:*** When finished working with comments, the user can exit the Comments dialog box by clicking on the **X** in the upper-right corner.

Figure 85: Comments Dialog Box



4. Upload/Download Cost Data In XML Format

The XML Upload/Download feature has been retired from RLS.

5. List Submissions

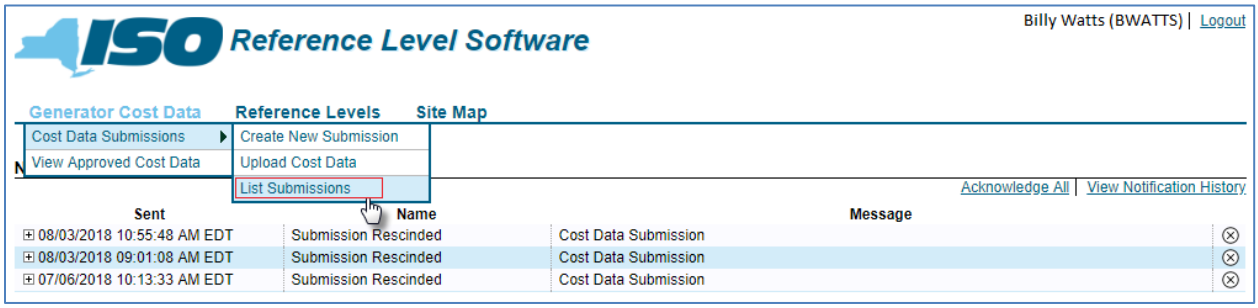
This section describes the RLS application's List Submission feature, outlining the sequence of activities.

5.1. How to List Submissions

The RLS application allows the user to view a list of all their associated Cost Data Submissions filtered based on user preference.

This task in initiated by choosing the **List Submissions** option from the **Reference Levels** menu (Figure 86).

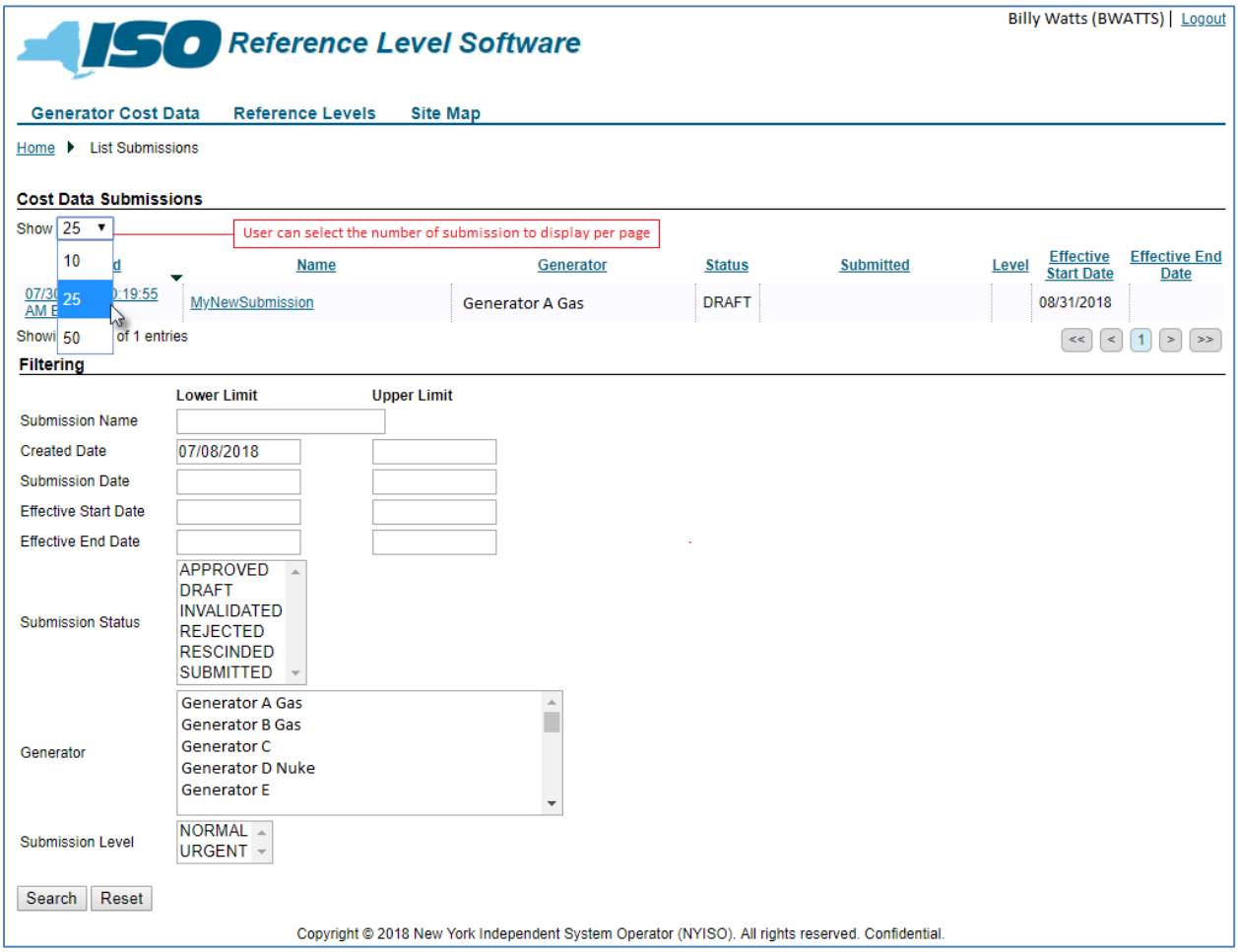
Figure 86: Access Path for Viewing Cost Data Submissions



In response, the RLS application displays the *List Submissions* page (Figure 8787), where the upper section reflects a list of all Cost Data Submissions sorted by creation date in descending order, and the lower section reflects filters allowing the user to narrow the display of Cost Data Submissions by any or all of the following parameters:

- *Submission Name*
- *Created Date* (lower and upper limits)
- *Submission Date* (lower and upper limits)
- *Effective Start Date* (lower and upper limits)
- *Effective End Date* (lower and upper limits)
- *Submission Status*
- *Generator Name*
- *Submission Level*

Figure 87: List Cost Data Submissions



6. View Approved Cost Data

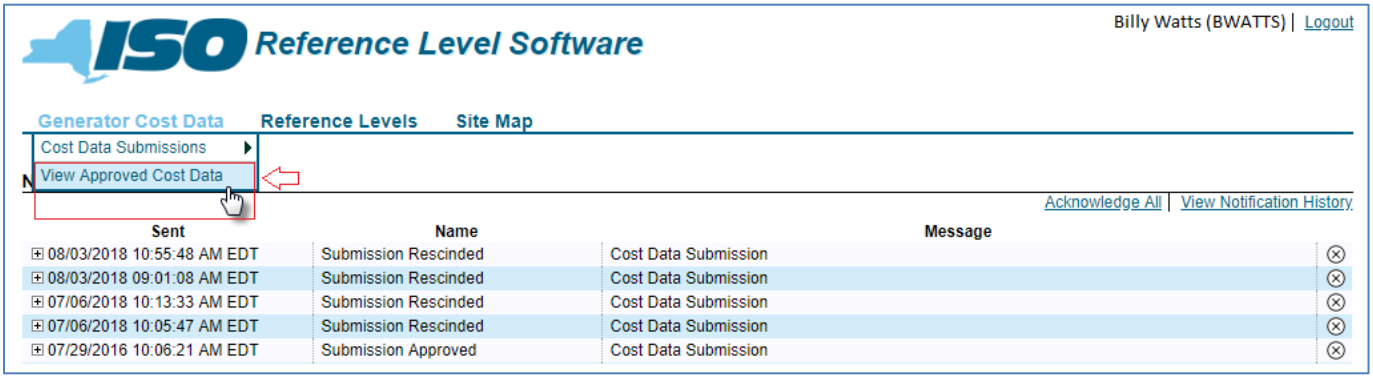
This section describes the RLS application's View Approved Cost Data feature, outlining the sequence of activities.

6.1. How to View Approved Cost Data

The RLS Application allows users to view approved cost data. This task in initiated by choosing the **View Approve Cost Data** option from the **Generator Cost Data** menu (

Figure 88).

