



**North American Electric Reliability Corporation  
NERC IT Services webSDX  
Change Order #02**

**NAME:** IDCWG  
**DATE:** October 15, 2009  
**SUMMARY:** Miscellaneous GUI Changes  
**VERSION:** 1.0

**DETAIL:**

The IDCWG has requested OATI to implement the following GUI changes:

1. Add multi-column sorting capability to all outage displays (if this functionality is technically feasible). Currently, each column can be sorted individually, but multiple columns cannot be sorted simultaneously.
2. Change functional spec definition and function of the MRID. The MRID will continue to be an optional field and serve as a unique identifier for outage records from back-end systems. The MRID will be a filterable field in the GUI.
3. For all outages displays, the submission date indicates the last time an outage was submitted. Rename this column to 'Last Submission DT'. Create a new field called 'Initial Submission DT' that indicates the first time an outage was submitted to the SDX. Make this column available for viewing on all outage displays, including the RCR display.

On the Tie Line Outages display, there is currently a column for Submitting BA. Since BAs do not generally submit outages, this column should be replaced with 'Submitting Company'. If an outage is segmented as a result of overlaps, this field should be populated with both companies or should state 'multiple' (discuss with IDCWG and OATI). This implementation will get rid of several duplicate records in the Tie Line display. See the example below from the Tie Line outages display. The new 'Submitting Company' column should be available for all outage displays, including the Regional Coordination Report display.

RC	BA	Submitting BA	FromBus			ToBus			Circuit	Start DT	End DT	Submission DT		
			BA	Name ▲	KV Level	BA	Name	KV Level						
PJM	OVEC	OVEC	PJM	05MARQUI	345.00	345.0	OVEC	06DOE530	345.00	345.0	1	01/24/2007 08:00	11/30/2009 16:00	08/11/2009 13:17
PJM	OVEC	PJM	PJM	05MARQUI	345.00	345.0	OVEC	06DOE530	345.00	345.0	1	01/24/2007 08:00	11/30/2009 16:00	08/11/2009 13:17

4. A single tie line outage between two BAs within the same RC footprint (intra RC outages) will show up on outage displays as two records. One outage record shows the BA field populated with the first BA, and the other outage record is the same outage with the BA field populated with the other BA. Note in the screenshot below of the Intra RC example that the two records shown are the same outage entry. A similar situation holds true for RC-to-RC tie line outages (inter RC outages). For tie line outages, please put both BAs and RCs in the same field separated by a comma, with the BAs/RCs ordered alphabetically. Doing so will eliminate many repeated records. Reference the examples below with these changes implemented.

**Intra RC Outage Example**

RC	BA	Submitting BA ▲	FromBus			ToBus			Circuit	Start DT	End DT	Submission DT		
			BA	Name	KV Level	BA	Name	KV Level						
VACS	CPLE	CPLE	CPLE	8RICHMON	500.00	500.0	DUK	8NEWPORT	500.00	500.0	1	10/13/2009 09:00	10/13/2009 15:00	06/24/2009 09:34
VACS	DUK	CPLE	CPLE	8RICHMON	500.00	500.0	DUK	8NEWPORT	500.00	500.0	1	10/13/2009 09:00	10/13/2009 15:00	06/24/2009 09:34

**With Change:**

RC	BA	Submitting BA	BA	Name	KV Level	BA	Name	KV Level	Circu	Start DT	End DT	Submission DT		
VACS	CPLE, DUK	CPLE	CPLE	8RICHMON	500.00	500	DUK	8NEWPORT	500.00	500	1	10/13/2009 9:00	10/13/2009 15:00	6/24/2009 9:34

**Inter RC Outage Example**

VACS	CPLE	PJM	CPLE	6ROCKY M	230.00	230.0	PJM	6EDGECOM	230.00	230.0	1	10/12/2009 09:00	10/15/2009 15:00	08/11/2009 13:17
PJM	PJM	PJM	CPLE	6ROCKY M	230.00	230.0	PJM	6EDGECOM	230.00	230.0	1	10/12/2009 09:00	10/15/2009 15:00	08/11/2009 13:17

**With Change:**

RC	BA	Submitting BA	BA	Name	KV Level	BA	Name	KV Level	Circuit	Start DT	End DT	Submission DT		
PJM, VACS	CPLE, PJM	PJM	CPLE	6ROCKY M	230.00	230	PJM	6EDGECOM	230.00	230	1	10/12/2009 9:00	10/15/2009 15:00	8/11/2009 13:17

5. Related item for tie line outages. Referencing the screenshot below, note that a single tie line outage on the 6ANDERSN-6RAINEY line shows up on the Overlapping Outages display. Single tie line outage entries should not show up as an overlapping outage.

