

ICAP AMS Software Changes for Energy Storage Resources (ESR)

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MP Informational WebEx

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Overview

- **The ESR Project will be implemented by Sept/2020**
 - Dec/2017 - NYISO published MDCP for Energy Storage Integration
 - Feb/2018 - FERC issued Order 841
 - Dec/2018 - NYISO submitted ESR participation model and tariff revisions to FERC
 - Dec/2019 - FERC accepted majority of ESR participation model with limited further directives
- **NYISO Project B629: ESR Participation Model**
 - Sept/2020 - ESR software release target
 - Comprehensive ESR Implementation Training provided in time for go-live
- **ICAP AMS Software Changes for ESR Participation Model**
 - Mar/2020 – ICAP AMS software change include DMNC screen enhancements
 - New Generation Type for ESR DMNC tests
 - Resource Type required on all upload files

Overview

- **ICAP Manual revisions for ESRs (pending May/2020 BIC Vote):**
 - ICAP Manual Sections 4.2.2, 4.5, and 4.8.1
 - Attachment D
 - Attachment J – Sections 1, 2, and 3 including subsections
 - New Section 3.7 Calculation of UCAP for Energy Storage Resources including Average Unavailability Factor discussed at ICAPWG
 - Attachment K
- **ICAP AMS User’s Guide revisions for ESRs include:**
 - Section 4 – Certification
 - Certification screens display ESRs as any other Generator or RMR resource
 - Section 11 - Dependable Maximum Net Capability (DMNC)
 - Generation Type to Test Hours Cross-Reference update
 - Section 14 – DMNC Upload/Download

Overview

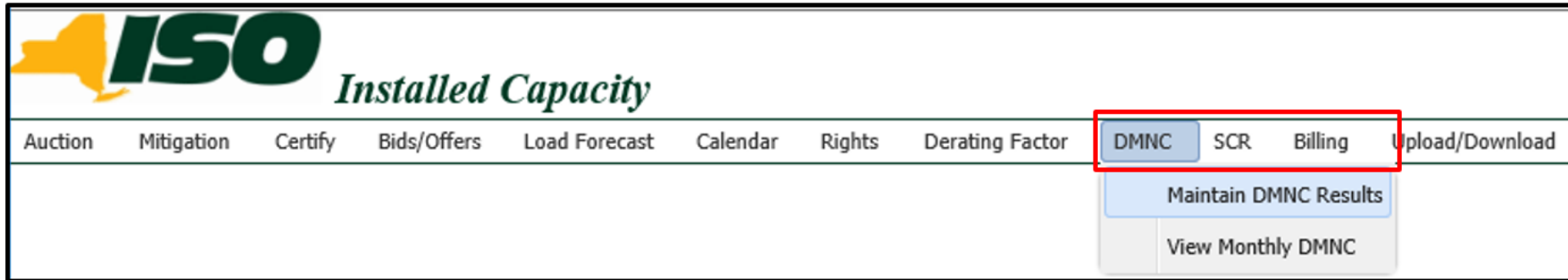
■ ICAP AMS Software Changes: DMNC Screen Enhancements

- New user interface for Mar/2020 deployment
 - New “DMNC Results” screen replaces former “Maintain DMNC” screen
 - New “Monthly DMNC” screen replaces former “View Monthly DMNC” screen
 - Updated UCAP_UPLOAD_DMNC and UCAP_DOWNLOAD_DMNC to include new required Resource Type parameter
- ESR’s Generation Type will be ‘Storage’
- ESR’s Minimum Number of DMNC Test Hours will be 4
- An ESR may operate at a de-rated DMNC value to meet the 4-hour test requirement
 - Example: a 4 MWh ESR may conduct its DMNC test at 1 MW for each tested hour
- An ESR will not be eligible for Ambient Condition Dependent status

