



## Release Notes – Business Rules Version 11.3.1x Up to FALL 2021 Release for SIBR/BSAP/RC-BSAP

### Revision History

Date	Version	By	Description
9/02/2021	1.0	WT/SU	Initial Draft for Fall Release ESDER4 2021 set.
10/20/2021	1.1	WT/SU	Update for Incremental DA NPM Phase 2



For the Release Notes **version 1.0 this will be the Baseline Release** and is referenced in the revision history as the Initial Draft.

For modifications and adjustments of the Business Rules(BR) for SIBR/BSAP/RC-BSAP that come after the Baseline Release the revision history will **show an Incremental change** with the new BR(vX.X.x). The incremental changes will be listed on top of the baseline.

The Baseline Release will identify all the Projects associated with the SIBR/BSAP/RC-BSAP Release and if there are any changes to the UI or API web services. **Changes to the UI will be documented in the SIBR SC Users Guide**, BSAP Users Guide, or the RC-BSAP Users Guide. Web services changes will be documented in the Technical Specifications and posting of the related artifacts on the application pages on our Developers site.

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		<b>YES</b>	
	<i>SIBR Rules</i>		<ul style="list-style-type: none"> <li>○ Changes in the SIBR rules to allow and validate AS bids from NPM resources.</li> <li>○ Changes in the SIBR rules to receive AS requirements for PACW/PACE.</li> </ul>
<b>BSAP</b>	<i>BSAP UI</i>	<i>NO</i>	
	<i>BSAP Web Services</i>	<i>NO</i>	
	<i>BSAP Rules</i>	<i>NO</i>	
<b>RC-BSAP</b>	<i>RC-BSAP UI</i>	<i>NO</i>	
	<i>RC-BSAP Web Services</i>	<i>NO</i>	
	<i>RC-BSAP Rules</i>	<i>NO</i>	

## **Business Rules Fall 2021 Release Projects (included Independent Projects)**

The **Fall 2021 Release** rules capture changes associated with the following projects targeted for implementation near early 2022 timeframe.

Below in section "Business Rules Impacted" as part of the Fall release.

### **DA NPM Phase 2:**

Support of Ancillary Services Bids:

- Changes in the SIBR rules to allow and validate AS bids from NPM resources.
- All AS types are supported.



- Changes in the SIBR rules to receive AS requirements for PACW/PACE.
- Definition of new AS regions for PACW and PACE.
- Support for AS awards in the ACC constraints for the Jim Bridger model in NPM, but also more generally for the market.
- Produce hourly AS schedules of supply resources in PACW and PACE, as advisory schedule.

### Revision History for Rules: (11.4)

Version 11.4 and below are in Production supported rules.

Version	Date	Changes	Reference
11.4	9/17/2021	Added new rule flow for Ancillary Service Requirement Submittals.	NPM phase 2
11.4	9/17/2021	Added terms Ancillary Service Region, Ancillary Service Requirements, Ancillary Service Requirement Submittal, BAA Operator, NPM-Type AS Region, and Similar Trading Day Type.	NPM phase 2
11.4	9/17/2021	Added rule 10090 for NPM2 effective dating functionality.	NPM phase 2
11.4	9/17/2021	Modified 21525 and 22006 to disable Ancillary Service bid limitations for NPM Resources upon activation of NPM2 functionality.	NPM phase 2
11.4	9/17/2021	Added 21526 to enable Ancillary Service economic bids for Generating Resources which are also NPM Resources, upon activation of NPM2 functionality.	NPM phase 2
11.4	9/17/2021	Added 22007 to enable Ancillary Service bids for Non-Generator Resources which are also NPM Resources, upon activation of NPM2 functionality.	NPM phase 2
11.4	9/17/2021	Added 20071-20079 and 29002-29003 to support Bid Content rules for Ancillary Service Requirement Submittals.	NPM phase 2
11.4	9/17/2021	Added 30053-30057 and 39008-39011 to support Bid Validation rules for Ancillary Service Requirement Submittals.	NPM phase 2
11.4	9/17/2021	Added 59001-59004 to support Final Processing rules for Ancillary Service Requirement Submittals.	NPM phase 2
11.4	9/17/2021	Added existing rules 21503, 21505, 21507, 21509, 21523, 21524 31501-31512, 31514-31517, 31519, 31520, 31529, 31533, 31535, 31537, 31539, 31543, 31544-31546, 31548, 31550, 31552-31555, 31562, 31568, 31570, 31572, 31574, 31578, 31579, 31581, 31584, 31588, 31594, 31595, 31599, 31651-31654, 31655, 31656, 41513, 41514, 41516, 41519, 41521, 41522, 41541, 41544, and 41545 to the NPM G RF.	NPM phase 2

11.4	9/17/2021	Added existing rules 22501-22507, 22509, 22510, 32501-32517, 32519, 32521, 32523, 32532-32534, 32536-32541, 42501-42506, 42517, 42518, 42521, and 42522 to the NPM NGR RF.	NPM phase 2
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## Revision of Terms for Fall 2021 Incremental Release:

