California ISO

Reliability Services Initiative 2017 (RSI1B & 2) Training

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Agenda

- Legacy Replacements
- RA Timeline
  - Transition month
- RA and Supply Plan Changes
- RA Validation
- Cross Validation
- Outage Impact Analysis & Planned Outage Substitution Obligation
- Reports

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Legacy Replacements

Legacy Replacements

MAPTest [v. 4.0.0_b107

Legacy Replacements

Tac Results

Peak Results

View Outage Impact

View Outage Availability

Publish Replacements

Approve/Reject Replacements

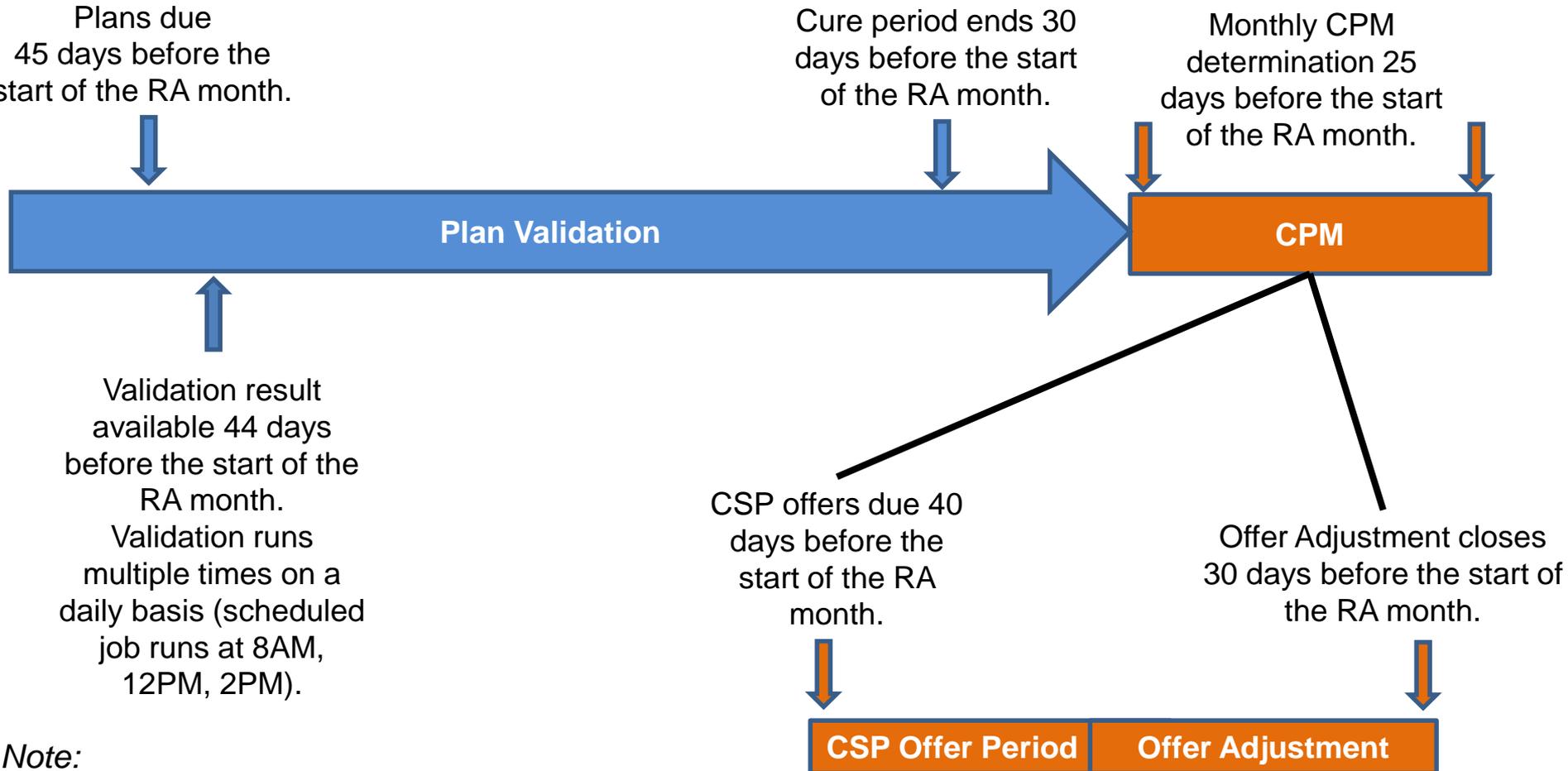View Replacement Details

OM Replacements

OM RA Data Report

Approve/Reject OM Replacements

Replacement Requirement

1. New tab will show up called "*Legacy Replacements*" in CIRA home page.
2. All current replacement functionality which has a sunset date of 3/31 will be moved under Legacy Replacements.
3. All Outage analysis details, LSE replacements information, replacement requirement will be available under Legacy replacements.
4. This should be used to view analysis for historical trade dates.
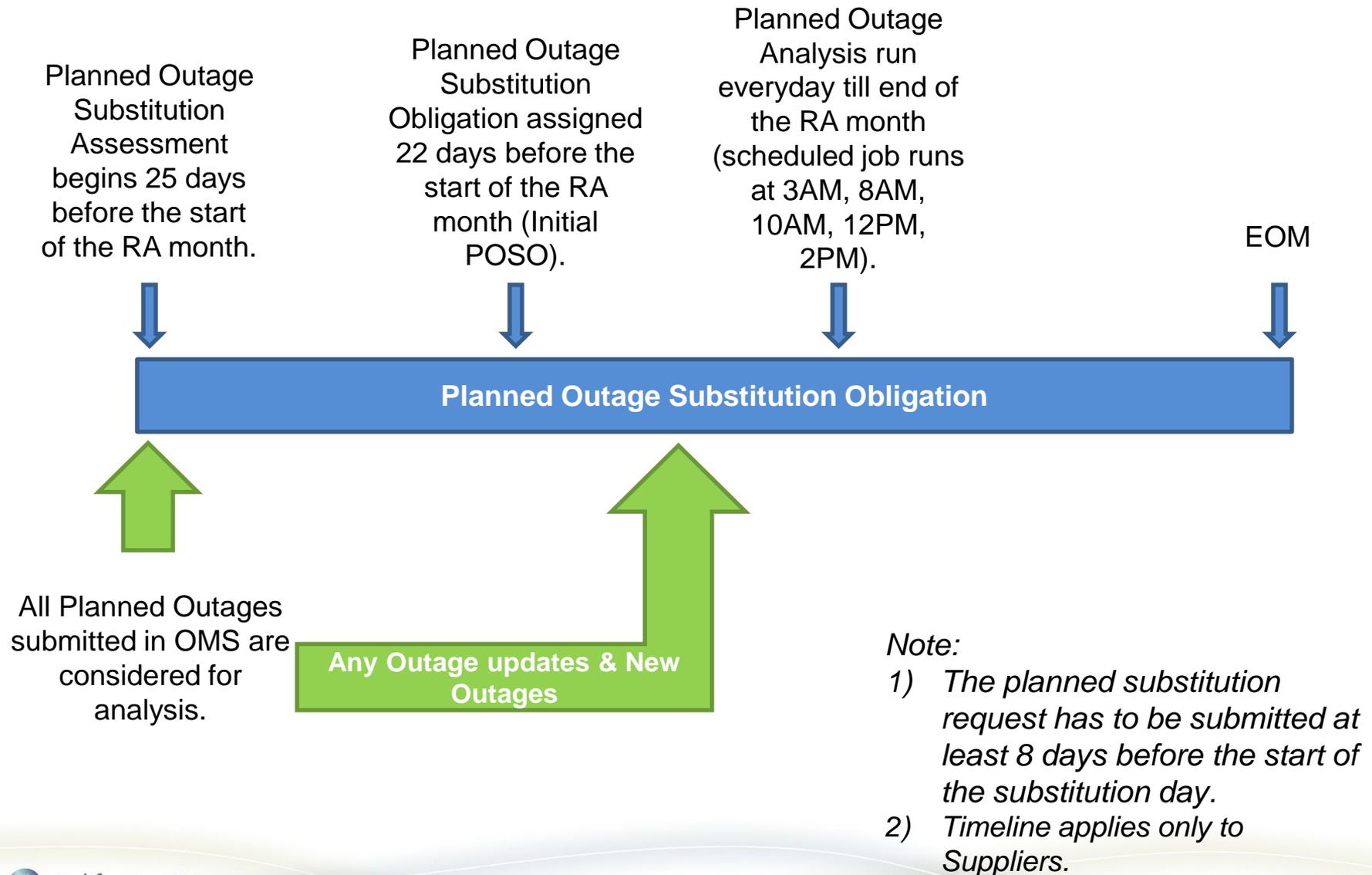5. 4/1 going forward there will be no updates under this tab.