DMNC Screens

New “DMNC Results” screen

- User navigates to DMNC Results



New “DMNC Results” screen

- Filter using the search/filter row

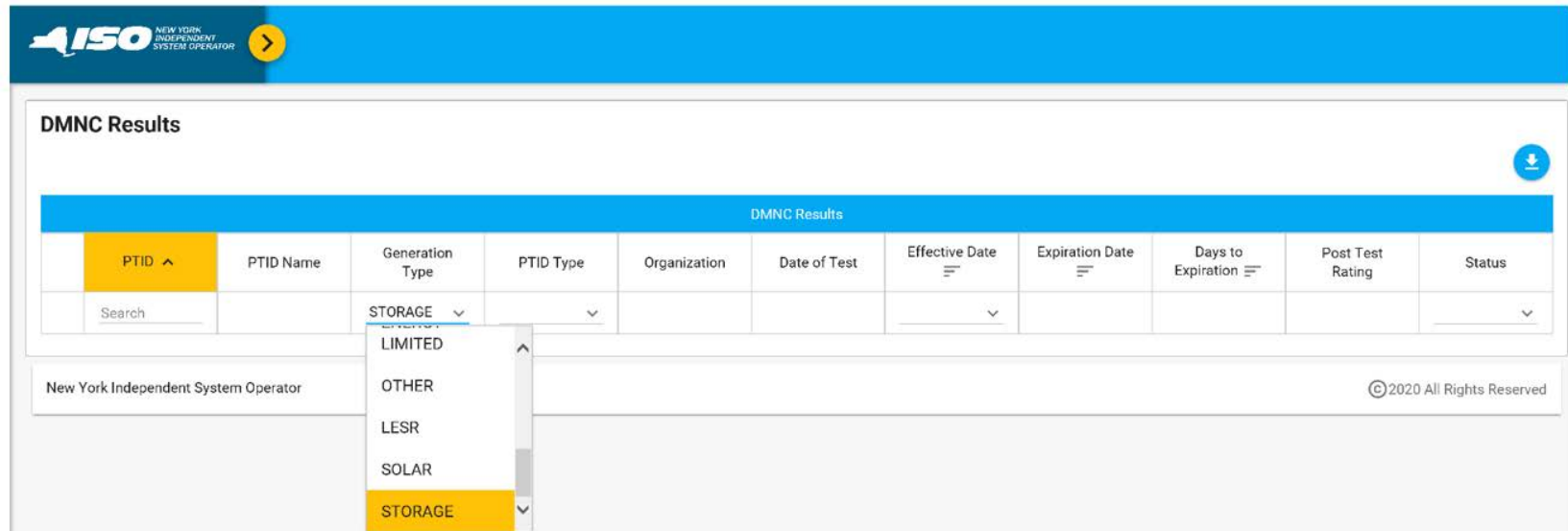
User with DMNC Role

DMNC Results

PTID ^	PTID Name	Generation Type	PTID Type	Organizati...	Date of Test	Effective Date	Expiration Date	Days to Expiration	Post Test Rating	Status
<input type="text" value="Search"/>		<input type="text" value="v"/>	<input type="text" value="v"/>			<input type="text" value="v"/>				<input type="text" value="v"/>

New “DMNC Results” screen

- *Generation Type* filter includes ‘Storage’



The screenshot displays the "DMNC Results" interface. At the top left is the NYISO logo. Below it, the title "DMNC Results" is shown. A table with the following columns is visible: PTID (with a search input), PTID Name, Generation Type, PTID Type, Organization, Date of Test, Effective Date, Expiration Date, Days to Expiration, Post Test Rating, and Status. The "Generation Type" dropdown menu is open, showing options: LIMITED, OTHER, LESR, SOLAR, and STORAGE (highlighted in yellow). A download icon is present in the top right corner of the table area. The footer includes "New York Independent System Operator" and "© 2020 All Rights Reserved".