Name	Acronym	Definition
Ancillary Service Region	AS Region	A geographical region in which a set of Ancillary Service Requirements is applicable. Ancillary Services will be procured from resources that are located within the AS Region. AS regions may overlap.
Ancillary Service Requirements		A single set of Ancillary Service requirements that is applicable to a Trading Hour. The requirements define how much of each Ancillary Service (in MW) shall be procured within an Ancillary Service Region.
Ancillary Service Requirement Submittal	ASR	A submittal of a set of Ancillary Service requirements by an NPM BAA, for purposes of procuring Ancillary Services for those BAAs.
BAA Operator		The entity representing reliability operations for an EIM BAA; is responsible for submitting Ancillary Service Requirements for NPM-Type AS Regions.
NPM-Type AS Region		An AS Region defined in the Nodal Pricing Market, for which EIM entities submit Ancillary Service requirements.
Similar Trading Day Type		Trading Days categorized into two types: Weekdays (M-F) and Weekends/Holidays (Sa-Su and WECC observed holidays). Describes a function used to pick the most recent Trading Day with the Same Trading Day Type. For example, the most recent Trading Day that has a Similar Trading Day Type to a Sunday would be the previous day (Saturday). The most recent Trading Day that has a Similar Trading Day Type to a Saturday would be the previous Sunday. The most recent Trading Day that has a Similar Trading Day Type to Memorial Day (Monday) would be the previous day (Sunday).

## SIBR BR version 11.4

Market	Business Rule ID	Description	Comments
ALL	10090	The configurable NPM2 Effective Date must be must be initialized to '01/01/2022'.	
NPM	21525	A Generating Resource Ancillary Service Bid Component must specify no more than the following and at least one of the following: 1) at most one Regulation Down Self-Provision Bid Component; 2) at most one Regulation Up Self-Provision Bid Component; 3) at most one Spinning Reserve Self-Provision Bid Component; and 4) at most one Non-Spinning Reserve Self-Provision Bid Component, if the Bid Period specified in the bid is prior to the NPM2 Effective Date.	Children Ancillary Service Bid Components inherit the online state of the parent Ancillary Service Bid Component.
NPM	21526	A Generating Resource Ancillary Service Bid Component must specify at least one of the following: <b>1) at most one Regulation Down Bid Component; 2) at most one Regulation Up Bid Component; 3) at most one Regulation Mileage Down Bid Component; 4) at most one Regulation Mileage Up Bid Component; 5) at most one Spinning Reserve Bid Component; 6) at most one Non-Spinning Reserve Bid Component;</b> 7) at most one Regulation Down Self-Provision Bid Component; 8) at most one Regulation Up Self-Provision Bid Component; 9) at most one Spinning Reserve Self-Provision Bid Component; and 10) at most one Non-Spinning Reserve Self-Provision Bid Component, if the Bid Period specified in the bid is on or after the NPM2 Effective Date.	Children Ancillary Service Bid Components inherit the online state of the parent Ancillary Service Bid Component.



NPM	22006	A Non-Generator Resource Bid may include the following: 1) at most one Energy Bid Component for each Trading Hour in the Bid Period specified in that Bid; 2) at most one Self-Schedule Bid Component for each Trading Hour in that Bid Period; 3) at most one Ramp Rate Bid Component; 4) at most one Energy Limit Bid Component, if and only if the Non-Generator Resource specified in that Bid is registered as a LESR for that Bid Period; 5) at most one Distribution Bid Component for each Trading Hour in that Bid Period; 6) at most one Miscellaneous Bid Component for each Trading Hour in that Bid Period; and 7) at most one Initial State of Charge Bid Component, <b>if the Bid Period specified in the bid is prior to the NPM2 Effective Date.</b>	MFR: LESR registry.
NPM	22007	A Non-Generator Resource Bid may include the following: 1) at most one Energy Bid Component for each Trading Hour in the Bid Period specified in that Bid; 2) at most one Self-Schedule Bid Component for each Trading Hour in that Bid Period; <b>3) at most one Ancillary Service Bid Component for each Trading Hour in that Bid Period;</b> 4) at most one Ramp Rate Bid Component; 5) at most one Energy Limit Bid Component, if and only if the Non-Generator Resource specified in that Bid is registered as a LESR for that Bid Period; 6) at most one Distribution Bid Component for each Trading Hour in that Bid Period; 7) at most one Miscellaneous Bid Component for each Trading Hour in that Bid Period; and 8) at most one Initial State of Charge Bid Component, <b>if the Bid Period specified in the bid is on or after the NPM2 Effective Date.</b>	MFR: LESR registry.
ASR	20071	An Ancillary Services Requirement Submittal may be submitted at any time.	
ASR	20072	An BAA Operator must be specified in an Ancillary Services Requirement Submittal.	
ASR	20073	A Bid Period (Start Date/Time, End Date/Time) must be specified in an Ancillary Services Requirement Submittal.	
ASR	20074	The Bid Period of an Ancillary Services Requirement Submittal must be one Trading Day.	
ASR	20075	The Bid Period of an Ancillary Services Requirement Submittal must not start earlier than the start of the next Trading Day after the last Trading Day for which the DAM is closed.	
ASR	20076	The Bid Period of an Ancillary Services Requirement Submittal must not end later than the end of the 7th Trading Day after the last Trading day for which the DAM is closed.	
ASR	20077	An AS Region must be specified in the Ancillary Services Requirement Submittal.	
ASR	20078	An Ancillary Services Requirement Submittal must be checked for content immediately after submission; if it passes content check, it must be accepted, otherwise it must be rejected.	
ASR	20079	The BAA Operator specified in an Ancillary Services Requirement Submittal must be notified of the status of that Ancillary Services Requirement Submittal and of any content rules that have failed.	