RA Timeline (effective for April RA month)

Resource Adequacy Timeline

Plans due 45 days before the start of the RA month.

Cure period ends 30 days before the start of the RA month.

Monthly CPM determination 25 days before the start of the RA month.

Plan Validation

CPM

Validation result available 44 days before the start of the RA month. Validation runs multiple times on a daily basis (scheduled job runs at 8AM, 12PM, 2PM).

CSP offers due 40 days before the start of the RA month.

Offer Adjustment closes 30 days before the start of the RA month.

CSP Offer Period | Offer Adjustment

Note:
1) *New RA & Supply Plan Templates must be used.*
2) *Timeline applies to LSE & Supplier.*

Resource Adequacy Timeline

Planned Outage Substitution Assessment begins 25 days before the start of the RA month.

Planned Outage Substitution Obligation assigned 22 days before the start of the RA month (Initial POSO).

Planned Outage Analysis run everyday till end of the RA month (scheduled job runs at 3AM, 8AM, 10AM, 12PM, 2PM).

EOM

Planned Outage Substitution Obligation

All Planned Outages submitted in OMS are considered for analysis.

Any Outage updates & New Outages

Note:
1) *The planned substitution request has to be submitted at least 8 days before the start of the substitution day.*
2) *Timeline applies only to Suppliers.*

Transition Requirements

1. The new template for RA & Supply plans will be used for April RA compliance month. Please see RR website (http://www.caiso.com/planning/Pages/ReliabilityRequirements/Default.aspx) for due dates to submit plans. Please ensure you follow the new RA timeline.

2. Ensure SCs have correct access to new functionality in CIRA via AIM. This will be covered in upcoming slides.

3. SCs need to submit real time substitutions via CIDI for trade date 3/31 as CIRA will not support this functionality on 3/31 due to the cut over to new functionality starting 4/1.

4. Please download the current RA report information for trade dates prior to 4/1 no later then 2/12/18. The new RA report will not contain RA replacement information.

New Supplier Roles

Only the new Supplier read only and read/write roles have access to the following screens:

Screen	SC for Supplier Read Only Role	SC for Supplier Read/ Write Role
OIA Validation Run Results • MW Impact by Outage • View Operational RA MW	Read access	Read access
POSO (Assignment)	Read access	Read access
Create Planned Substitution	No access	Edit access
Review/Release Planned Substitution	Read access	Edit access

Retain the existing SC role to access current CIRA screens to perform current functions.

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RA/Supply Plan Changes

New Template – RA Plan

Changes to the RA plan are as follows:

- Consolidated Flexible RA Capacity tab to Resources tab
- Added Local RA Capacity column
- Added System RA Capacity column
- Added Flexible RA Capacity column
- Added Flexible Category column

Monthly	Resource ID in CAISO Master File	Local RA Capacity (MW 00.00 No Rounding)	System RA Capacity (MW 00.00 No Rounding)	Flexible RA Capacity (MW 00.00 No Rounding)	Flex Category	RA Capacity Effective Start Date (mm/dd/yyyy)	RA Capacity Effective End Date (mm/dd/yyyy)
	Resource_Unit 1	10		5	1	4/1/2018	4/30/2018
	Resource_Unit 2	3.5	2.5	2	1	4/1/2018	4/30/2018
		①	②	③	④		

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New Template – Supply Plan

Changes to the RA plan are as follows:

- Consolidated Flexible RA Capacity tab to Resources tab
- Added Local RA Capacity column
- Added System RA Capacity column
- Added Flexible RA Capacity column
- Added Flexible Category column

Monthly	Resource ID in CAISO Master File	Local RA Capacity (MW 00.00 No Rounding)	System RA Capacity (MW 00.00 No Rounding)	Flexible RA Capacity (MW 00.00 No Rounding)	Flexible Category 1,2,3	RA Capacity Effective Start Date (mm/dd/yyyy)	RA Capacity Effective End Date (mm/dd/yyyy)	SCID of Load Serving Entity
	Resource_Unit 1	10		5	1	4/1/2018	4/30/2018	ABCD
	Resource_Unit 2	3.5	2.5	2	1	4/1/2018	4/30/2018	ABCD

Missing/Late Plan Submission

- LSEs and ISO users can track missing and late plan submissions for compliance assessment of RA Plans.