New “DMNC Results” screen (View)

- User filters and views desired DMNC Results

MP with DMNC Role

DMNC Results

PTID	PTID Name	Generation Type	PTID Type	Organization	Date of Test	Effective Date	Expiration Date	Days to Expiration	Post Test Rating	Status
<input type="text" value="Search"/>		<u>COMBINED</u>	<input type="text" value=""/>			<u>Winter 2018-2019</u>				<input type="text" value=""/>
> 12345	BV CC 1	COMBINED CYCLE	Internal	Big Valley Gen Co	Jan 16, 2018	Nov 1, 2018	Apr 30, 2019	-261	162.7	APPROVED
> 22222	BV CC 2	COMBINED CYCLE	Internal	Big Valley Gen Co	Jan 7, 2018	Nov 1, 2018	Apr 30, 2019	-261	260.0	APPROVED
> 34343	BV CC 3	COMBINED CYCLE	Internal	Big Valley Gen Co	Jan 17, 2018	Nov 1, 2018	Apr 30, 2019	-261	260.0	APPROVED

New “DMNC Results” screen (View)

DMNC Results – New Features

- Blue icon on *Date of Test* indicates an “Out of Period Test”
- Red icon on *Post Test Rating* if the Pre Test Rating < Post Test Rating

- | DMNC Results | |
|--------------|----------------|
| Date of Test | Effective Date |
| Sep 8, 2005 | |

DMNC Results	
Post Test Rating	Status
5.0	
5.0	APPROVED



Out of Period Test



Pre Test < Post Test

New “DMNC Results” screen (View)






- DMNC Results – New DMNC Test Details Panel

▼	12345	BV CC1	COMBINED CYCLE	Internal	Big Valley Gen Co	Jun 19, 2015	May 1, 2016	Oct 31, 2016	-100	135.5		APPROVED
Begin Hour:	1	Demonstrated Capability										
Average Ambient Temp(°F):	92											
Test Temp(°F):	66											
Per Curve(MW):	135.5											
Pre Test Rating(MW):	133.8											
Post Test Rating(MW):	135.5											
Difference(MW):	1.7											
Remarks:												
Last Updated By:	NYISO					Last Updated: Jul 7, 2015 02:12:24 PM						

New “DMNC Results” screen (Add)

- DMNC Results – User with DMNC privilege can Add DMNC Result

DMNC Results

DMNC Results											
	PTID ^	PTID Name	Generati... Type	PTID Type	Organiza...	Date of Test	Effective Date ≡	Expiration Date ≡	Days to Expiration ≡	Post Test Rating	Status
	<input type="text" value="Search"/>		<input type="text" value="v"/>	<input type="text" value="v"/>			<input type="text" value="v"/>				<input type="text" value="v"/>

New “*DMNC Results*” screen

- User with DMNC privilege clicks add
- Add DMNC Result entry panel displays

Add DMNC Result ✕

Select PTID ▼

Test Date 📅

Effective Date 📅

Begin Hour
0 ▼

Starting Test Temperature (°F)

Average Ambient Temperature (°F)

Pre Test Rating (MW)

Hour 1 (MW)

Hour 2 (MW)

Hour 3 (MW)

Hour 4 (MW)

Per Curve (MW)

Post Test Rating (MW)

Remarks

🔒 ✕

New “*DMNC Results*” screen (Add)

- Add DMNC Result entry panel
- Select PTID, Test Date, Effective Date, and Begin Hour