ASR	29002	The Ancillary Service Requirement Submittal must contain 24 sets of Ancillary Service Requirements, one for each Trading Hour in the Bid Period specified in the Ancillary Service Requirement Submittal.	
ASR	29003	Each set of Ancillary Service Requirements must include the following: a) an Minimum Regulation Up Requirement (MW); b) a Minimum Regulation Down Requirement (MW); c) a Minimum Spinning Reserve Requirement (MW); and d) a Minimum Non-Spinning Reserve Requirement (MW).	
ASR	30053	An accepted Ancillary Service Requirement Submittal must be validated immediately after content check; if it passes validation, it must become valid, otherwise it must become invalid.	
ASR	30054	The BAA Operator specified in an Ancillary Service Requirement Submittal must be registered for the Bid Period specified in that Ancillary Service Requirement Submittal.	
ASR	30055	A valid Ancillary Service Requirement Submittal with the same BAA Operator, AS Region, and Bid Period, with an earlier valid Ancillary Service Requirement Submittal, must make the earlier Ancillary Service Requirement Submittal obsolete.	Ancillary Service Requirement Submittal obsolescence.
ASR	30056	A valid Ancillary Service Requirement Submittal may be canceled by the BAA Operator that submitted that Ancillary Service Requirement Submittal at any time before the Market Close Time for the Trading Day specified in that Bid.	Ancillary Service Requirement Submittal canceling.
ASR	30057	The BAA Operator specified in an Ancillary Service Requirement Submittal must be notified of the status of that Ancillary Service Requirement Submittal and of any validation rules that have failed.	
ASR	39008	The BAA Operator specified in an Ancillary Service Requirement Submittal must be authorized to submit Ancillary Service Requirements for the AS Region and the Bid Period specified in that Ancillary Service Requirement Submittal.	MFR: BAA Operator - NPM-Type AS Region mapping.
ASR	39009	The AS Region specified in an Ancillary Service Requirement Submittal must be registered as an NPM-Type AS Region for the Bid Period specified in that Ancillary Service Requirement Submittal.	MFR: NPM-Type AS Region registry.
ASR	39010	The Minimum Regulation Up Requirement, Minimum Regulation Down Requirement, Minimum Spinning Reserve Requirement, Minimum Non-Spinning Reserve Requirement values specified in a set of Ancillary Service Requirements must not be less than zero.	
ASR	39011	The Minimum Regulation Up Requirement, Minimum Regulation Down Requirement, Minimum Spinning Reserve Requirement, Minimum Non-Spinning Reserve Requirement values specified in a set of Ancillary Service Requirements must not be greater than 9999.	



ASR	59001	If, for an AS Region registered as an NPM-Type AS Region for the Active Day, a valid Ancillary Service Requirement Submittal does not exist for that Active Day, an Ancillary Service Requirement Submittal shall be generated for that AS Region and that Active Day, including the BAA Operator associated with that AS Region.	MFR: NPM-Type AS Region registry.
ASR	59002	The generated Ancillary Service Requirement Submittal shall contain 24 sets of Ancillary Service Requirements, one for each Trading Hour in the Bid Period.	
ASR	59003	The Minimum Regulation Up Requirement, Minimum Regulation Down Requirement, Minimum Spinning Reserve Requirement, Minimum Non-Spinning Reserve Requirement values specified in a set of Ancillary Service Requirements in a generated Ancillary Service Requirement Submittal shall be copied from the equivalent Ancillary Service and equivalent Trading Hour of the valid Ancillary Service Requirement Submittal from the most recent Trading Day that has a Similar Trading Day Type to the Active Day.	
ASR	59004	The BAA Operator specified in a generated Ancillary Service Requirement Submittal must be notified of that generated Ancillary Service Requirement Submittal after it is generated.	

The full set of the Business Rules can be seen under SIBR user documentation under the Application Access/ in SIBR user documentation for all rules related to SIBR/BSAP/RC-BSAP.

<http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx>

END Incremental 1.1



//////////////////////////////////// **Baseline Release** //////////////////////////////////////

This set of Release Notes covers the changes going forward from the Business Rules Version 11.3.1.

**Fall 2021 for ESDER 4 Release Impacts**

Business Rule changes within a release may force changes to the User Interfaces or Web Services depending on the requirement changes that are needed to support new or modified functionality within system applications. The following elements defined below give a quick overview of expected changes to the systems that interface with the Business Rules.

Application	Element	Change	Comment
SIBR	SIBR UI	Yes	<b>EOH SOC Bid Parameters Submission.</b> <i>Dynamic Resource Limit Tab. (Not yet delivered)</i>
	SIBR Web Services	Yes	<b>Broadcast EOH SOC Bid Parameter Data.</b>
	SIBR Rules	<b>YES</b>	<ul style="list-style-type: none"> <li>○ Submitting Resource is not REM LESR type.</li> <li>○ Min EOH SOC ≤ Max EOH SOC</li> <li>○ Min EOH SOC ≥ Biddable Min ESL</li> <li>○ Min EOH SOC ≥ Registered Min ESL</li> <li>○ Max EOH SOC ≤ Biddable Max ESL</li> <li>○ Max EOH SOC ≤ Registered Max ESL</li> </ul>

<b>BSAP</b>	<i>BSAP UI</i>	NO	
	<i>BSAP Web Services</i>	NO	
	<i>BSAP Rules</i>	NO	
<b>RC-BSAP</b>	RC-BSAP UI	NO	
	RC-BSAP Web Services	NO	
	RC-BSAP Rules	NO	

Please visit the relevant user documentation on the Release Planning page for the updates to the documents associated to a specific Release.