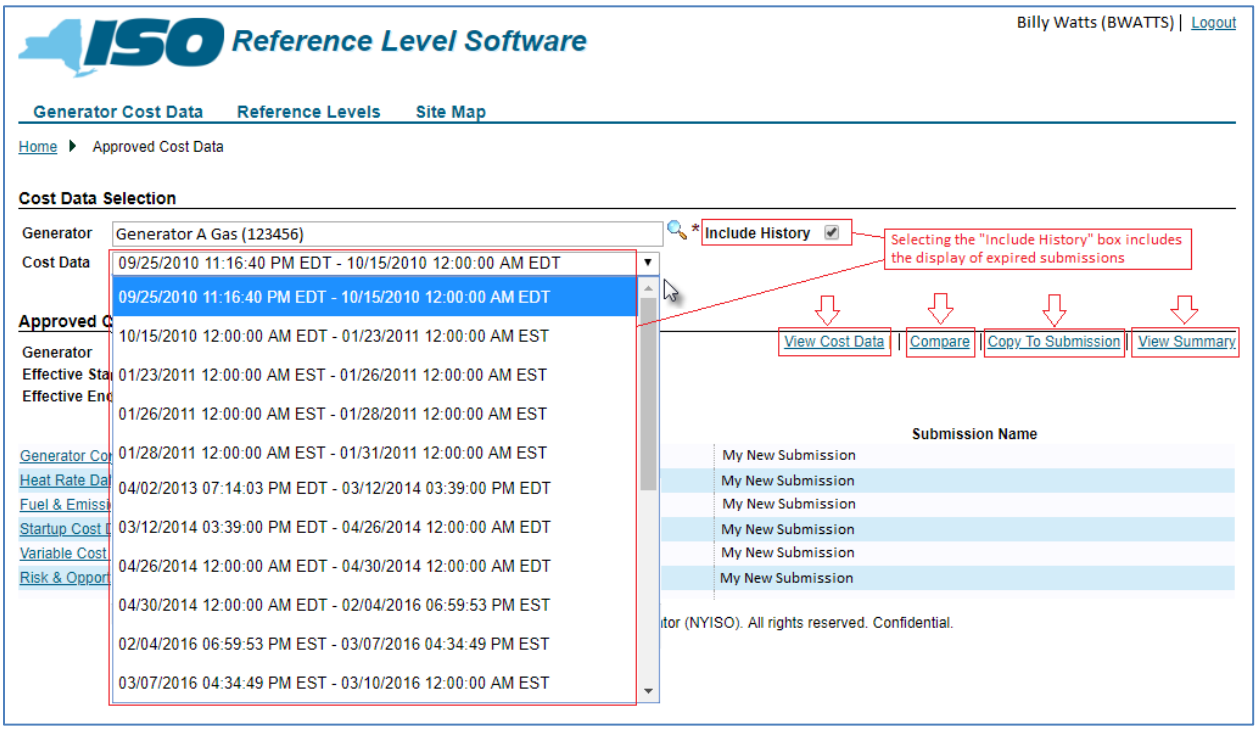
Figure 88: Access Path for Initiating Display of Approved Cost Data



In response, the RLS application displays the *Approved Cost Data* page (Figure 89), where the user would next choose a generator from the drop-down list of user-approved generators then indicate via the **Include History** option whether the application should provide access to expired approved data for viewing. The RLS application responds by populating the Cost Data drop-down list with approved cost data by effective start and end date range. The user may then choose which approved cost data to view.

Once the RLS application displays the chosen approved cost data, the user may view details on a specific data family within the approved cost data by invoking the applicable link. In addition, the user may **Compare** the cost data to another Cost Data Submission, **Copy To Submission** the approved cost data, or **View Summary** of the approved cost data by invoking the applicable link then taking any additional necessary actions.

Figure 89: Options for Viewing Approved Cost Data



7. View Reference Levels

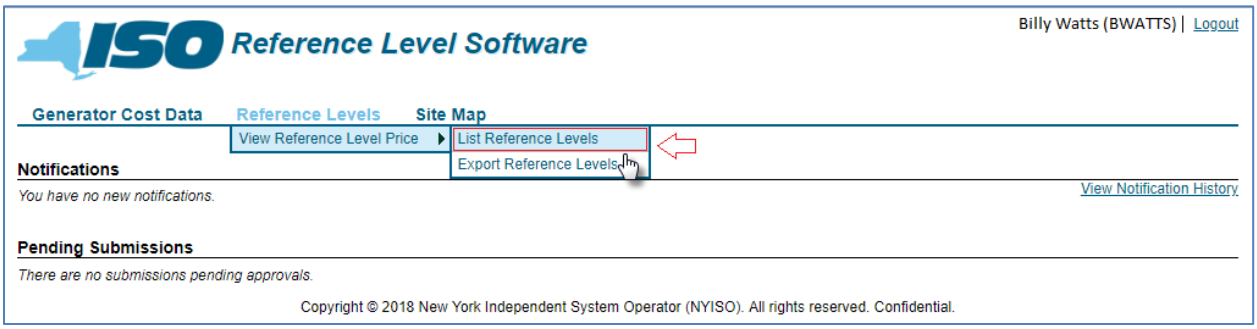
This section describes the RLS Application's View Reference Levels feature, outlining the sequence of activities.

7.1. How to View Reference Levels

To view Reference Levels

The Reference Level Software (RLS) Application provides the user the ability to view Reference Levels. The user will have the ability to view energy, startup and time based (Emergency Response Rate, Maximum Stops, Minimum Down Time, Minimum Run Time, MinGen MW, Normal Response Rate, Regulation Response Rate, Start-Up Notification Time) Reference Levels. This task in initiated by invoking the **Reference Levels** menu then choosing **View Reference Level Price** followed by **List Reference Values** from (Figure 90).

Figure 90: Access Path for Initiating Display of Reference Level Values



In response, the RLS application displays the *List Reference Values* page where the user would next choose a generator from the drop-down list of user-approved generators, and selecting the **Market Date** by populating the corresponding field (Figure 91). The RLS application will then display all the reference levels that were calculated for that day in the **Market Hour** drop-down list (

Figure 92).

Next, the user selects a market hour from the drop-down list, and presses the 'Search' button.

Once the RLS application displays the Reference Levels matching the designated criteria, the user may view values not currently displayed by invoking the applicable **Show Details** link (Figure 93).

Figure 91 : List Reference Levels for Market Date

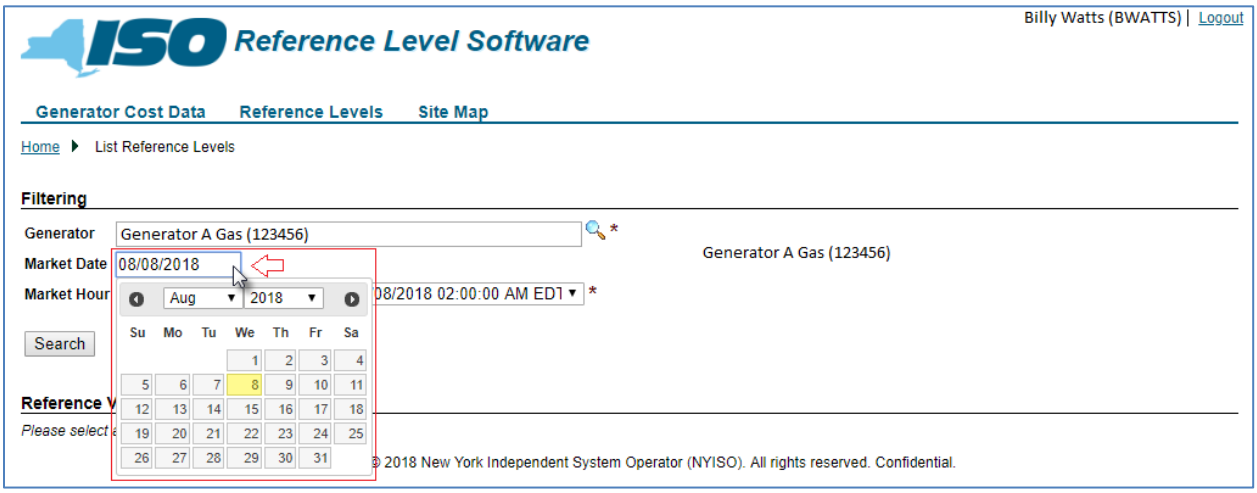


Figure 92: List Final Reference Values Page Illustrating Filter Options and Links to Details