RC	BA	Common Name	IBus	JBus	KBus	Outage Type	Submission DT	Start DT	End DT	Circuit	Submitted Type	Submission Type	Equipment Type		
VACS	DUK	AEP - JACKSONS-ANTIIOCH	05J.FERR	500.00	8ANTIOCH	500.00		0	05/27/2009 12:40	08/12/2009 02:00	08/14/2009 12:00	1	0	Manual Entry	Tie Branch
VACS	DUK	AEP - RIDGEWAY-DANRIVER	05RIDGWY	138.00	4DAN RIV	138.00		0	05/27/2009 12:40	11/16/2009 07:00	11/23/2009 15:00	1	0	XML	Tie Branch
VACS	DUK	Anderson (Duke) - Rainey (SCPSA) 230 ...	6ANDERSN	230.00	6RAINEY	230.00		0	05/27/2009 12:40	08/13/2009 15:00	08/14/2009 11:15	1	0	Manual Entry	Tie Branch
VACS	SC	Anderson (Duke) - Rainey (SCPSA) 230 ...	6ANDERSN	230.00	6RAINEY	230.00		0	05/27/2009 12:40	08/13/2009 15:00	08/14/2009 11:15	1	0	Manual Entry	Tie Branch

6. Reference the screenshot below and note how the columns do not align. The display shows transmission outages for both the VACS and PJM RCs. As a VACS user, I have read/write access to VACAR South but not to PJM. The screenshot below shows both RCs on the same display, as per the filter settings. Note that the VACAR south records contain an 'Action' column while the PJM records do not. The absence of this column in the PJM records causes the columns to be misaligned and visually distracting. In order to preserve the aesthetics of the display, the PJM records should contain an 'Action' column, but the cell should be empty. The addition of this column for the PJM records will ensure that the all columns on the display are aligned. Please ensure that all columns are properly and consistently align regardless of read/write permissions.