<http://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx>

SIBR User Guide – UI changes will be documented in this document.

SIBR Interface Specifications - all web service (wsdl, xsd, xml) changes will be documented in this document.

<https://developer.caiso.com>

BSAP User Guide – UI changes will be documented in this document.

Base Schedule Interface Specification Web Services - all web service (wsdl, xsd, xml) changes will be documented in this document. <https://developer.caiso.com>

RC-BSAP User Guide – UI changes will be documented in this document.

RC Base Schedule Interface Specification Web Services - all web service (wsdl, xsd, xml) changes will be documented in this document. <https://developer.caiso.com>



## **Business Rules Fall 2021 Release Projects (included Independent Projects)**

The **Fall 2021 Release** rules capture changes associated with the following projects targeted for implementation near October/November 2021 timeframe.

Below in section "Business Rules Impacted", you will find **Yellow highlighted** rules these are for ESDER4 functionality, this is the baseline rules set implemented for Market Sim. Tentative start date September 7<sup>th</sup>. Remaining rules for Dynamic rules Hybrid resources will be delivered at a future date which are currently considered as part of the Fall release.

### **Fall ESDER 4:**

- For non-REM LESRs:
  - Allowing End-Of-Hour (EOH) State-of-charge (SOC) biddable parameter in RTM.

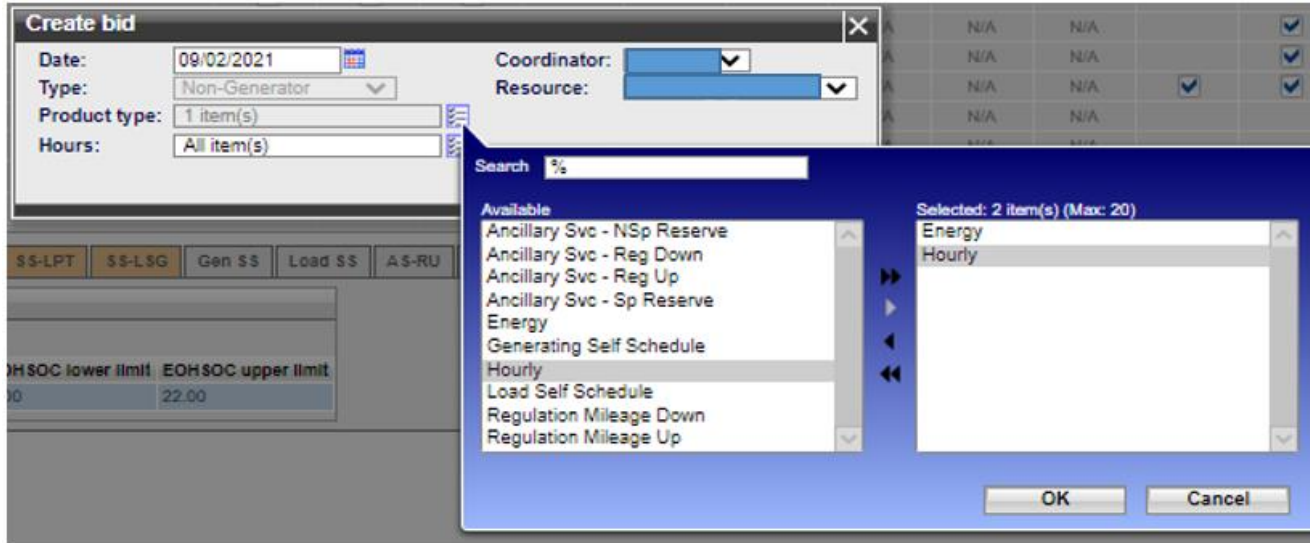
<http://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx> this set may also include updates to rule modifications not tied to a release.

The full set of the Business Rules promoted to Production can be seen under the SIBR user documentation under the Application Access/ in SIBR user documentation for all rules related to SIBR/BSAP/RC-BSAP.

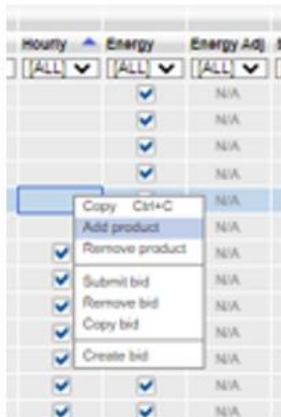
<http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx>

## SIBR UI Screen shots

EOH SOC Bid Parameters Submission : EOH SOC is located in the Hourly Tab, when creating a bid ensure product type Hourly is selected.



If bid was created without selecting hourly simply right-click on the hourly cell to add product.