- Supplier and ISO users can track late submissions for compliance assessment of Supply Plans.

Plans		RA Validation	Substitutions	RAAIM Pre-Clic

Download RA Plan

Submittal Type	Month Ahead
Target Period	January ☑ Month 2018 ☑ Year
LSE	-Select- ☑ Version -Select- ☑
Missing	○ Submitted ⦿ Missing/Late Plans

View ↺ **Reset**

LSE	Submittal Type	Submission Date	Plan Month	Plan Year	Missing	Late Days
	M		01	2018	Y	
	M		01	2018	Y	
	M		01	2018	Y	
	M		01	2018	Y	

Comments Field on RA and Supply Plan Upload

CIRA has a comments fields (free text input) on plan upload page. Please use this field to indicate the reason for late submissions, CIDI ticket ID, any information the ISO needs to know about your plan.

Example, A plan might be submitted after the due date because of an SC transfer. Please indicate this in the comment field so that the SC is not assessed any late fee for submitting the plan after the due date.

RA Validation

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RA Validation

RA Validation page consists of validation results for the following:
1) CV (Cross Validation) – Validates RA and Supply plans for deficiencies and discrepancies.
2) OIA (Outage Impact Analysis) - Calculates Operational RA for Planned Outages, Forced Outages and Planned & Forced Outages.
3) POSO (Planned Outage Substitution Obligation) – Assigns substitution obligation for planned outages.

Click on RA Validation -> View Results -> Select Month/Year -> Validation Type (CV, OIA, POSO).

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Scheduled Validation Runs

- The Cross Validation will run at **8AM, 12PM, 2PM.** If a user submits a plan at 8:30 AM then please wait until 12PM to view updated results.

  - Job runs automatically from 44 days before the start of the RA month to 30 days before the start of the RA month.
  - The UI will show a run start date. The validation run takes approximately 10 minutes to complete.

- The Outage Impact Analysis for Planned Outages & POSO assignment runs at **3AM, 8AM, 10AM, 12PM,** and **2PM.** If a user submits an outage in web OMS at 8:30AM then please wait for the 10 AM run to process the outage.

Scheduled Validation Runs

- Web OMS is designed to broadcast outages that are in any state other than received.

- If an Outage is in received status then CIRA will not see the Outage.

- The Outage Impact Analysis for Forced Outages is a scheduled job that runs at **3PM.**

- Currently, there are no scheduled jobs for planned & forced outage analysis in CIRA.

Cross Validation

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Cross Validation changes

- Resources will now be cross referenced against corresponding RA plan for Local and System RA Capacity listings.

- Resource, Capacity Amounts, and Start and End Dates must match exactly for associated Supply and RA Plans.

Cross Validation Supply Details

Run Num	2503430517227		Submittal Type		M
SCID	-Select- ▼		Resource ID		
Detail Type	Supply Plans ▼				

View   Reset

Validation Status	Supplier	Resource ID	Local RA Capacity	System RA Capacity	Supplier's Total RA Capacity (MW)	Effective Start Date	Effective End Date	SCID of LSE	Errors & Warnings
Warning			10	7	17	11/01/2017 00:00:00	11/30/2017 23:59:59		No LSE Found for sup
Warning			11	7	18	11/01/2017 00:00:00	11/30/2017 23:59:59		No LSE Found for sup
Warning			10	7	17	11/01/2017 00:00:00	11/30/2017 23:59:59		No LSE Found for sup
Warning			25	27	52	11/01/2017 00:00:00	11/30/2017 23:59:59		No LSE Found for sup

Cross Validation changes cont.

1. LSE's can view Listed Local validation in a given TAC area under the CV details.

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Outage Impact Analysis (OIA) & Planned Outage Substitution Obligation Assignment (POSO)

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OIA & POSO

- The cross validation, RA deficiency analysis, CPM determination are completed 25 days before the start of the RA month.