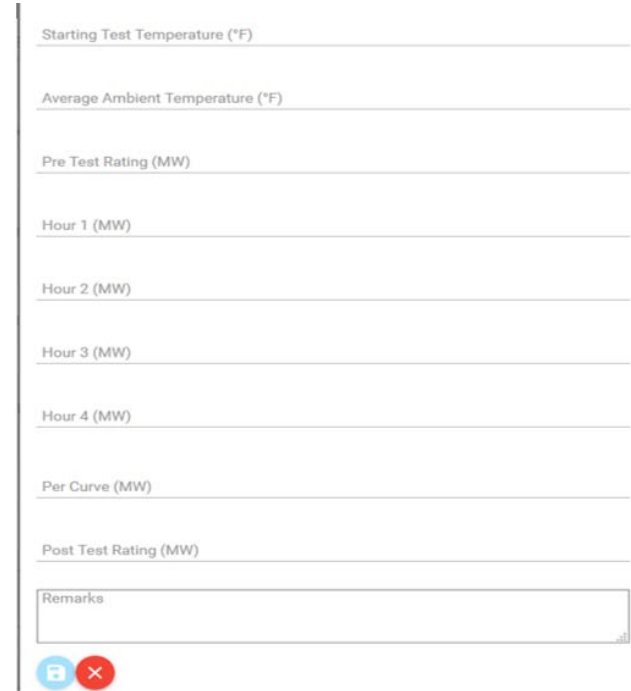


The screenshot shows a form titled "Add DMNC Result" with a close button (X) in the top right corner. The form contains four input fields:

- Select PTID**: A dropdown menu with a downward arrow icon.
- Test Date**: A date picker field with a calendar icon.
- Effective Date**: A date picker field with a calendar icon.
- Begin Hour**: A dropdown menu with the value "0" and a downward arrow icon.

New “*DMNC Results*” screen (Add)

- Add DMNC Result entry panel
- Enter the following information
 - Starting Test Temperature
 - Average Ambient Temperature
 - Pre-test and Test Result MW data
 - Remarks, if any
 - Click *Save* icon to save DMNC Results
 - Click *Cancel* icon to clear panel



The screenshot shows a vertical form with the following fields from top to bottom:






- Starting Test Temperature (°F)
- Average Ambient Temperature (°F)
- Pre Test Rating (MW)
- Hour 1 (MW)
- Hour 2 (MW)
- Hour 3 (MW)
- Hour 4 (MW)
- Per Curve (MW)
- Post Test Rating (MW)
- Remarks (text area)

At the bottom of the form are two circular icons: a blue one with a white 'S' (Save) and a red one with a white 'X' (Cancel).

New “DMNC Results” screen (Update)

- User with DMNC privilege selects row and clicks Edit icon
- Prior to Effective Date, update editable Remarks while the Status is ‘Undecided’ for selected DMNC Result

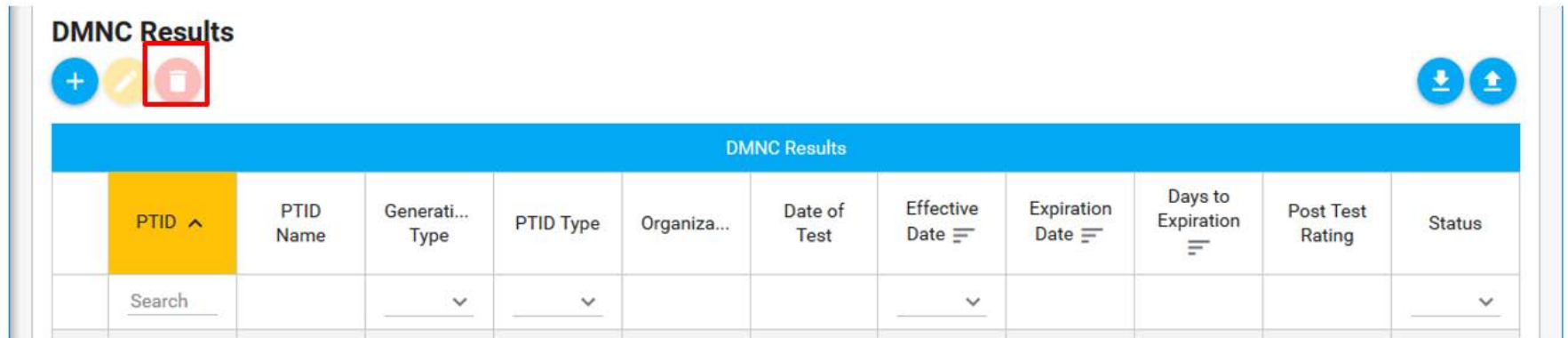
DMNC Results

DMNC Results											
PTID ^	PTID Name	Generati... Type	PTID Type	Organiza...	Date of Test	Effective Date	Expiration Date	Days to Expiration	Post Test Rating	Status	
<input type="text" value="Search"/>		<input type="text" value="v"/>	<input type="text" value="v"/>			<input type="text" value="v"/>					<input type="text" value="v"/>