## SIBR API XML Text/Grid Screen shot

This is sample of the location of EOHSOC within the XML. A sample sanitized xml will be located in the developer site.

```

<SchedulingCoordinator>
  <mrid>SCID</mrid>
</SchedulingCoordinator>
<lowerChargeLimit>0</lowerChargeLimit>
<maxEOHStateOfCharge>3</maxEOHStateOfCharge>
<minEOHStateOfCharge>1</minEOHStateOfCharge>
<upperChargeLimit>5</upperChargeLimit>
<RegisteredGenerator>
  <mrid>MY_NGR_LESR_NONREM</mrid>
</RegisteredGenerator>
</GeneratingBid>
  
```

<> name	<> marketType	<> startTime	<> stopTime	<> HourlyParameters	<> ProductBid	<> SchedulingCoordin	<> lowerChargeLimit	<> maxEOHStateOfCh	<> minEOHStateOfCh	<> upperChargeLimit	<> RegisteredGenerator
1 MY_NGR_LESR_NONREM	RTM	2021-09-02T00:00:00.000-07:00	2021-09-02T01:00:00.000-07:00	HourlyParameters	ProductBid	SchedulingCoordin	1	3	1	5	RegisteredGenerator
2 MY_NGR_LESR_NONREM	RTM	2021-09-02T01:00:00.000-07:00	2021-09-02T02:00:00.000-07:00	HourlyParameters	ProductBid	SchedulingCoordin	1	3	1	5	RegisteredGenerator
3 MY_NGR_LESR_NONREM	RTM	2021-09-02T02:00:00.000-07:00	2021-09-02T03:00:00.000-07:00	HourlyParameters	ProductBid	SchedulingCoordin	1	3	1	5	RegisteredGenerator
4 MY_NGR_LESR_NONREM	RTM	2021-09-02T03:00:00.000-07:00	2021-09-02T04:00:00.000-07:00	HourlyParameters	ProductBid	SchedulingCoordin	1	3	1	5	RegisteredGenerator
5 MY_NGR_LESR_NONREM	RTM	2021-09-02T04:00:00.000-07:00	2021-09-02T05:00:00.000-07:00	HourlyParameters	ProductBid	SchedulingCoordin	1	3	1	5	RegisteredGenerator
6 MY_NGR_LESR_NONREM	RTM	2021-09-02T05:00:00.000-07:00	2021-09-02T06:00:00.000-07:00	HourlyParameters	ProductBid	SchedulingCoordin	1	3	1	5	RegisteredGenerator
7 MY_NGR_LESR_NONREM	RTM	2021-09-02T06:00:00.000-07:00	2021-09-02T07:00:00.000-07:00	HourlyParameters	ProductBid	SchedulingCoordin	1	3	1	5	RegisteredGenerator





### Revision History for Rules: (11.3.1)

Version 11.3.1 and below are in Production supported rules.

Version	Date	Changes	Reference
11.3	3/4/2021	Added terms End of Hour State of Charge Bid Component and End of Hour State of	ESDER 4
11.3	3/4/2021	Modified 22003 to modify Bid Content rules to support End of Hour State of Charge Bid Components for Non-Generator Resources.	ESDER 4
11.3	3/4/2021	Added 22661 and 22662 to specify Bid Content rules to support End of Hour State of Charge Bid Components for Non-Generator Resources.	ESDER 4
11.3	3/4/2021	Added 32661-32665 to specify Bid Validation rules to support End of Hour State of Charge Bid Components for Non-Generator Resources.	ESDER 4
11.3	3/4/2021	Added 72014 to specify Multi-Period Bid Generation rules to support End of Hour State of Charge Bid Components for Non-Generator Resources.	ESDER 4
11.3	3/4/2021	Modified term Active Dispatch Interval.	Hybrid Res Phase 2
11.3	3/4/2021	Added terms Dynamic Limit Submittal, Dynamic Limit Period, Dynamic Limit Submission Horizon, Hybrid Resource, Maximum Dynamic Limit, and Minimum Dynamic Limit.	Hybrid Res Phase 2
11.3	3/4/2021	Modified 20033 to support submission of energy forecasts form Hybrid Resources.	Hybrid Res Phase 2
11.3	3/4/2021	Modified 37003 to support submission of energy forecasts form Hybrid Resources.	Hybrid Res Phase 2
11.3	3/4/2021	Added 10085 to specify a General rule to support submission of dynamic limits for Hybrid Resources.	Hybrid Res Phase 2
11.3	3/4/2021	Added 20060-20070 and 29001 to specify Bid Content rules to support submission of dynamic limits for Hybrid Resources.	Hybrid Res Phase 2
11.3	3/4/2021	Added 30048-30052 and 39001-39006 to specify Bid Validation rules to support submission of dynamic limits for Hybrid Resources.	Hybrid Res Phase 2

Version	Date	Changes	Reference
11.3.1	7/12/2021	Added 10085 to support initialization parameter for the Base Schedule below Pmin functionality.	BSSD
11.3.1	7/12/2021	Modified 38014 and 38016 to support effective dating for the Base Schedule below Pmin functionality.	BSSD
11.3.1	7/12/2021	Added 38071 and 38073 to support effective dating for the Base Schedule below Pmin functionality.	BSSD
11.3.1	7/12/2021	In RTM G RF, moved first instance of 41101 to fire after 41127, and moved first instance of 41201 to fire after 41212.	CQ 14365
11.3.1	7/12/2021	Changed rule 10085 created in v11.3 to 10086 for avoid duplication.	Hybrid Res Phase 2
11.3.1	7/12/2021	Modified 20068 to validate submission of dynamic limits for Hybrid Resources.	Hybrid Res Phase 2
11.3.1	7/12/2021	Added 39007 to validate submission of dynamic limits for Hybrid Resources.	Hybrid Res Phase 2
11.3.1	7/12/2021	Added rules 10087 and 42643 for ESDER 4 effective dating functionality	ESDER 4
11.3.1	7/12/2021	Modified term Long-Start Resource.	Short-Long Strt.Resource
11.3.1	7/12/2021	Added term Long-Start Resource Cycle Time.	Short-Long Strt.Resource
11.3.1	7/12/2021	Added 10088 to support initialization parameter for Long-Start Resource Cycle Time.	Short-Long Strt.Resource