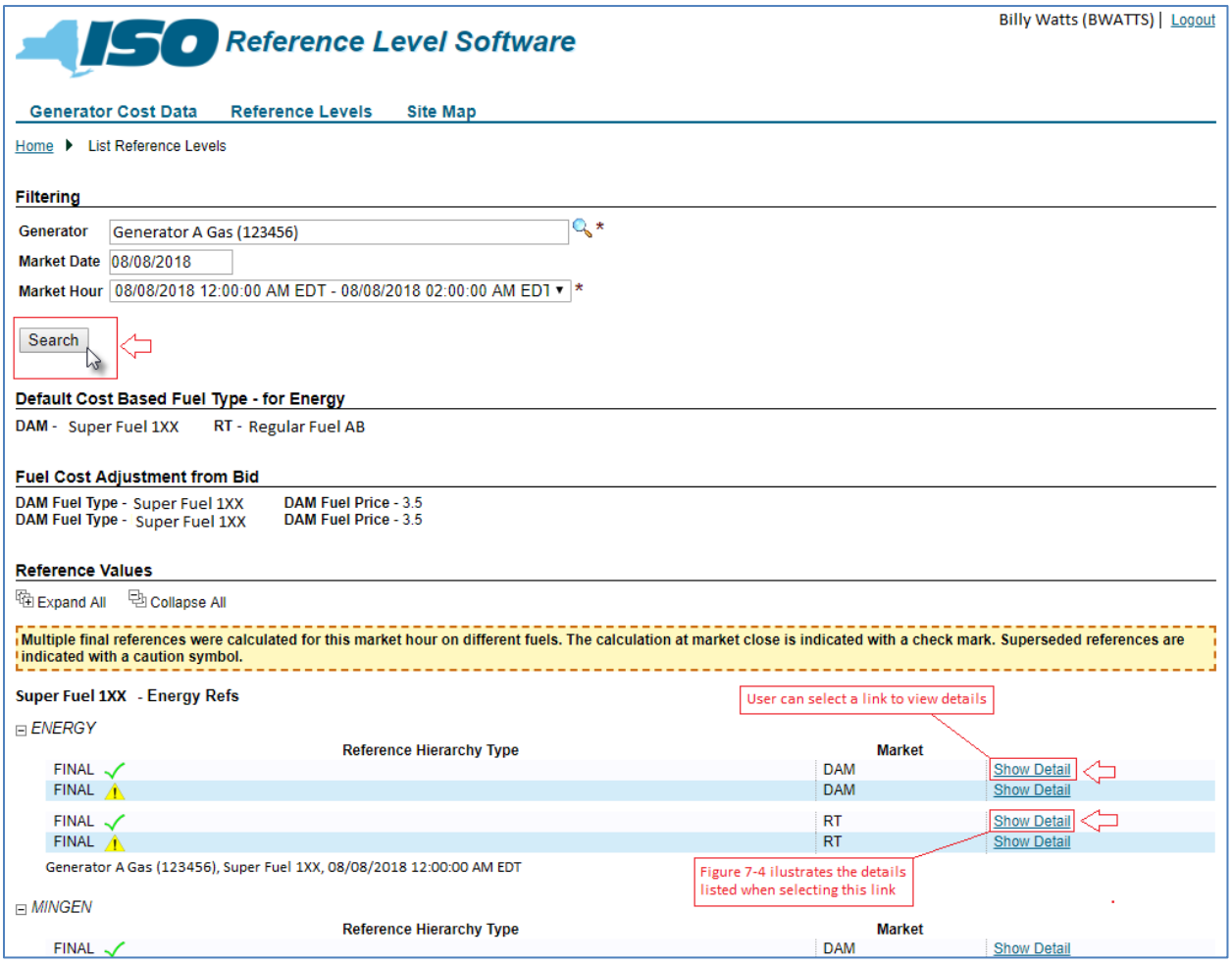


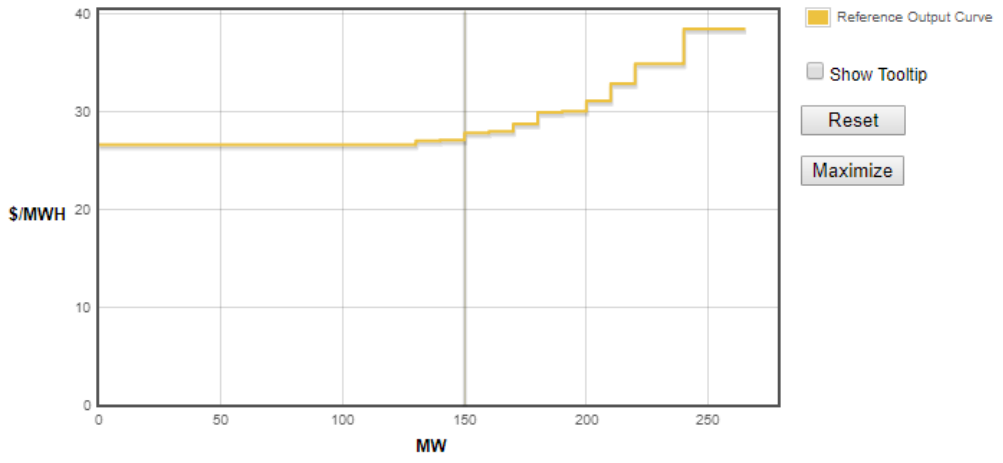
Figure 93: Example of Final Reference Values Detail

View Reference Output Curve

Generator	Generator A Gas (123456)	Market Start Hour	08/09/2018 12:00:00 AM EDT
Fuel Type	Super Fuel 1XX	Market End Hour	08/09/2018 11:00:00 PM EDT
Reference Level Type	ENERGY		
Reference Hierarchy Type	FINAL		
Source	RT		

Reference Output Curve Points

MW	$/MWH
10	6.58
20	6.58
30	6.58
40	6.58
50	6.58
140	6.96
150	7.03
200	9.98
210	1.07
220	2.83
230	4.83
240	4.83
250	8.41
255.5	8.41



8. Notifications

This section describes the RLS application's Notification feature, outlining the sequence of activities.

8.1. How to View Notifications

The Reference Level Software (RLS) Application generates notification messages based on the Cost Data Submission request type. Subsequent notifications are created for the various levels of the Cost Data Submission request. The notifications are displayed on the home page of the RLS application in addition to being sent in an e-mail.

> ***Note:*** A user's MIS profile must have a valid e-mail address on file. The RLS notification process uses this e-mail address to send notifications.

Figure 94 lists notification messages that are sent to MPs, along with the events that trigger the notification messages.

Figure 94: Notification Triggers, Recipients, and Messages

Notification Title	Notification Trigger	MP Recipient(s)	Message
Submission Approval	All family approvals are approved.	• The MP user who submitted the cost data • The Reference Price Primary Contact	Cost Data Submission '[submission]' has been approved.
Submission Rejected	All family approvals are processed and at least one approval was rejected.	• The MP user who submitted the cost data • The Reference Price Primary Contact	Cost Data Submission '[submission]' has been rejected.
Submission Invalidated	Generator engine type group or fuel type is changed within a submission's effective period.	• The MP user who submitted the cost data.	Cost Data Submission '[submission]' has been invalidated as 'Generator Engine Type/Generator Fuel Type' during the period '[date]' and '[date]' has changed.
More Information Requested	NYISO requests more information on an approval family.	• The MP user who submitted the cost data	Cost Data Submission '[submission]' requires more information: [question].
More Information Provided	MP sends response to NYISO Request For More Information.	• The MP user who submitted the cost data	Cost Data Submission '[submission]' has new information: [answer].
Urgent Submission Upgrade	Submission level is upgraded by NYISO.	• The MP user who submitted the cost data	The priority of Cost Data Submission '[submission]' has been increased to urgent. This submission will be treated as an emergency request and receive priority for approval.

Notification Title	Notification Trigger	MP Recipient(s)	Message
Urgent Submission Downgrade	Submission level is downgraded by NYISO.	• The MP user who submitted the cost data	The priority of Cost Data Submission '[submission]' has been decreased to Normal. This submission will no longer be treated as an emergency request.
Submission Rescinded	Submission is rescinded by MP.	• The MP user who submitted the cost data	Cost Data Submission '[submission]' has been rescinded.
Submission Effective Range Expired	All family approvals are approved and submission end date is in the past.	• The MP user who submitted the cost data • The Reference Price Primary Contact	Cost Data Submission '[submission]' has been approved after its effective range has expired. The data in this submission will not be used for Reference Level calculations.

Figure 95 illustrates the display of Notifications on the RLS application's Home page.

Notifications are displayed on the Home page until the user invokes the **Acknowledge All** link beneath the *Notifications* header. In response, the RSL application displays a confirmation prompt (Figure 96). Assuming the user precedes with the acknowledgment process, the applications removes notifications from the Home page and moves to history. The user always has the option to view a notification in history.