New “DMNC Results” screen (Delete)

- User with DMNC privilege selects row and clicks Delete icon
- Prior to Effective Date, delete a selected DMNC Result while the Status is ‘Undecided’



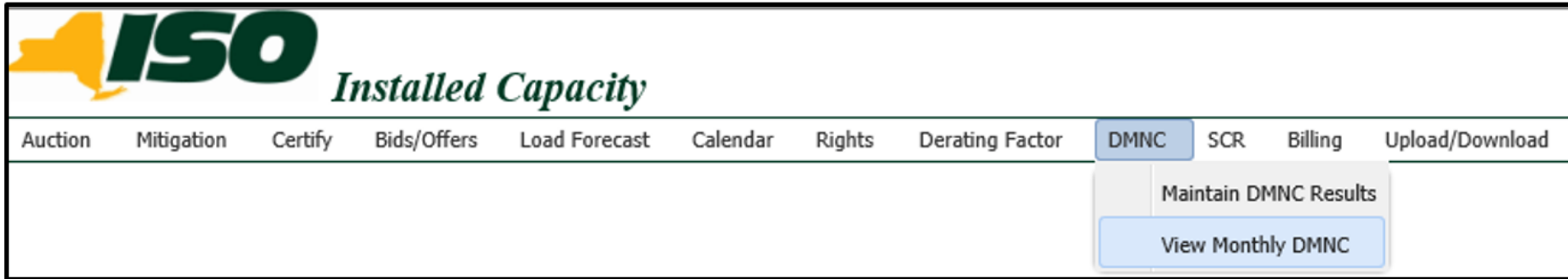
DMNC Results

DMNC Results

PTID ^	PTID Name	Generati... Type	PTID Type	Organiza...	Date of Test	Effective Date	Expiration Date	Days to Expiration	Post Test Rating	Status
Search										

New “*Monthly DMNC*” screen

- User navigates to Monthly DMNC



New “Monthly DMNC” screen

- Filter using the search/filter; *Generation Type* includes ‘Storage’

The screenshot displays the 'Monthly DMNC' interface. On the left is a navigation menu with options: Auction, Mitigation, Certify, Bids/Offers, Load Forecast, Calendar, Rights, Derating Factor, and DMNC (highlighted). Below the menu is a 'View Monthly DMNC' link. The main content area is titled 'Monthly DMNC Results' and contains a table with columns: Organization, PTID Type, Generation Type, PTID, PTID Name, and a grid of months (Nov 2018 to Apr 2019). A dropdown menu is open for the 'Generation Type' column, showing options: LIMITED, OTHER, LESR, SOLAR, and STORAGE (highlighted in yellow). The 'Organization' is set to 'New York Independent System Opera' and the 'Season' is 'Winter 2018-2019'. A copyright notice '©2020 All Rights Reserved' is visible at the bottom right of the table area.

New “Monthly DMNC” screen

- User views their Monthly DMNC Results including *Date of Test* and *DMNC Rating*