## Revision of Terms for Summer 2021 Release:

Name	Acronym	Definition
Long-Start Resource	LSR	A Resource that cannot be committed in RTM, for which $SUT+MUT > \text{Long-Start Resource Cycle Time}$ .
Long-Start Resource Cycle Time		A configurable cycle time value, in minutes, which differentiates short-start resources from Long-Start Resources. $\text{Cycle time} = SUT + MUT$ .
Active Dispatch Interval		The Dispatch Interval that starts at or after 10min later than the Energy Forecast (or Dynamic Limit Submittal) submission time. For example, if the Energy Forecast (Dynamic Limit Submittal) submission time is 0:00:00, the Active Dispatch Interval is 0:10:00-0:15:00; if the Energy Forecast (Dynamic Limit Submittal) submission time is 0:01:17, the Active Dispatch Interval is 0:15:00-0:20:00.
Dynamic Limit Period		The time period for which the Dynamic Limit Submittal applies.
Dynamic Limit Submission Horizon		The number of Trading Hours in the future that a Dynamic Limit may be submitted.
Dynamic Limit Submittal		A data submittal containing the minimum and maximum anticipated operating limits of a Hybrid Resource over a Dispatch Interval.
End of Hour State of Charge Bid Component		A Bid Component for submitting End of Hour State of Charge Limits.
End of Hour State of Charge Limit		A lower and upper limit enforced on the State of Charge of an NGR. Limit is enforced at the end of each Trading Hour in the Real-Time Market. State of Charge may violate these limits at other times during the Trading Hour.
Maximum Dynamic Limit		The maximum anticipated operating limit of a Hybrid Resource over a Dispatch Interval.
Minimum Dynamic Limit		The minimum anticipated operating limit of a Hybrid Resource over a Dispatch Interval.



## Business Rules Impacted – Fall 2021 for Fall Release:

Rule changes for the Version 11.3.1 – 11.x.x are located below. Modified Text in red, new rules will be all red and deleted rules in grey 'DEL' in market column. **Yellow highlighted** rules are for ESDER4 functionality, this is the baseline rules set implemented for Market Sim. Tentative start date September 7<sup>th</sup>. Remaining rules for Dynamic rules Hybrid resources will be delivered at a future date which are currently considered as part of the Fall release.

### High level Summary of ESDER 4 Rules

Rule ID	Message Text
20033	EF Bid Rejected - The resource identified in the Energy Forecast submission is not a valid type, must be a Gen or Import or NGR or TG.
22003	Bid Rejected - NGR RTM bid contains a component that is not allowed (allowed-Energy,Self-Schedule,AS, RampRate,Energy Limit for LESR,Distribuion,Misc, GHG for EIM with a GHG flag,EOHSOC for LESR non-REM.
22661	Bid Rejected - EOHSOC must be associated with a Trading Hour.
22662	Bid Rejected - EOHSOC must include BOTH a min and max limit.
32661	Bid Invalid - EOHSOC min limit is less than the registered Minimum Stored Energy.
32662	Bid Invalid - EOHSOC max limit is greater than the registered Maximum Stored Energy.
32663	Bid Invalid - EOHSOC min limit is less than the lower Charge Limit specified on the bid.
32664	Bid Invalid - EOHSOC max limit is greater than the upper Charge Limit specified on the bid.
32665	Bid Invalid - EOHSOC max limit is less than the EOHSOC min limit specified on the bid.
37003	Bid is Invalid - For Energy Production Forecast (EPF) Resource must be a VER or Hybrid and also have registered to provide the forecast.
42643	The EOHSOC component has been removed because it is prior to the ESDER4 effective date for this bid period.



**New and Modified rules are as follows: (Detail Summary)**

SIBR BR version 11.3.1

Market	Business Rule ID	Description	Comments
EF	20033	The Resource Type specified in an Energy Forecast must be a Generating Resource ("G"), a <b>Non-Generator Resource ("NGR")</b> ; an Inter-Tie Generating Resource ("TG"), or a Registered Import Resource ("I").	
RTM	22003	A Non-Generator Resource Bid may include the following: 1) at most one Energy Bid Component; 2) at most one Self-Schedule Bid Component; 3) at most one Ancillary Service Bid Component; 4) at most one Ramp Rate Bid Component; 5) at most one Energy Limit Bid Component, if and only if the Non-Generator Resource specified in that Bid is registered as a LESR for the Trading Hour specified in that Bid; 6) at most one Distribution Bid Component; 7) at most one Miscellaneous Bid Component; 8) at most one Greenhouse Gas Bid Component, if and only if the Non-Generator Resource specified in the Bid is registered as an EIM Resource with GHG Flag "N" for that Trading Hour; and 9) at most one End of Hour State of Charge Bid Component, if and only if the Non-Generator Resource specified in that Bid is registered as a LESR for the Trading Hour specified in that Bid	MFR: LESR registry.
EF	37003	If there is an Energy Production Forecast specified in an Energy Forecast, the Resource specified in that Energy Forecast must be registered <b>either</b> as a Variable Energy Resource <b>or as a Hybrid Resource</b> for the Energy Forecast Period specified in that Energy Forecast; <b>in addition that Resource must be registered</b> with the option to provide energy forecasts for the Energy Forecast Period specified in that Energy Forecast.	MFR: Variable Energy Resource (VER) and Hybrid Resource registry for Resources. Option to provide energy forecast registry for VER and Hybrid Resources.