RC	BA	Name	KV Level	Name	KV Level	Circuit	Outage Type	Start DT	End DT	Submission DT	Submission Type	Equipment Type			
PJM	PJM	OSTANNER	345.00	060EAR82	345.00	2	HT	10/18/2005 15:00	01/01/2021 00:59	05/05/2009 10:29	Outage Override	Branch			
PJM	PJM	OSTANNER	345.00	060EAR82	345.00	2	HT	10/18/2005 15:00	01/01/2021 00:59	05/05/2009 10:29	Outage Override	Branch			
PJM	PJM	OVCE	345.00	06CLFTY	138.00	18	F	10/09/2006 12:36	03/13/2026 17:00	05/13/2009 17:12	Outage Override	2W Transformer			
PJM	PJM	OIBURMA	138.00	01KISSNG	138.00	1	O	02/11/2009 06:54	12/31/2009 23:59	05/13/2009 17:13	Outage Override	Branch			
PJM	PJM	05J.FERR	500.00	8ANTIOCH	500.00	1	O	08/12/2009 02:00	08/14/2009 12:00	08/14/2009 11:00	Manual Entry	Branch			
Action	RC	BA	Name	KV Level	Name	KV Level	Circuit	Outage Type	Start DT	End DT	Submission DT	Submission Type	Equipment Type		
Override	VACS	DUK	05J.FERR	500.00	8ANTIOCH	500.00	500.0	1	0	08/12/2009 02:00	08/14/2009 12:00	08/14/2009 11:00	Manual Entry	Branch	
Override	VACS	DUK	6ANDERSN	230.00	230.0	6RAINEY	230.00	230.0	1	0	08/13/2009 15:00	08/14/2009 11:15	08/14/2009 10:56	Manual Entry	Branch
Override	VACS	SC	6ANDERSN	230.00	230.0	6RAINEY	230.00	230.0	1	0	08/13/2009 15:00	08/14/2009 11:15	08/14/2009 10:56	Manual Entry	Branch
RC	BA	Name	KV Level	Name	KV Level	Circuit	Outage Type	Start DT	End DT	Submission DT	Submission Type	Equipment Type			
PJM	PJM	RAR RIV	230.00	RRC182	13.00	1	O	09/14/2009 06:00	10/09/2009 15:30	04/14/2009 14:38	XML	3W Transformer			
PJM	PJM	WENPL: B	345.00	ROE 345	345.00	345.0	1	O	09/14/2009 07:30	09/21/2009 07:59	08/10/2009 17:00	XML	Branch		
PJM	PJM	WENPL: B	345.00	ROE 345	345.00	345.0	1	O	09/21/2009 08:00	10/18/2009 18:00	08/10/2009 17:00	XML	Branch		
PJM	PJM	WENPL: B	345.00	ROE 345	345.00	345.0	1	O	10/19/2009 01:00	11/30/2009 02:00	08/10/2009 17:00	XML	Branch		
PJM	PJM	LEWISTWN	230.00	LEWISTWN	115.00	115.0	1	O	10/21/2009 08:30	10/21/2009 18:00	04/14/2009 14:38	XML	3W Transformer		
PJM	PJM	LEWISTWN	230.00	LEWISTWN	115.00	115.0	2	O	11/11/2009 08:30	11/11/2009 14:30	04/14/2009 14:38	XML	3W Transformer		
Action	RC	BA	Name	KV Level	Name	KV Level	Circuit	Outage Type	Start DT	End DT	Submission DT	Submission Type	Equipment Type		
Override	VACS	DUK	05RIDGWY	138.00	138.0	4DAN RIV	138.00	138.0	1	0	11/16/2009 07:00	11/23/2009 15:00	05/27/2009 12:40	XML	Branch
RC	BA	Name	KV Level	Name	KV Level	Circuit	Outage Type	Start DT	End DT	Submission DT	Submission Type	Equipment Type			
PJM	PJM	05RIDGWY	138.00	4DAN RIV	138.00	138.0	1	O	11/16/2009 07:00	11/23/2009 15:00	05/27/2009 12:40	XML	Branch		
PJM	PJM	WENPL: B	345.00	ROE 345	345.00	345.0	1	O	12/01/2009 09:00	12/24/2009 19:00	08/10/2009 17:00	XML	Branch		
PJM	PJM	WENPL: B	345.00	ROE 345	345.00	345.0	1	O	01/04/2010 08:30	03/04/2010 19:00	08/10/2009 17:00	XML	Branch		
PJM	PJM	WENPL: B	345.00	ROE 345	345.00	345.0	1	O	04/12/2010 02:00	05/09/2010 01:00	08/10/2009 17:00	XML	Branch		

- Reference the screenshot below. There is a scroll bar on this display, yet there are only four records present in the display. The user must scroll down to see the fourth record. The scroll bar should be present only when the page is filled with records.

Action	RC	BA	FromBus		ToBus		Circuit	Outage Type	Start DT	End DT	Submission DT	Submission Type	Equipment Type		
			Name	KV Level	Name	KV Level									
Override	VACS	DUK	05J.FERR	500.00	500.0	8ANTIOCH	500.00	500.0	1	O	08/12/2009 02:00	08/14/2009 12:00	08/14/2009 11:00	Manual Entry	Branch
Override	VACS	DUK	6ANDERSN	230.00	230.0	6RAINEY	230.00	230.0	1	O	08/13/2009 15:00	08/14/2009 11:15	08/14/2009 10:56	Manual Entry	Branch
Override	VACS	SC	6ANDERSN	230.00	230.0	6RAINEY	230.00	230.0	1	O	08/13/2009 15:00	08/14/2009 11:15	08/14/2009 10:56	Manual Entry	Branch

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- Calendar functionality. Canceling out of the calendar using the lower right X, accepts calendar changes the same as the OK button. When a user pokes the lower right X in the calendar, whatever date changes made should be discarded and the dates should be repopulated with the original values. Only the OK button should accept calendar changes. Currently, when the user pulls up the calendar, the first click changes the Start Date and the second click changes the End Date. There is no way for the user to select which field he wants to modify. The calendar should highlight the date being modified by the mouse click, and it should allow the user to select the field he desires to modify.
- More calendar functionality. When a user uses the 'replace' functionality to update the End Date of an existing manual outage entry, the user has the option of manually changing the end date in the field, or the user can poke the calendar to change the date. Note on the screenshot below that both the Begin Date and the End Date have a calendar icon. However, when the user pokes the End Date calendar, a calendar that modifies *both* the Begin Date *and* the End Date pops up, as shown in the second screenshot. The user thinks he is changing the End Date, but clicking on a date in the calendar actually changes the Begin Date. A second mouse click will then change the End Date. The End Date calendar should only show (and allow modification of) the End Date. The same should hold true for the Begin Date calendar.