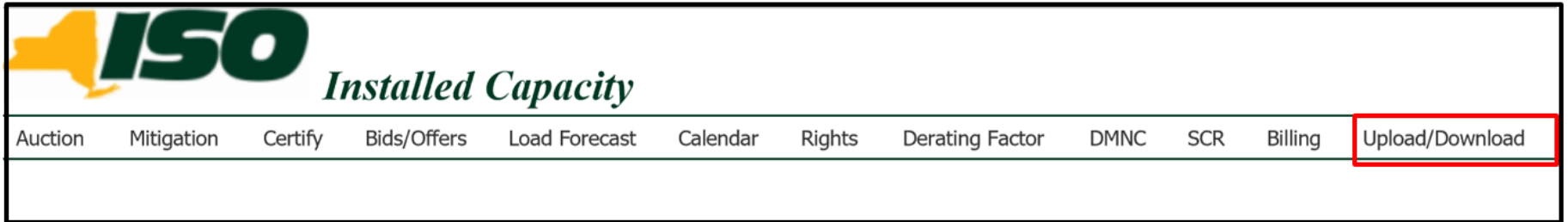
Monthly DMNC

Monthly DMNC Results										
Organization	PTID Type	Generation Type	PTID	PTID Name	Season <u>Winter 2018-2019</u> ▾					
	<u>Internal</u> ▾	▾			Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019
Big Valley Gen Co	Internal		4321	EAST MUNI	Feb 15, 2018					
					5.3	5.3	5.3	5.3	5.3	5.3
Big Valley Gen Co	Internal	FOSSIL FUEL	87654	FAIRWEATHER FOSSIL FUEL						
Big Valley Gen Co	Internal	HYDRO	76543	BV HYDRO 2	Dec 31, 2017					
					16.4	16.4	16.4	16.4	16.4	16.4

DMNC Upload/Download

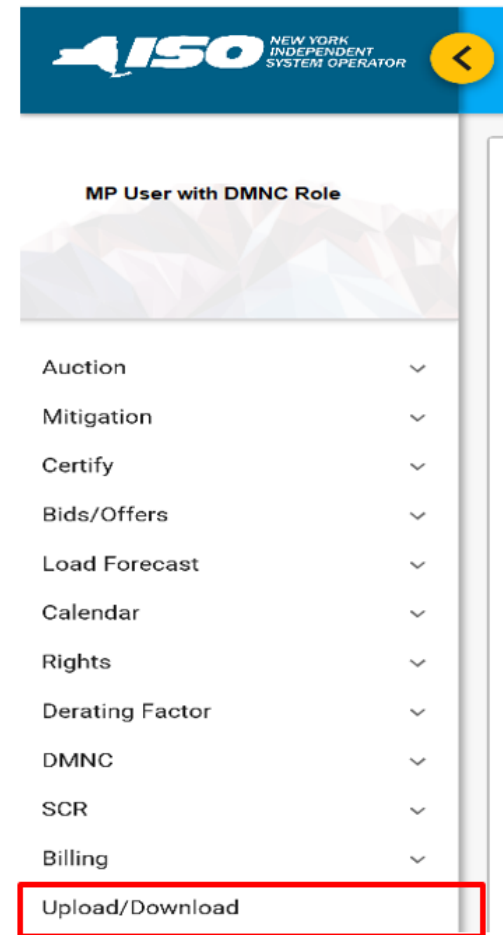
New *DMNC Upload/Download*

- User can navigate to Upload/Download from menu on the ICAP AMS main page



New *DMNC Upload/Download*

- User can navigate to Upload/Download from the menu on the ICAP AMS new UI vertical menu



New *DMNC Upload/Download*


- User can navigate to Upload/Download from DMNC Results screen



The screenshot displays the AISO (New York State Energy Research Board System Operator) interface. The top navigation bar includes the AISO logo and a back arrow. The left sidebar contains a user profile for NUJIM, a Logout button, and an Auction dropdown menu. The main content area is titled "DMNC Results" and features three action buttons: a plus sign (+), a pencil (edit), and a square with a red 'X' (delete). In the top right corner of this section, two circular buttons are highlighted with a red box: a download icon (downward arrow) and an upload icon (upward arrow). Below these buttons is a table with the following columns: PTID (with a search input), PTID Name, Generation Type, PTID Type, Organization, Date of Test, Effective Date, Expiration Date, Days to Expiration, Post Test Rating, and Status. The table is currently empty.