- No later than 22 days before the start of the RA month, the ISO will assign a POSO for RA resources on Planned Outages.
  - This is Initial POSO (*highlighted in Green*). The initial POSO will be available in all subsequent runs for that compliance month and this assignment will not change.

- Any updates to outages and new Planned Outages will be considered for subsequent POSO runs as validation runs 5 times a day.

OIA & POSO cont.

- OIA calculates the Operational RA MW and Outage impact to RA.

- POSO assigns the obligation by stacking outages in last in first out order (LIFO) based on the Outage submission date.

- All Planned Outages irrespective of nature of work are considered for analysis. Only off peak outages are treated differently.

- There is **no automatic notification** on an assignment of POSO. The SC for the resource is responsible to track POSO assignments in CIRA and provide RA substitution accordingly.

Outage Impact Analysis

To view Outage Impact Analysis Results:

- Navigation: RA Validation > View Results

  - Users will have the ability to view Planned, Forced, and Planned & Forced outage impact analysis results by looking at the Outage Type column. Click on view results to view details.

Outage Impact Analysis cont.

Users can view MW Impact by Outage and Operational RA MW.

MW Impact by Outage:
- Users have the ability to filter results by Resource, Outage, Start and End Date.
- MW Impact by Outage results displays the following:
  - Impact MW *(RA impact)*
  - Short/Long *(is the Outage impacting the RA resource)*
  - Start and End Date of Outage
  - Outage ID *(from OMS)*
  - Outage Status *(from OMS)*
  - Priority TS (*Priority date is the Outage Submission Date in OMS. Used for LIFO stack of Outages*)

Outage Impact Analysis Details

Run Num : 2503137048989   SubmittalType : **Monthly**   ValidationType : **OIA**   Plan Month : 10   Plan Year : 2017

Detail : MW Impact by Outage ▾   ① ResourceID :   ② OutageID :   ③ Start Date :   ④ End Date :

View   Cancel

ID	ResourceID	Impact MW ▾	Short/Long	StartDate	EndDate	OutageId	Outage Status	Priority TS
25056399778	RESOURCE_UNIT 1	263.68	Short	10/02/2017 00:00	10/02/2017 23:59	123458	IN_SERVICE	09/20/2017 07:50
25056400156	RESOURCE_UNIT 2	263	Short	10/15/2017 00:00	10/15/2017 23:59	893458	STUDY	10/12/2017 16:17
25056399779	RESOURCE_UNIT 3	263	Short	10/02/2017 00:00	10/02/2017 23:59	903458	IN_SERVICE	09/20/2017 07:51
25056400254	RESOURCE_UNIT 4	248.8	Short	10/18/2017 00:00	10/18/2017 23:59	703458	STUDY	10/12/2017 16:17
25056400217	RESOURCE_UNIT 5	239.47	Short	10/17/2017 00:00	10/17/2017 23:59	333458	STUDY	10/12/2017 16:17

Outage Impact Analysis cont.

<u>Operational RA</u> *(Unit availability for the day):*

- Users have the ability to filter results by SCID and Resource ID.
- Results will display the operational RA for a unit (taking into account outages).

Outage Impact Analysis Details

Run Num : **2503946668862**   SubmittalType : **Monthly**   ValidationType : **OIA**   Plan Month : 10   Plan Year : 2017

Detail : Operational RA   ①Supplier : -Select-   ②ResourceID :

View   Cancel

Supplier	Resource ID ▲	10/1/2017	10/2/2017	10/3/2017	10/4/2017	10/5/2017	10/6/2017	10/7/2017	10/8/2017	10/9/2017	10/10/2017	10/11/2017	10/12/2017	10/13/2017
ABC1	RESOURCE_UNIT 1	11.25	11.25	11.25	11.25	11.25	11.25	11.25	11.25	11.25	11.85	11.85	11.25	11.25
ABC1	RESOURCE_UNIT 2	125	125	125	125	125	125	125	125	125	125	125	125	125
ABC1	RESOURCE_UNIT 3	125	125	125	125	125	125	125	125	125	126.3	127.1	127.7	127.7
ABC1	RESOURCE_UNIT 4	250	250	250	250	250	250	250	250	250	250	250	250	250

POSO

- Output of OIA & System RA obligation is used to determine System RA shortages.

