



RC West Settlements Working Group

Market Settlement Design and Configuration

July 3, 2019

Agenda

- Weekly invoice publishing notification process
- Data Validation
 - API
 - Timeline overview
 - Execution details
 - Customer expectations
 - Scenarios

Appendix

- Overview of settlement process
- Overview of charge codes
- Overview of the MRI-S interface
 - UI and API screen shots
- RC and HANA Services production timeline

Weekly Invoice Publishing Notification Process

- Weekly invoice scheduled in MRI-S on Tuesday afternoon for automated publication beginning 12:01 am (PT) Wednesday
 - On Wednesday morning analyst confirms publication in MRI-S, SFTP, and internal systems
 - Courtesy weekly invoice publication notification sent via email to Market Settlement User Group distribution list
- Emails sent to the Market Settlement User Group are official CAISO communications and represent the fastest means to receive close to real time notification of settlement issues or information
- When communications are required by the Tariff, those are distributed using CAISO market notice

Settlements Data Validation – High Level Overview

- 7/9 – Map-stage opens, verify access and connectivity
 1. Start uploading 2018 NEL/NG volumes in MWh in MRI-S
 2. 7/10 – ISO to publish sample Informational Statement on MRI-S with mock up data
- 7/16 - NEL/NG data upload deadline
- RC Settlement Scenarios
 - 7/23 - RC West to publish informational statement which lists volumes provided in MRI-S for review prior to invoicing
 - 7/24 - 7/25 - RC customer timeline to review and validate volumes in Informational Statement and re-submit in MRI-S
 - 7/30 - RC West publish initial statement and invoice for RC charges
 - Week of 8/5 - RC West publish recalculation statement and invoice based on scenarios
- HANA Statement and Invoice
 - 7/25 - RC West publish HANA Services initial for validation
 - Week of 7/29 - Reserve for additional HANA Services scenarios

Data Validation Execution Details (7/9/19-8/7/19)

Monday	Tuesday	Wednesday	Thursday	Friday
8	9 Map Stage Environment Opens	10 ISO: Publish sample RC Info Stmt to test connectivity	11 RC Customers: Start MRI-S uploads	12
15	16 RC Customers: MRI-S upload Deadline	17	18	19
22	23 ISO: RC Info Stmt Publication	24 RC Customers: Review RC Info Stmt	25 RC Customers: Review Info Stmt & re-submit deadline ISO: Publish HANA Stmt and Invoice	26 RC Customers: HANA Stmt & Invoice Validation Start
29	30 ISO: Publish RC Initial Stmt and Invoice	31 RC Customers: RC Initial Stmt & Invoice Validation Start	1 ISO: Publish additional HANA scenario Stmt & Invoice	2 RC Customers: HANA additional scenario Stmt & Invoice Validation Start
5	6 ISO: Publish RC Recalc Stmt & Invoice for LPP	7 RC Customers: RC Recalc Stmt & Invoice Validation Start	8	9

Key Dates

RC Customers ACTION

ISO ACTION

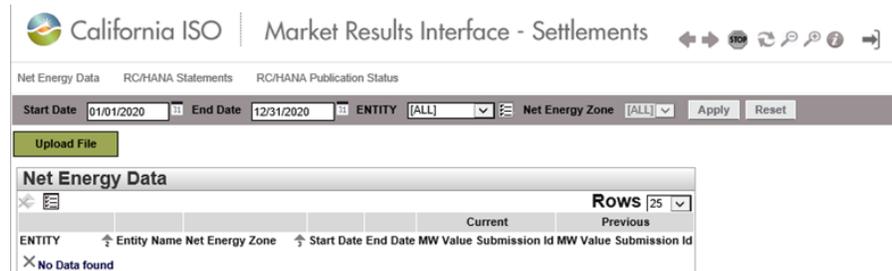
HANA scenario

RC scenario

Settlement Data Validation – Map-stage Access & Connectivity

- Request access to Market Results Interface – Settlements (MRI-S) Map-stage and production portal
- **Access to MRI-S portal**
 - When: Complete before 7/9 Settlements conference call
 - Who: RC entities participating in Map-stage Data Validation and Production
 - What: Obtain RC CERT to access Map-stage portal
 - How: Your User Access Administrator (UAA) should provide you MRI-S Map-stage environment access
 - 1) Follow instructions from your UAA to install certificate on local machine
 - 2) Verify certificate is installed correctly by navigating using your browser to:
 - <https://portalmap.caiso.com/settlements/logon.do> to verify you have access
 - If you have certificate installation issues, contact the Service Desk
 - Email: uaarequests@caiso.com
 - Phone:
 - RC Services: 916.538.5722
 - Toll Free: 833.888.9378
 - If you do not have access, please submit a CIDI ticket by navigating to:
 - <https://rc.caiso.com/> Apps > Prod > Customer Inquiry, Dispute & Information (CIDI)