Figure 95: Home Page Illustrating Notifications and Acknowledgment Link

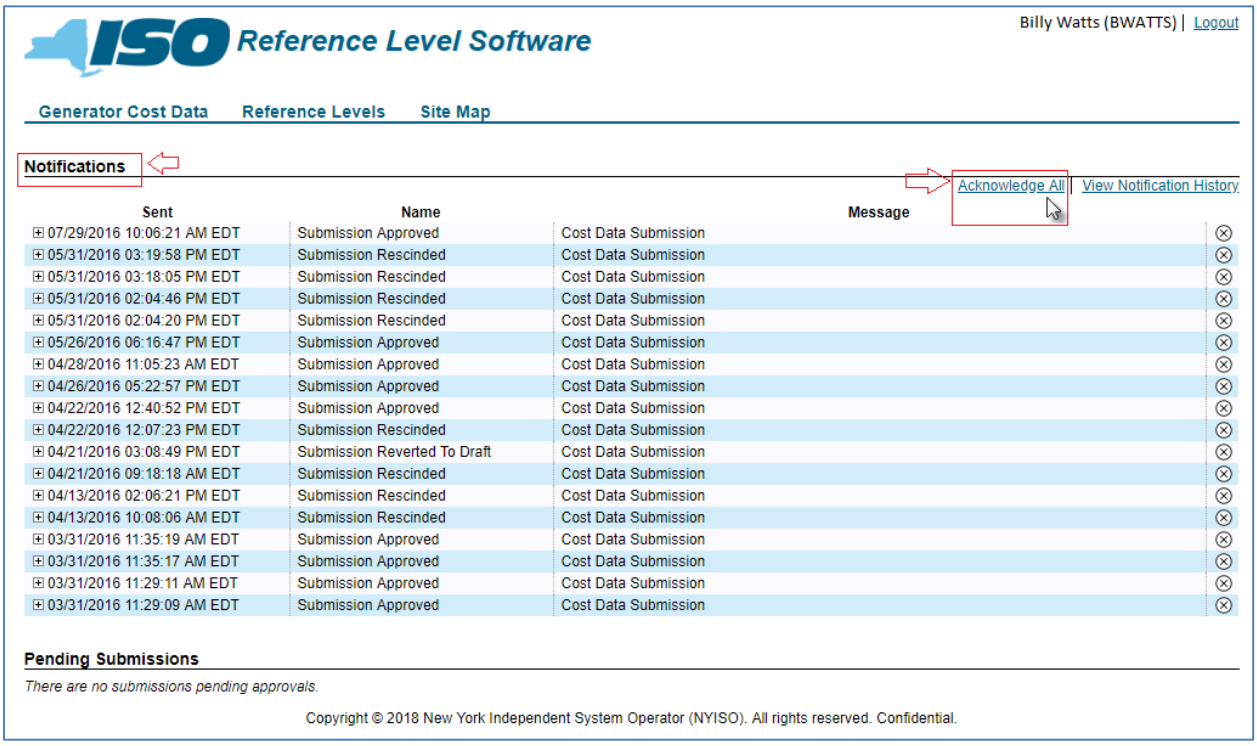
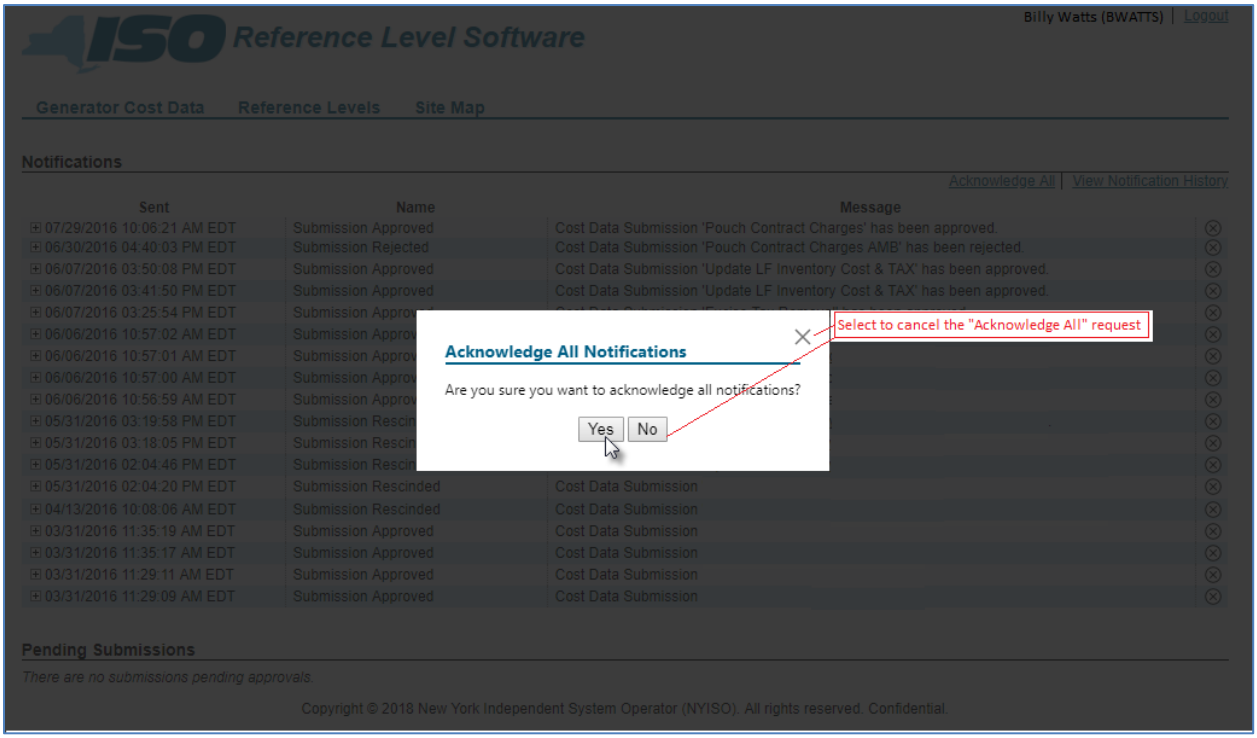


Figure 96: Notification Acknowledgment Confirmation Prompt

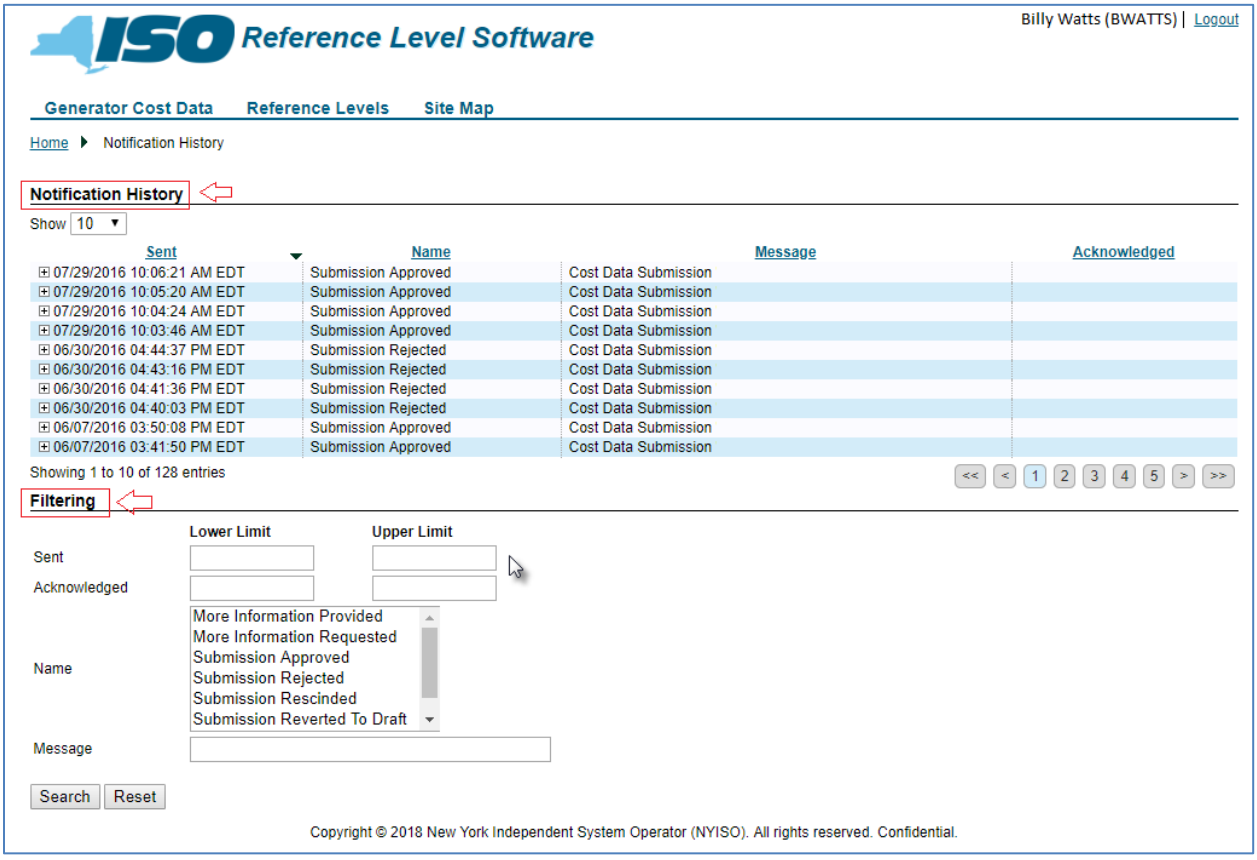


By invoking the **View Notification History** link beneath the *Notifications* header, the user can access the *View Notification History* page. The upper section of this page lists all notifications previously consigned to history sorted by sent date in descending order, and the lower portion provides filters allowing the user to narrow the display of notifications by any or all of the following parameters (