Day:

5   10   15   20

ISO System RA Requirement

System Short Days
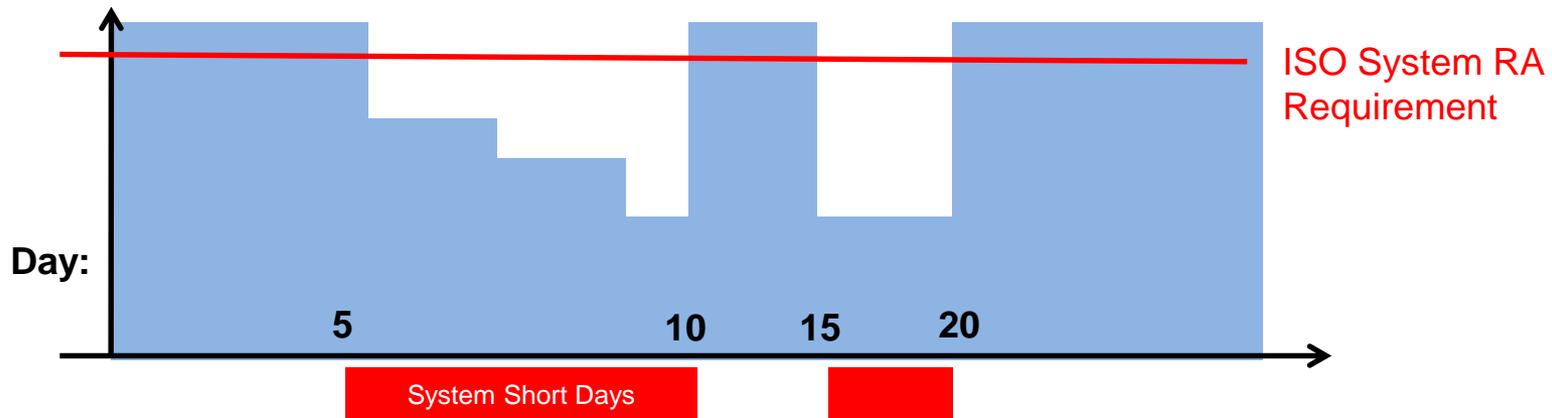
- ISO System RA Requirement is the redline; Blue is operational RA.
- Days 5 through 10 & 15 through 20 System RA is short.
- POSO assignment is subject to change if curtailment or duration of the outage worsens (LIFO).

POSO Assignment Details

- Users have the ability to filter results by Resource ID, Outage ID, and SCID.
- Results will display for each day of the month if there is an assignment:
  - Initial POSO MW amount is assigned when POSO is executed the first time.
  - Latest POSO MW amount is assigned based on the latest run (reflecting new Outages and Outage changes, and priority changes)
  - By selecting the Date row, users will see all resources with POSO assignment.

POSO Assignment Details

Run Num: 2503946668862   Submittal Type: Monthly   Plan Month : 10   Plan Year : 2017   Is Initial POSO : N

Resource ID :   Outage ID :   SCID : -Select-

View   Cancel

Date	Initial POSO MW	Latest POSO MW
10/01/2017	0	16.87
10/02/2017	0	548.55

Supplier	Resource ID	Outage ID	POSO MW	Nature of Work	Opportunity	Priority Date
ABC1	RESOURCE UNIT 1	123458	263.00	PLANT_MAINTENANCE	Off Peak	09/20/2017 14:51:28
ABC1	RESOURCE UNIT 1	893457	263.68			09/20/2017 14:50:40
ABC1	RESOURCE UNIT 1	773422	16.87			09/01/2017 13:20:34
ABC1	RESOURCE UNIT 1	333444	5.00			07/11/2017 16:23:32

POSO Assignment Details cont.

Users have two options to download POSO results in Excel format

- Option 1: Select Download Screen Results
    - Downloaded results will be as viewed on the page

- Option 2: Download POSO Analysis Details
    - Downloaded results will include ALL outages considered during analysis and will show those assigned a POSO. User can view the entire Outage stack used for analysis.

10/29/2017	0
10/30/2017	0
10/31/2017	0
Download Screen Results	**Download POSO Analysis Details**
📄 EXCEL	📄 EXCEL

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Reports

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Reports

1. Users (existing SC role) have the below reports:
   - RA report (*shows committed RA capacity, resource attributes, and Substitution transaction information for a RA month*)
   - Generic Obligation Report (*shows Local, Listed Local, and System RA validation results*),
   - Flex Obligation Report (*Category 1, Total Flexible Capacity Need validation*)

   *The Generic & Flex Obligation report can be used to view obligation data across months.