- Successful log in screen:

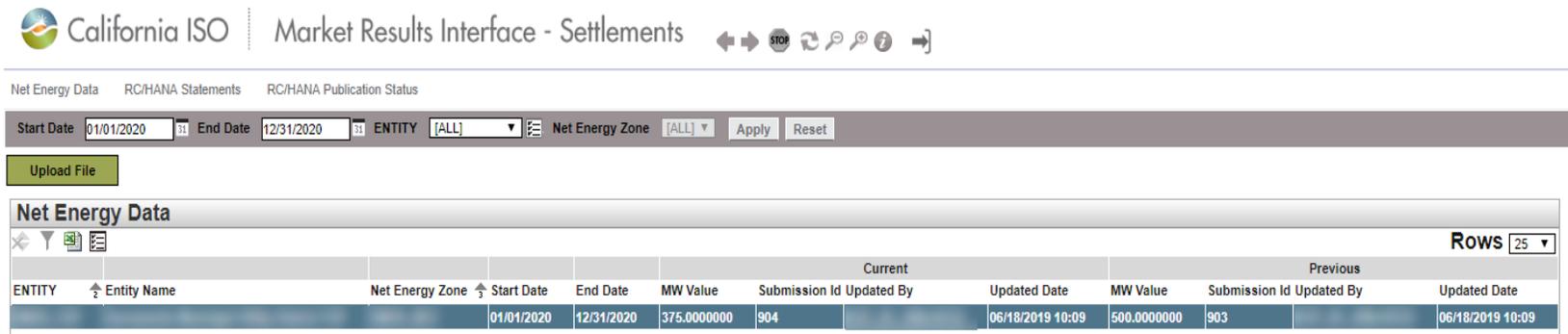


The screenshot shows the California ISO Market Results Interface - Settlements portal. The page includes a navigation bar with the California ISO logo and the title "Market Results Interface - Settlements". Below the navigation bar, there are several tabs: "Net Energy Data", "RC/HANA Statements", and "RC/HANA Publication Status". The "Net Energy Data" tab is selected. The main content area features a search and filter section with the following fields: "Start Date" (01/01/2020), "End Date" (12/31/2020), "ENTITY" (dropdown menu set to [ALL]), and "Net Energy Zone" (dropdown menu set to [ALL]). There are "Apply" and "Reset" buttons next to these fields. Below the search section, there is an "Upload File" button. The main data table is titled "Net Energy Data" and has a "Rows" dropdown menu set to 25. The table has columns for "ENTITY", "Entity Name", "Net Energy Zone", "Start Date", "End Date", "MW Value", "Submission Id", "Current", and "Previous". The table currently displays "No Data found".

Settlement Data Validation – Upload NEL/NG Volumes in MRI-S

1. Upload 2018 NEL/NG* volumes in MWh (in MRI-S)

- When: 7/11/2019 – 7/16/2019
- Who: RC entities responsible for NEL/NG* yearly volume data during Map-stage Data Validation and Production
 - Direct bill TOPs with no NEL/NG are required to enter zero(s) for their volume submission
- What: Upload 2018 NEL/NG volumes
- How: Download sample XML file from
 1. <http://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx>
 - RC West release > Draft settlements technical documentation > NEL_NEZ.xml 
 2. <m:mRID>NEZ</m:mRID> Replace with your Net Energy Zone name (ex. CISO_NEZ)
 - If you do not know your Net Energy Zone name, please submit a CIDI ticket
 3. <m:value>123456.7890</m:value> (granularity up to 8 decimal places; single value for entire year)
 4. Save the file on local desktop
 5. Login to <https://portalmap.caiso.com/settlements/logon.do> and follow manual upload process



Net Energy Data												
Rows 25												
ENTITY	Entity Name	Net Energy Zone	Start Date	End Date	MW Value	Submission Id	Updated By	Updated Date	MW Value	Submission Id	Updated By	Updated Date
			01/01/2020	12/31/2020	375.0000000	904		06/18/2019 10:09	500.0000000	903		06/18/2019 10:09

*Net Energy for Load (NEL) - Net Balancing Authority Area generation, plus energy received from other Balancing Authority Areas, less energy delivered to Balancing Authority Areas through interchange. It includes Balancing Authority Area losses but excludes energy required for storage at energy storage facilities. Net Energy for Load equals NERC/WECC Metered Demand for the CAISO Balancing Authority Area.

*Net Generation (NG) - Net power available from a Generating Facility to be fed into the power system at the high side of the Generating Facility transformer(s). Net generation is equal to gross generation minus the generator's internal power usage (station service).