Upload/Download

- MP User submits Upload/Download Request File



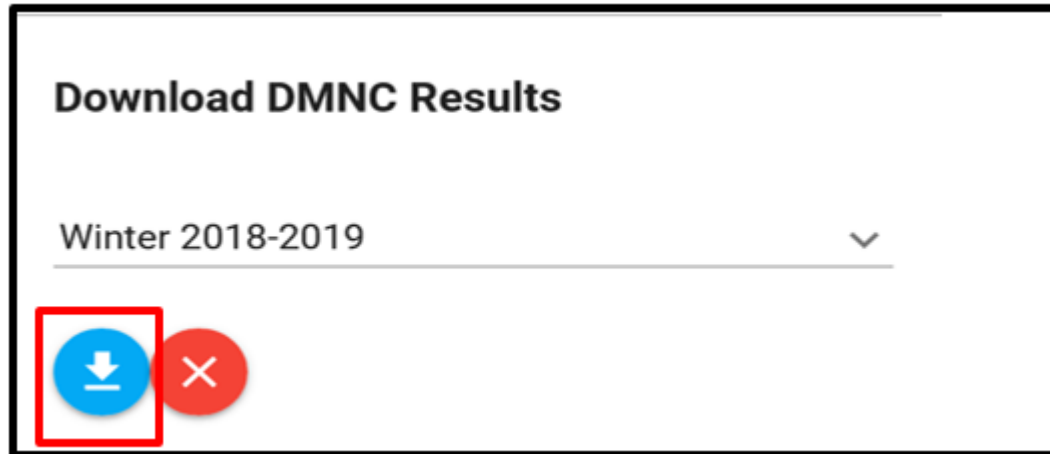
The screenshot shows the ISO Installed Capacity Upload/Download interface. At the top left is the ISO logo (a yellow outline of New York State) followed by the text "ISO Installed Capacity" in green and "Upload/Download" in black. Below this is a horizontal navigation bar with the following menu items: Auction, Mitigation, Certify, Bids/Offers, Load Forecast, Calendar, Rights, Derating Factor, DMNC, SCR, Billing, and Upload/Download. The "Upload/Download" menu item is highlighted. Below the navigation bar is a form area. On the left, it says "File name:" followed by a text input field. To the right of the input field is a "Browse..." button. To the right of the "Browse..." button is a "SUBMIT" button, which is highlighted with a red rectangular border.

UPLOAD DMNC

- New field ***RESOURCE_TYPE*** in DMNC Upload Request File
 - Since PTID can be a Generator, a Load Modifier, or a Municipal, to fix a historic defect, user must now indicate **RESOURCE_TYPE** = ['Gen', 'LM', or 'Muni']
 - RESOURCE_TYPE for ESR will be 'Gen'
 - ICAP Automated Market System User's Guide section 14.6 will be updated to reflect a complete list of upload request parameters
- Improved **ERROR TEXT** when user uploads a duplicate DMNC record

DOWNLOAD DMNC

- Updated UCAP_DOWNLOAD_DMNC
- User filters for selected Season and clicks the Download icon





DOWNLOAD DMNC

- User views DMNC Download data as a CSV file

Download DMNC Results

Winter 2018-2019 ▼

TIME_STAMP=01/29/2020 14:16
TRAN_TYPE=UCAP_DOWNLOAD_DMNC
DATA_ROWS=127

DOWNLOAD DMNC

- New field ***RESOURCE_TYPE*** in DMNC Download Response File
 - Since PTID can be a Generator, a Load Modifier, or a Municipal, to fix a historic defect, user must now indicate **RESOURCE_TYPE** = ['Gen', 'LM', or 'Muni']
 - RESOURCE_TYPE for ESR will be 'Gen'
 - ICAP Automated Market System User's Guide section 14.6 will be updated to reflect a complete list of download response parameters

Questions?

Support

- For questions specific to the ICAP AMS software and UI changes presented in this WebEx, please contact NYISO Stakeholder Services
 - Email: stakeholder_services@nyiso.com
 - Phone: **518-356-6060**