Figure 97):

- *Sent Date* (lower and upper limits)
- *Acknowledged Date* (lower and upper limits)
- *Notification Type*
- *Message*

Figure 97: Notification History Display Filtering Options



9. Pending Submissions

This section describes the RLS application's Pending Submissions feature.

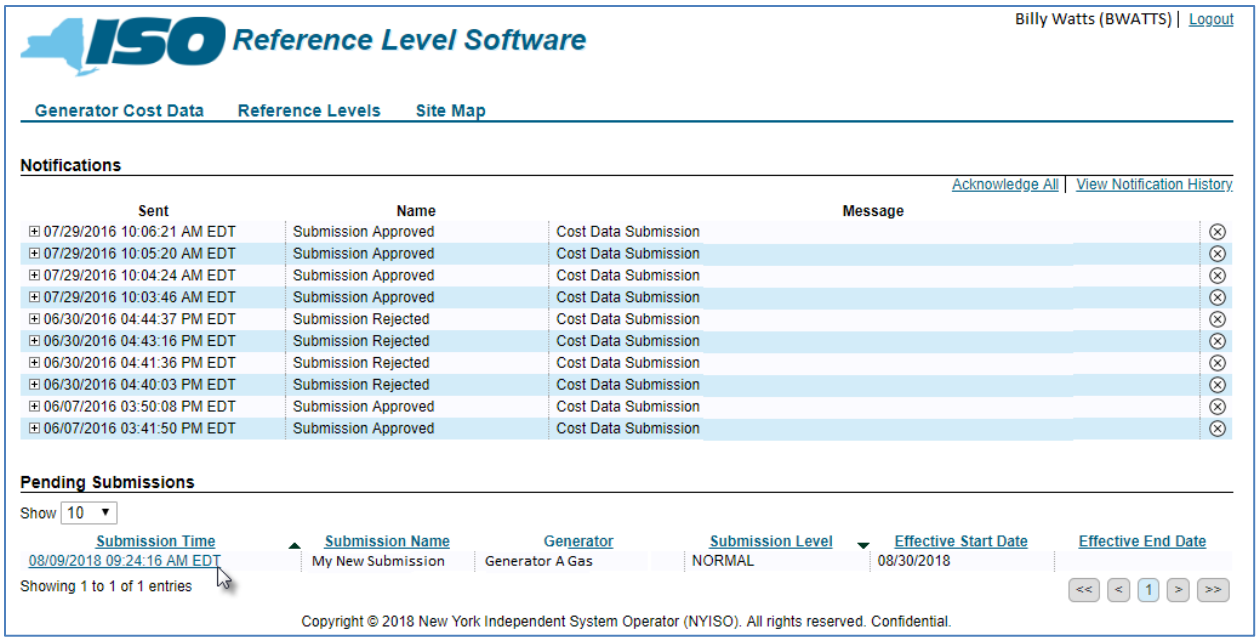
9.1. How to View Pending Submissions

The RLS application lists all pending Cost Data Submissions on its Home page sorted by created date/time in descending order.

> ***Note:*** A pending Cost Data Submission is one that has been submitted by the MP and is awaiting approval.

Figure 98 illustrates the display of pending Notifications.

Figure 98: Home Page Illustrating Pending Submissions



10. Cost Data Approval Process

10.1. Cost Data Submission Status Codes

Six different states may be associated with a Cost Data Submission throughout its lifespan, as outlined below:

- *Draft*

  Cost data information as entered has been saved and stored in the RLS database(s). The submission has not been sent to the NYISO for approval. The NYISO has the ability to revert submitted cost data back to *Draft* so that the Market Participant may make updates to the data.
- *Submitted*

  The cost data information has been submitted to NYISO for approval. Once submitted, data are then placed in a queue for review and approval by NYISO.
- *Rescinded*

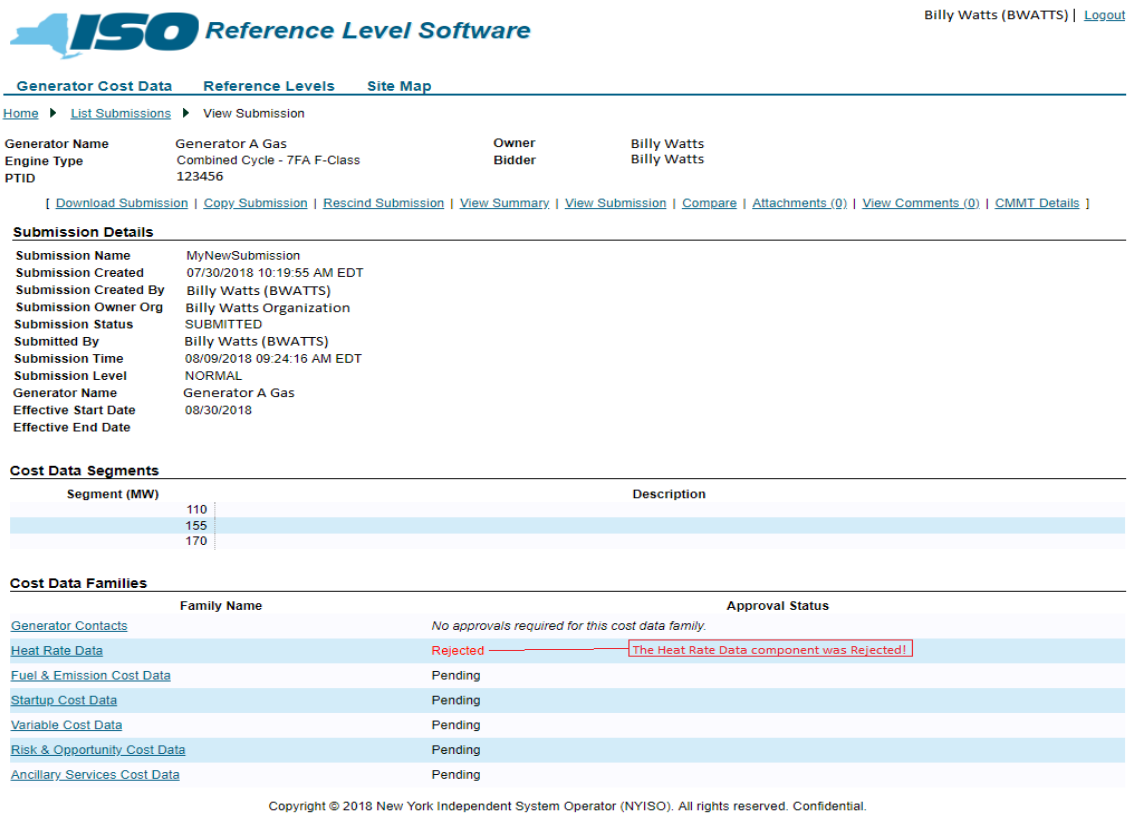
  Cost data information that was previously submitted to NYISO for approval is being rescinded, so NYISO approval is no longer being requested. A Cost Data Submission must be in a *Submitted* state to allow the change to *Rescinded* status.
- *Approved*

  The NYISO has reviewed the Cost Data Submission and approved it.
- *Invalidated*

  The configuration of the generator for a Cost Data Submission has changed for a period of time that overlaps a period of time within the Cost Data Submission. A Cost Data Submission that is in the *Draft* or *Submitted* state can be invalidated.
- *Rejected*

  The NYISO has reviewed the Cost Data Submission and determined it cannot be approved. A Cost Data Submission will be updated to a *Rejected* status when any one component is rejected. Therefore, a rejected Cost Data Submission may contain approved components. A user can view the rejected Cost Data Submission and see which components have been rejected (Figure 99).