**New Rules**

Market	Business Rule ID	Description	Comments
RTM	10085	The configurable Dynamic Limit Submission Horizon must be initialized to six (6) Trading Hours.	
DL	20060	A Dynamic Limit Submittal may be submitted at any time.	
DL	20061	A Scheduling Coordinator must be specified in a Dynamic Limit Submittal.	



DL	20062	An Dynamic Limit Period (Start Date/Time, End Date/Time) must be specified in a Dynamic Limit Submittal.	
DL	20063	The Dynamic Limit Period specified in a Dynamic Limit Submittal must be one Dispatch Interval.	
DL	20064	The Dynamic Limit Period specified in a Dynamic Limit Submittal must not start earlier than the start of the Active Dispatch Interval for that Dynamic Limit Submittal.	
DL	20065	The Dynamic Limit Period specified in a Dynamic Limit Submittal must not end later than the start of the Active Dispatch Interval for that Energy Forecast plus the configurable Dynamic Limit Submission Horizon.	
DL	20066	A Resource must be specified in a Dynamic Limit Submittal.	
DL	20067	A Resource Type must be specified in a Dynamic Limit Submittal.	
DL	20068	The Resource Type specified in a Dynamic Limit Submittal must be a Non-Generator Resource (NGR) registered as a Hybrid Resource, if and only if that Non-Generator Resource specified in that Dynamic Limit Submittal is registered as a Hybrid Resource for that Dynamic Limit Period.	
DL	20069	A Dynamic Limit Submittal must be checked for content immediately after submission; if it passes content check, it must be accepted, otherwise it must be rejected.	
DL	20070	The Scheduling Coordinator specified in a Dynamic Limit Submittal must be notified of the status of that Dynamic Limit Submittal and of any content rules that have failed.	
RTM	22661	An End of Hour State of Charge Bid Component in a Non-Generator Resource Bid must be associated with a Trading Hour in the Bid Period specified in that Bid.	The Non-Generator Resource End of Hour State of Charge Bid Component is an hourly bid.
RTM	22662	The End of Hour State of Charge Bid Component for the Non-Generator Resource in a Non-Generator Resource Bid must include both of the following: 1) a Lower Charge Limit (MWh); and 2) an Upper Charge Limit (MWh), if that Non-Generator Resource is registered as a LESR for that Trading Hour.	LESR.
DL	29001	The Dynamic Limit Submittal must include the following: a) an Minimum Dynamic Limit (MW); and b) a Maximum Dynamic Limit (MW).	
DL	30048	An accepted Dynamic Limit Submittal must be validated immediately after content check; if it passes validation, it must become valid, otherwise it must become invalid.	
DL	30049	The Scheduling Coordinator specified in a Dynamic Limit Submittal must be registered for the Dynamic Limit Period specified in that Energy Forecast.	
DL	30050	A valid Dynamic Limit Submittal with the same Scheduling Coordinator, Resource, and Dynamic Limit Period, with an earlier valid Dynamic Limit Submittal, must make the earlier Dynamic Limit Submittal obsolete.	Dynamic Limit obsolescence.

DL	30051	A valid Dynamic Limit Submittal may be canceled by the Scheduling Coordinator that submitted that Dynamic Limit Submittal at any time up to 10 minutes before the start of the Dynamic Limit Period specified in that Dynamic Limit Submittal.	Dynamic Limit canceling.
DL	30052	The Scheduling Coordinator specified in a Dynamic Limit Submittal must be notified of the status of that Dynamic Limit Submittal and of any validation rules that have failed.	
RTM	32661	The Lower Charge Limit specified in a Non-Generator Resource End of Hour State of Charge Bid Component must not be less than the registered Minimum Stored Energy for the Non-Generator Resource and the Bid Period specified in that Bid.	MFR: Minimum Stored Energy (MWh) registry for LESR. It must be non-negative.
RTM	32662	The Upper Charge Limit specified in a Non-Generator Resource End of Hour State of Charge Bid Component must not be greater than the registered Maximum Stored Energy for the Non-Generator Resource and the Bid Period specified in that Bid.	MFR: Maximum Stored Energy (MWh) registry for LESR. It must be greater than the Minimum Stored Energy.
RTM	32663	The Lower Charge Limit specified in a Non-Generator Resource End of Hour State of Charge Bid Component must not be less than the Lower Charge Limit specified in the Non-Generator Resource Energy Limit Bid Component for that Non-Generator Resource and the Bid Period specified in that Bid, if a Non-Generator Resource Energy Limit Bid Component exists for that Non-Generator Resource and Bid Period.	
RTM	32664	The Upper Charge Limit specified in a Non-Generator Resource End of Hour State of Charge Bid Component must not be greater than the Upper Charge Limit specified in the Non-Generator Resource Energy Limit Bid Component for that Non-Generator Resource and the Bid Period specified in that Bid, if a Non-Generator Resource Energy Limit Bid Component exists for that Non-Generator Resource and Bid Period.	
RTM	32665	The Upper Charge Limit specified in a Non-Generator Resource End of Hour State of Charge Bid Component must not be less than the Lower Charge Limit specified in the same Non-Generator Resource End of Hour State of Charge Bid Component.	
DL	39001	The Resource specified in a Dynamic Limit Submittal must be registered for the Dynamic Limit Period specified in that Dynamic Limit Submittal.	
DL	39002	The Scheduling Coordinator specified in a Dynamic Limit Submittal must be authorized to submit Bids for the Resource and the Dynamic Limit Period specified in that Dynamic Limit	
DL	39003	The Minimum Dynamic Limit specified in a Dynamic Limit Submittal must not be less than the registered Maximum NGR Load for the Resource and Dynamic Limit Period specified in that Dynamic Limit Submittal.	
DL	39004	The Maximum Dynamic Limit specified in a Dynamic Limit Submittal must not be greater than the registered Maximum NGR Generation for the Resource and Dynamic Limit Period specified in that Dynamic Limit Submittal.	