2. SC Transfer Report shows the SC transfer information when an SC for a resource changes.

RA Report

1. Enter resource ID, Start and End Dates within the month to view RA information.
   - Data is now reported at a daily level.

2. Download All Results option will download all RA results for the month for all resources.

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RA Report cont.

Download results will have the following columns:

Field Name	Meaning	UI + Download / Only Download
SCID	Supplier	Only Download
Resource ID	Resource ID for each resource adequacy resource	UI + Download
Start Date	Start date selected by the user. RA is displayed at a daily granularity in PST.	UI + Download
End Date	End date selected by the user. RA is displayed at a daily granularity in PST.	UI + Download
PMAX	Maximum power limit	UI + Download
PMIN	PMin of the resource from MF	UI + Download
NQC	Net Qualifying Capacity of the resource	UI + Download
EFC	EFC of the resource from MF	UI + Download
TAC	TAC area of the resource	UI + Download
Local Area	Local area, mapped to a TAC, for the resource	UI + Download
Dispatchable	Dispatchable flag for the resource	Only Download
Fuel Type	Fuel type resource attribute from MF	Only Download
Res Type	Resource type attribute from MF. E.g. GEN, ITIE, TG, etc.	Only Download
Use Limit	Use limit flag resource attribute from the MF	Only Download
Generic RA	Total Generic RA for the resource for the day. Use max RA for a day if this varies during a day. Equals sum of local MW and System MW.	UI + Download
CPM	Total Generic Capacity procurement mechanism megawatts for the resource for the period selected	UI + Download
Flex RA	Total Flex RA for the resource for the period selected. Use max Flex RA for a day if this varies during a day.	UI + Download
Flex CPM	Total Flex CPM for the resource for the period selected	UI + Download
Flex Cat.	Flex category of the resource	UI + Download
Must Offer Obligation	Must Offer Obligation (MOO) for the resource for the period selected. Possible values are: Y - Yes N - No	UI + Download
Local MW	Total Local MW (from Supply plan & Forced Substitutions)	Only Download
System MW	Total System MW (from Supply plan & Forced Substitutions)	Only Download
App S.	Removing from RA report	
App N.	Removing from RA report	
App OM.	Removing from RA report	
Local Substitute MW	Total Generic Local Substitution MW provided by this resource to other resource(s) on forced outage.	Only Download

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RA Report cont.

Download results will have the following columns:

Field Name	Meaning	UI + Download / Only Download
System Substitute MW	Total Generic System Substitution MW provided by this resource to other resource(s) on forced outage.	Only Download
Planned Substitute MW	Total Generic Substitution MW provided by this resource for planned outages	Only Download
Transferred MW - Local Substitution	Generic Local MW transferred from this resource to other resources that have provided forced substitution	Only Download
Transferred MW - System Substitution	Generic System MW transferred from this resource to other resources that have provided forced substitution	Only Download
Transferred MW - Planned Substitution	Generic System & Local MW transferred from this resource to other resources as system RA that have provided planned substitution	Only Download
CPM Substitute MW	The amount of Generic CPM substitution megawatts provided by this resource to other resource(s) for forced & planned	Only Download
Transferred MW - CPM Substitution	Total Generic CPM MW transferred from this resource to other resource(s) that have provided substitution for planned outages	Only Download
Flex MW	Flex MW from the Supply plan after validation	Only Download
Flex Substitute MW	The amount of Flex CPM substitution megawatts provided by this resource to other resource(s)	Only Download
Transferred MW - Flex Substitution	Total Flex CPM MW transferred from this resource to other resource(s) that have provided substitution for planned outages	Only Download
Flex CPM Substitute MW	Total Flex CPM Substitution MW provided by this resource to other resource(s) on outage	Only Download
Transferred MW - Flex CPM Substitution	Total Flex CPM MW transferred from this resource to other resource(s) that have provided substitution for outages	Only Download

Generic RA Obligation Report

•Generic Obligation Report (*shows Local, Listed Local, and System RA validation results*),

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Flex Obligation Report

- Flex Obligation Report (*Category 1, Total Flexible Capacity Need validation*)

Questions?