Figure 99: Rejected Component Among Approved Components for a Rejected Cost Data Submission



10.2. Question and Answer Exchange

During the approval process of a Cost Data Submission, the RLS application provides functionality for a question and answer exchange between the MP and the NYISO to facilitate the approval of the Cost Data Submission.

The RLS application provides the MP access to questions from the NYISO via the *List Submissions* feature. After viewing a listed submission, the MP would invoke the **View Approved Questions** link (Figure 99).

> ***Note:*** The View Approved Questions link is displayed ***only*** when a Cost Data Submission's status is *Submitted*.

The MP can then respond to the question (Figure 100).

Figure 100: View Approval Questions Link

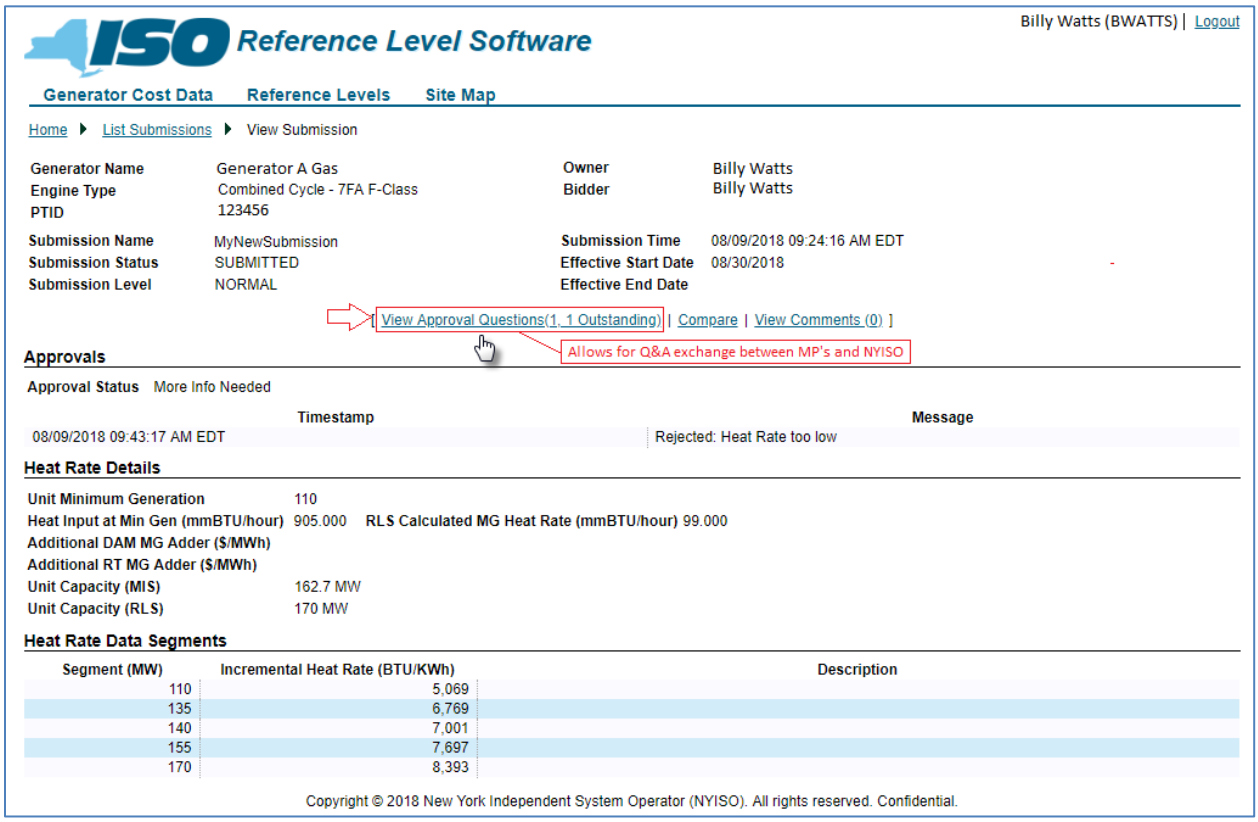
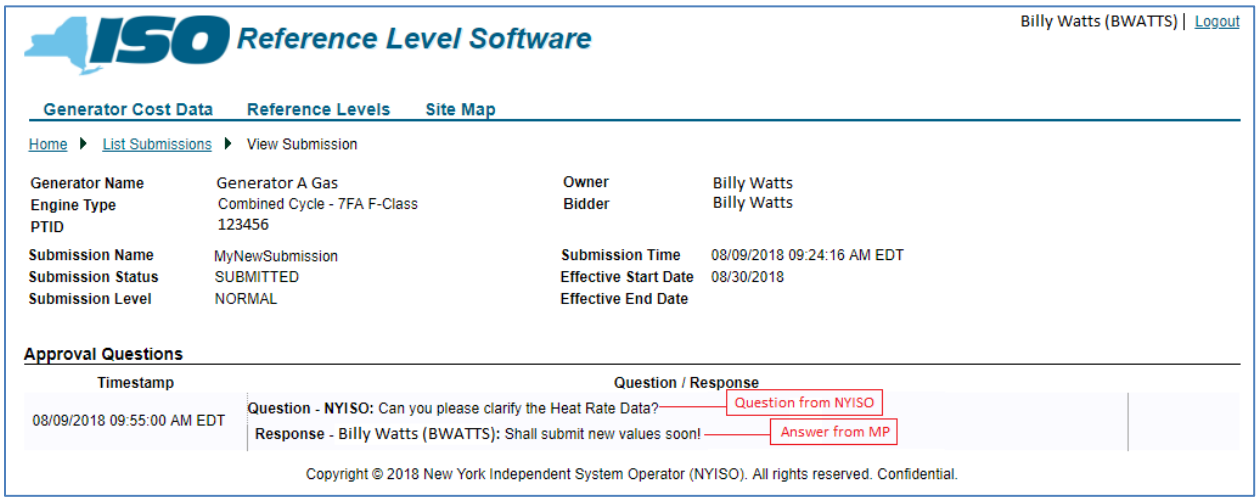


Figure 101: Sample Approval Question and Response



11. Aggregations / Distributed Energy Resources (DERs)

11.1. Aggregations / Distributed Energy Resources (DERs) Overview

Each Aggregation includes one or more Distributed Energy Resources (DERs). An Aggregations can be a single resource, a collection of similar or identical resources (e.g., all solar generators), or a collection of different resource types. DER resources have been added to RLS. Reference levels are ordinarily developed for each of the DER that participate in an Aggregation. Aggregations follow the same methods for Viewing Reference Levels as shown in Section 7 of this guide. Aggregations have a different method of accessing Cost Based information.

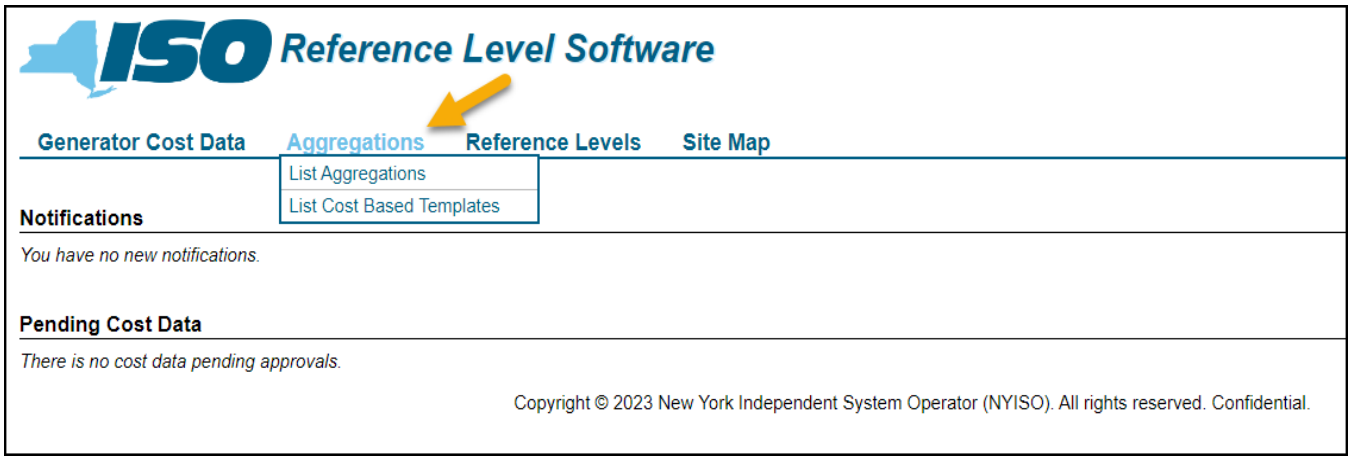
11.2. DERs Cost Information

Unlike traditional generation DERs have cost information configured by NYISO. The Market Mitigation and Analysis Department will apply Cost Based Templates to DERs. Templates will be added for each type of DER that participates in an Aggregation, based on its fuel type, operating cost, and any other relevant cost associated with that type of resource. Aggregations that include several DER can have multiple Cost Based Templates assigned.