DL	39005	The Maximum Dynamic Limit specified in a Dynamic Limit Submittal must be greater than the Minimum Dynamic Limit specified in the same Dynamic Limit Submittal.	
DL	39006	If there is a Dynamic Limit Submittal for a Resource, there must be a Market Accepted Bid, a Multi-Hour Bid, or a Base Schedule for that Resource and the Trading Hour that includes the Dynamic Limit Period specified in that Dynamic Limit Submittal.	
RTM	72014	If there is an End of Hour State of Charge Bid Component in a Multi-Period Bid for a Non-Generator Resource and a Trading Hour after the Active Hour in the Real-Time Market Horizon, the End of Hour State of Charge Bid Component must be removed.	Remove End of Hour State of Charge Bid Components for all non-binding hours of STUC.





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The following rules have been added or changed:

Market	Business Rule ID	Description	Comments
RTM	10086	The configurable Dynamic Limit Submission Horizon must be initialized to six (6) Trading Hours.	
ALL	10085	The configurable BASE_BELOW_PMIN Effective Date must be initialized to '11/01/2021'.	
ALL	10087	The configurable ESDER4 Effective Date must be initialized to '11/01/2021'.	
ALL	10088	The configurable Long-Start Resource Cycle Time must be initialized to 240 minutes.	
DL	20068	The Resource Type specified in a Dynamic Limit Submittal must be a Non-Generator Resource (NGR), <del>if and only if that Non-Generator Resource specified in that Dynamic Limit Submittal is registered as a Hybrid Resource for that Dynamic Limit Period.</del>	
BS	38071	The Base Energy Schedule specified in a Base Schedule for a Generating Resource that is not registered as a MSG, PSH, or Pump for the Base Schedule Period specified in that Base Schedule must not be negative or between zero and the registered Minimum Load for that Generating Resource and Base Schedule Period, if that Base Schedule Period is prior to the BASE_BELOW_PMIN Effective Date.	No MSG, PSH, or Pump.
BS	38014	The Base Energy Schedule specified in a Base Schedule for a Generating Resource that is not registered as a MSG, PSH, or Pump for the Base Schedule Period specified in that Base Schedule must not be negative if that Base Schedule Period is on or after the BASE_BELOW_PMIN Effective Date.	No MSG, PSH, or Pump.
BS	38073	The Base Energy Schedule specified in a Base Schedule for a Generating Resource that is registered as a MSG for the Base Schedule Period specified in that Base Schedule must not be negative or between zero and the registered Minimum Load for the Base Generating Resource State specified in that Base Schedule for that MSG and Base Schedule Period, if that Base Schedule Period is prior to the BASE_BELOW_PMIN Effective Date.	MSG.
BS	38016	The Base Energy Schedule specified in a Base Schedule for a Generating Resource that is registered as a MSG for the Base Schedule Period specified in that Base Schedule must not be negative if that Base Schedule Period is on or after the BASE_BELOW_PMIN Effective Date.	MSG.
DL	39007	The Resource specified in a Dynamic Limit Submittal must be registered as a Hybrid Resource for the Dynamic Limit Period specified in that Dynamic Limit Submittal.	



RTM	42643	If there is an End of Hour State of Charge Bid Component for a Trading Hour and a Non-Generator Resource in a Non-Generator Resource Bid, that Bid Component must be removed from that Non-Generator Resource Bid, if that Trading Hour is prior to the ESDER4 Effective Date. If the External Bid Status is not set to "M" (Modified) or "CM" (Conditionally Modified), set the External Bid Status to "MI" (Valid).	MFR: Maximum Greenhouse Gas Price registry for Non-Generator Resources.
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The full set of the Business Rules can be seen under SIBR user documentation under the Application Access/ in SIBR user documentation for all rules related to SIBR/BSAP/RC-BSAP.

<http://www.caiso.com/participate/Pages/ApplicationAccess/Default.aspx>

END Document