Action	RC	BA	FromBus		ToBus		Circuit	Equipment Type	Outage Type	Common Name	Start DT	End DT		
			Name	KV Level	Name	KV Level								
Terminate   Save   Cancel	VACS	CPL	8DURHAM	500.00	500.0	8WAKE	500.00	500.0	1	Branch	Out-of-service (O)	Durham - Wake 500 kv	08/25/2009 16:00:00	08/25/2009 16:00:00
Terminate   Replace	VACS	DUK	6ANDERSN	230.00	230.0	6RAINEY	230.00	230.0	1	Branch	O	Anderson (Duke) - Rainey (SCPSA) 230 ...	08/13/2009 15:00	08/14/2009 11:15

Action	RC	BA	FromBus		ToBus		Circuit	Equipment Type	Outage Type	Common Name	Start DT	End DT		
			Name	KV Level	Name	KV Level								
Terminate   Save   Cancel	VACS	CPL	8DURHAM	500.00	500.0	8WAKE	500.00	500.0	1	Branch	Out-of-service (O)	Durham - Wake 500 kv	08/12/2009 16:00:00	08/21/2009 17:00:00
Terminate   Replace	VACS	DUK	6ANDERSN	230.00	230.0	6RAINEY	230.00	230.0	1	Branch	O	Anderson (Duke) - Rainey (SCPSA) 230 ...	08/13/2009 15:00	08/14/2009 11:15

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31	26	27	28	29	30	31
32	2	3	4	5	6	7
33	9	10	11	12	13	14
34	16	17	18	19	20	21
35	23	24	25	26	27	28
36	30	31	1	2	3	4

StartDate: 08/12/2009 16:00:00 Ok

EndDate: 08/21/2009 17:00:00

Today: August 14, 2009

**EVALUATION SECTION:**

EVALUATOR'S NAME: OATI.

DATE: October 8, 2009.

DESCRIPTION: OATI proposes to implement the requested GUI changes, in the manner described below:

1. Multi-column sorting capability will be added to the following webSDX displays:
  - Generation Outages
  - Generation Manual Outages
  - Generation Overlapping Outages
  - Transmission Outages
  - Transmission Manual Outages
  - Transmission Overlapping Outages
  - Tie Lines
2. MRID will be made searchable by a free-text filter in each display that currently searches Bus Names and Common Names.
3. Displaying an 'Initial Submission DT' for each outage is possible as the data is available in the database. This could have a significant impact in performance due to the amount of data that would need to be compared to determine an initial submission time per each Equipment, Outage Type, Outage Start DT, Outage End DT combinations. Also this will require significant changes to the outage processing logic to incorporate the new information. The current column 'Submission DT' would be renamed to 'Last Submission DT'.
4. The 'Submitting BA' column will be renamed as 'Submitting Company' in the following webSDX displays:
  - Generation Outages
  - Generation Manual Outages
  - Generation Overlapping Outages
  - Transmission Outages
  - Transmission Manual Outages
  - Transmission Overlapping Outages
  - Tie Lines
  - Regional Coordination Report

A single Tie Line outage submitted by separate BAs will be shown as a single outage in the Tie Lines Outages display, with the Submitting BAs separated by a comma. When sorting by this column, sorting will be done alphabetically (as is done now) by the first entity listed.
5. A single Tie Line outage between two BAs within the same RC footprint (intra RC) and RC to RC (inter RC) will be shown as a single outage in the Tie Line Outages display, with the RCs and/or BAs separated by a comma. When sorting by these columns, sorting will be done alphabetically (as is done now) by the first entity listed.
6. A single Tie line outage submitted by separate BAs should not be treated as overlapping. Single Tie Line outages will be removed from the Transmission Overlapping Outages display.
7. Displays with an Action column will be modified to show the Action column regardless of permissions to maintain the column alignment. The Action column will be empty if the user lacks permissions. All columns will be verified to operate the same way based on permissions.
8. This is a known issue and is currently being investigated by the webGUI team.

9. The 'x' button and the OK button currently work as expected when manually modifying the Date/Time in the calendar. Clicking on a date in the calendar updates the calendar inputs as well as the form inputs when this should only update the calendar inputs until OK is pressed. This will be investigated by the webGUI team. The calendar icons for Start DT and End DT will be changed to open separate calendars, each with a single date/time entry.
10. The calendar icons for Start DT and End DT will be changed to open separate calendars, each with a single date/time entry.