Market Participants can contact the NYISO to discuss the Cost Based Templates assigned to specific DER and the costs of their resources by contacting NYISO Stakeholder Services. The NYISO can develop a unique Cost Based Template for a DER to incorporate input that a Market Participant provides and the NYISO (in consultation with the MMU) accepts.

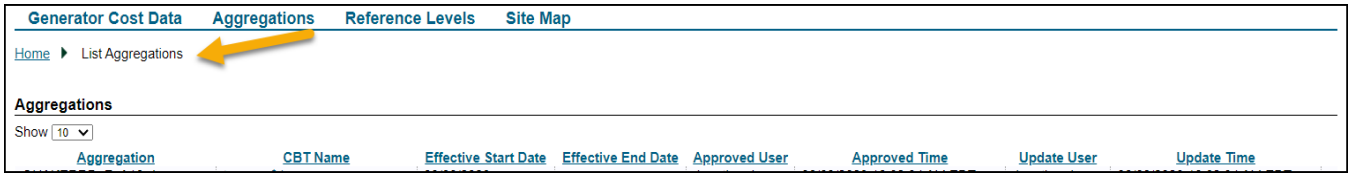
Market Participants can access the cost information assigned in the Aggregations menu choice in RLS.

Figure 102: Aggregation Menu



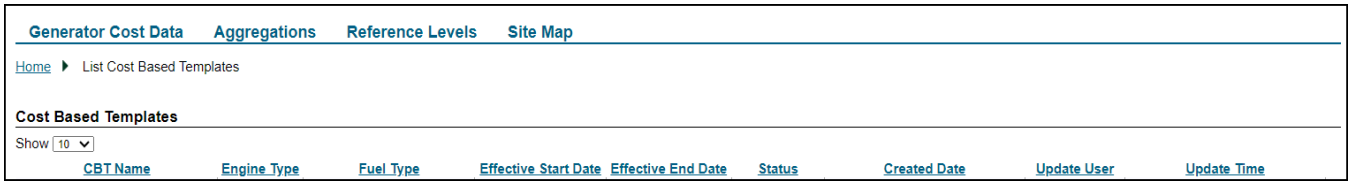
List Aggregations: Cost Based Templates assigned to an Aggregations are be viewed under List Aggregations.

Figure 103: List Aggregation View



The Templates that are assigned can be viewed under List Cost Based Templates. Cost Based Templates are very similar to Cost Based Submissions described in Section 3 of this guide. Cost Based Templates have only one segment and only apply to DER Reference Levels.

Figure 104: List Cost Based Templates View



Each DER will have default a resource type configured by NYISO for the DA and RT markets. The default type will generally be the lowest cost DER available to the Aggregation. The Reference Level for the DER will be initially calculated based on this default resource type. It is up to the Market Party to select a

more appropriate DER resource for hours when it expects its Aggregation will be required to dispatch higher cost resources.

Aggregations can indicate the appropriate Cost Based Template that should be used for calculating their Reference Level by using the Fuel Cost Adjustment (FCA) feature on the Generator Bid to update the Aggregation's fuel type. Further FCA details for a DER are in Appendix B of this guide.

Appendix A Reserved for future use

Appendix B Fuel Cost Adjustment Functionality

B.1 Overview of Fuel Cost Adjustment (FCA)

Generators have the ability to submit Fuel Cost Adjustments, in which generators enter a burdened fuel price and/or fuel type on their RT bids and/or DAM bids.

Entering burdened fuel price and/or fuel type on the bid will allow the generator's Energy, MinGen and Startup references to be re-calculated with the new fuel information and more closely match the generator's actual fuel costs. The RLS application will use the burdened fuel price to adjust Reference Levels, subject to RLS rules.

The submission deadline for updated fuel information is 15 minutes prior to the close of the DAM (4:45 a.m.). For the RT market, submissions must be received prior to market close, which is 75 minutes prior to the operating hour.

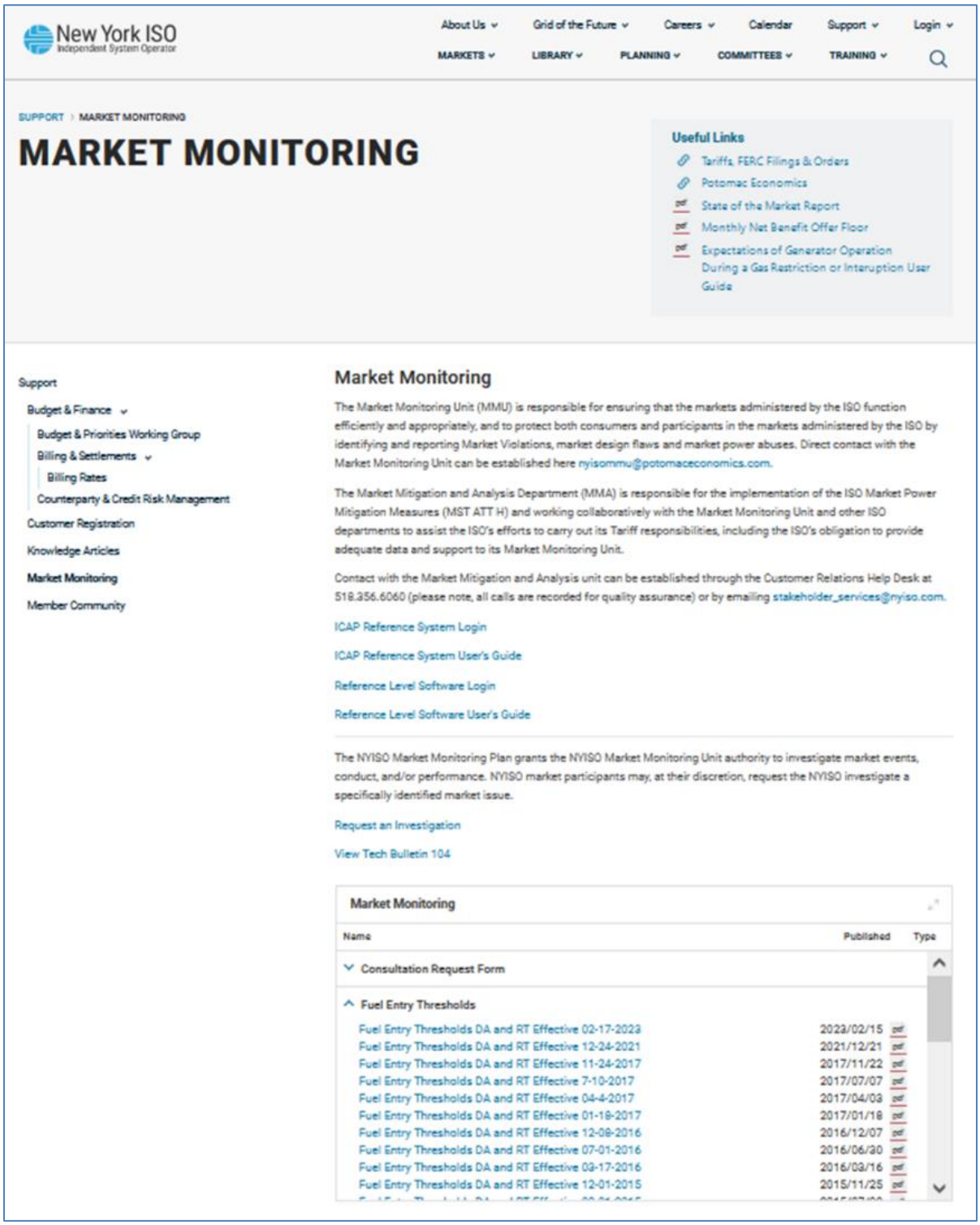
Burdened fuel prices may be entered on any individual hour, multiple hours, or all hours of a particular day to properly reflect actual fuel costs. Fuel price and type information is validated using the current approved RLS cost data at the time of the DAM and RT close. Fuel cost and fuel type information is compared to posted Fuel Entry Thresholds to perform an *ex-ante* validation. If the submitted fuel information exceeds the posted Fuel Entry Threshold, a generator may contact MMA to request a Secondary Threshold that will permit the proposed change in fuel price or fuel type to be validated.

To view the Fuel Entry Thresholds visit the following link and see screenshot below:

https://www.nyiso.com/market-monitoring

> ***Note:*** A fuel type change that does not have an associated Fuel Entry Threshold will result in a fuel threshold validation error and references will not be updated.

Figure B-1: Fuel Entry Thresholds



All submitted fuel information is also reviewed *ex-post* to ensure that accurate information was submitted. The submission of fuel information that is found to have been biased in the Market Participants favor can result in the revocation of the ability to use the Fuel Cost Adjustment functionality for the affected generator(s). The submission of inaccurate fuel information that impacts market prices or guarantee payments may result in a penalty, as well as revocation of the ability to use the Fuel Cost Adjustment functionality, for the affected generator(s)

> ***Note:*** To update any other Reference Level cost component requires submittal through the RLS application and NYISO approval.

B.2. Fuel Cost Adjustment Privileges

By default, burdened fuel price and fuel type modification privileges will be "on" for all generators that burn fuel oil, gas or kerosene. For Distributed Energy Resources (DERs) burdened fuel price and fuel type modification privileges will be "on". For all other generators, the privilege will be "off". Units that burn landfill gas will also default to "off". An MP may request this privilege by contacting its Customer Relations representative. These privileges can be set separately for RT and DAM. These privileges can be revoked by the NYISO if submissions are determined to be inaccurate, speculative or unsupported.

B.3. Entering Fuel Type/Burdened Fuel Price

Using FCAs, an MP can enter fuel type and/or burdened fuel price to update its Energy Reference Level for a specific generator for a specific market, for a specific bid date and hour without NYISO approval, as long as bids are within posted Fuel Entry Thresholds. Burden includes applicable taxes, transport and distribution costs, and fuel acquisition brokerage fees.

- For ***NYC gas costs*****,** burden may include the following:
  - NYC Sales Tax
  - NYC Utility Excise Tax
  - Pipeline Transport Cost (usually zero in NYC)
  - Local Distribution Cost (charges by the gas Local Distribution Company to deliver gas from an Interstate Pipeline metering point to the site of the generator)
  - Fuel Acquisition Brokerage Fees (pre-contracted $/mmBTU procured)
- For ***NYC fuel oil costs*****,** burden may include the following:
  - NYC Sales Tax
  - Petroleum Business Tax

- Spill Tax
- Transport Costs (as applicable)
- Fuel Acquisition Brokerage Fees (pre-contracted $/mmBTU procured)

- For ***Rest of State fuel oil costs*****,** burden may include the following:
  - Petroleum Business Tax
  - Spill Tax
  - Any applicable local/municipal sales taxes
  - Transport Costs (as applicable)
  - Fuel Acquisition Brokerage Fees (pre-contracted $/mmBTU procured)

- For ***Rest of State natural gas costs***, burden may include the following:
  - Any applicable local/municipal sales taxes
  - Pipeline Transport Costs, for delivery from the point of the spot quotation to the metering point where the gas LDC picks up the gas
  - Local Distribution Costs (charges by the gas LDC to deliver gas from an Interstate Pipeline metering point to the site of the generator)
  - Fuel Acquisition Brokerage Fees (pre-contracted $/mmBTU procured)
  -

In general, the tax rates and adders that determine the burden will rarely change: When these burden parameters do happen to shift, the new values should be submitted through the normal RLS Submission process. Changes in burdened reference fuel costs made through FCAs should typically reflect deviations in the commodity cost of the fuel, rather than changes in the more static burden parameters.

> ***Note:*** The MP is responsible for the accuracy of fuel type and burdened fuel prices submitted. with Section 23.4.3.3.3 of the Market Mitigation Measures. Submitting inaccurate information to the NYISO may also violate FERC's Regulations prohibiting electric energy market manipulation, and the market monitoring unit may be required to report the Market Participant's behavior to FERC's Office of Enforcement. See 18 C.F.R . § 1c.2(2).

B.4. Validation of Fuel Information at Bid Submission and at Market Close

Two sets of validations will be performed:

- *At Bid Submittal:*
  - Fuel type data may be submitted with DAM or RT bids and will be validated as follows upon submittal:
    - Fuel type ID must be a whole number greater than or equal to zero, or null.
    - Fuel type ID must be one of the valid IDs in the RLS application.
  - Burdened fuel price may be submitted (in $/mmBTU) with DAM or RT bids, and will be validated as follows upon submittal:
    - Burdened fuel price must be a numeric value greater than or equal to zero, or null.
    - Maximum value for burdened fuel price is $999.999/mmBTU.
  - An error message will be returned if the fuel cost data does not pass these validation checks.

> ***Note:*** An error message will be returned if the fuel cost data does not pass these validation checks. Validation checks occur at Generator Bid Submission in Market Place, at Bid Upload, and Market Close

- *At Market Close:*
  - The MP must have the ability to enter burdened fuel price/fuel type configured in RLS.
  - Fuel type as entered is one of the pre-approved fuels submitted with the MP's cost data.
  - Fuel type/burdened fuel price fall within the posted Fuel Entry Thresholds (maximum and minimum thresholds). Thresholds may be different between the DAM and RT Markets. NYISO may also grant generator specific secondary thresholds by generator and by market.
  - Burdened fuel price: Generators with fuel types of Wind, Hydro, Solar, or ESR are not eligible to enter a fuel price on the Generator Bid
  - Fuel type and price can be entered for Distributed Energy Resources (DERs) under the conditions described below.

> ***Note:*** Simultaneous RLS and MIS submissions may be appropriate.

B.5. Processing of Fuel Information at Market Close

NYISO will use the best fuel information available to it at market close to validate an MPs fuel submission. For fuel information consistent with the posted Fuel Entry Thresholds, the RLS application will re-calculate the generator's Energy, MinGen, and Start-up reference levels with the new fuel information at market close. These adjusted Reference Levels are not viewable prior to Market Close since they are calculated during the Market Close.

> ***Note:*** If failure occurs on any validation, the Energy reference will not be updated. The MIS bid itself will not be invalidated and the offer submitted for the Generator will be tested for possible mitigation against the unmodified Reference Level that was calculated and available prior to market close

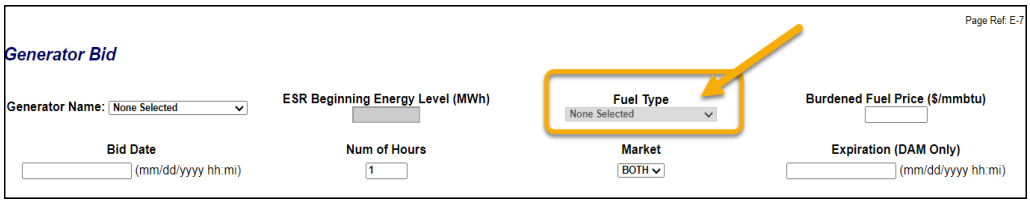
B.6. Fuel Cost Adjustments for Distributed Energy Resources (FCAs for DERs).

Each of the Cost Based Templates assigned to an Aggregation will have a unique fuel type. An Aggregation's hourly Bid may indicate the highest cost fuel type the MP expects to use to provide energy if the Aggregation is scheduled. If the Aggregation does not enter a fuel type with its Bid, then the default fuel type configured in RLS will be used for the relevant market hour.

The MP will select the appropriate Cost Based Template to use for each upcoming hour in the fuel type field of the Generator Bid by selecting the fuel type that matches the Cost Based Template assigned to the

appropriate DER for that market hour. This will allow RLS to adjust the Reference Level to the proper Cost Based Template at market close. A burdened fuel price is not required for the selection of a Cost Based Template. However, if a Cost Based Template for a DER that burns fuels is being selected, a fuel price may be entered to ensure the Reference Level uses the submitted fuel price. A fuel price should not be entered for Cost Based Templates for DER that do not burn fuel. If a burdened fuel price is not indicated on the Generator Bid for a Cost Based Template that uses a fuel price, then RLS will use a current indexed price in the reference level calculation.

Figure B-2: Generator Bid Screen



It would not be appropriate to submit a burdened fuel price if the Cost Based Template selected reflects a DER types such as Wind, Solar, Hydro or ESR. In these cases, the burdened fuel price field should be left blank.