XML File Example

```
<?xml version="1.0" encoding="UTF-8" ?>
- <m:NetEnergyData xmlns:m="http://www.caiso.com/soa/NetEnergyData_v1.xsd#" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.caiso.com/soa/NetEnergyData_v1.xsd#
  http://flame1/mrtu/services/NetEnergyData/NetEnergyData_v1/20181001/NetEnergyData_v1.xsd">
- <m:MessageHeader>
  <m:TimeDate>2001-12-17T09:30:47Z</m:TimeDate>
  <m:Source>String</m:Source>
  <m:Version>v20181001</m:Version>
</m:MessageHeader>
- <m:MessagePayload>
- <m:NetEnergyZone>
  <m:mRID>NEZ</m:mRID>
- <m:NetEnergy>
- <m:netGeneration>
  <m:multiplier>M</m:multiplier>
  <m:unit>Wh</m:unit>
  <m:value>123456.7890</m:value>
</m:netGeneration>
- <m:tradePeriod>
  <m:end>2021-01-01T08:00:00Z</m:end>
  <m:start>2020-01-01T08:00:00Z</m:start>
</m:tradePeriod>
</m:NetEnergy>
</m:NetEnergyZone>
</m:MessagePayload>
</m:NetEnergyData>
```

MRI-S UI

Net Energy Data RC/HANA Statements RC/HANA Publication Status

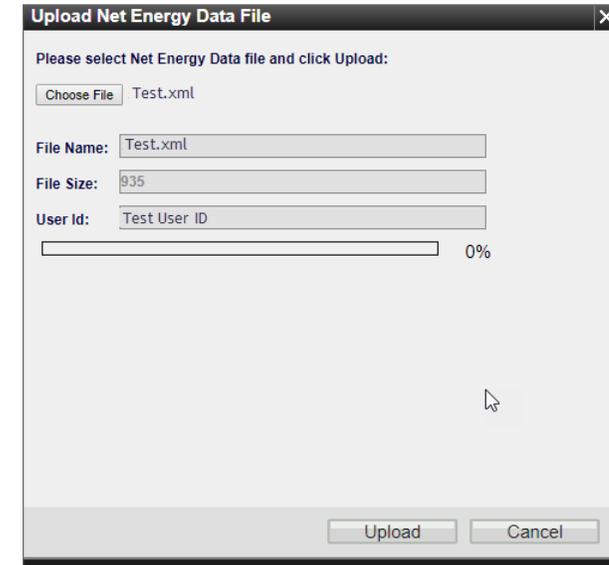
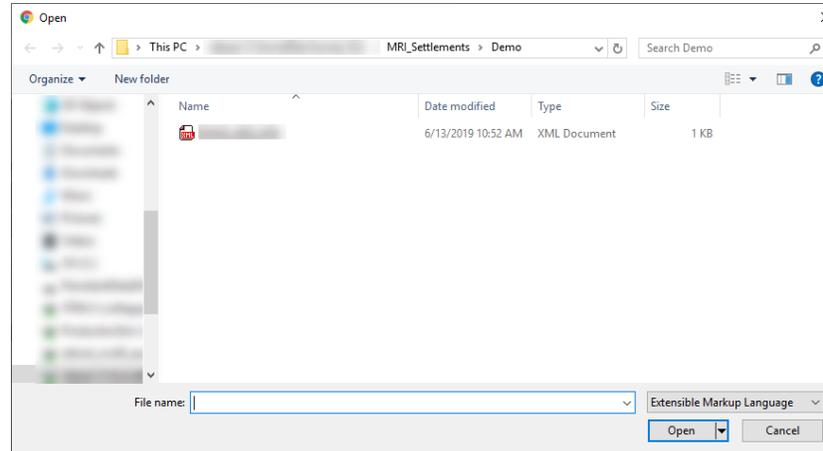
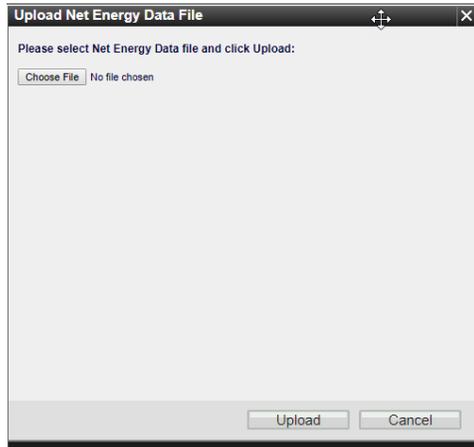
2 Start Date End Date ENTITY Net Energy Zone

Net Energy Data

 Rows

		Current					Previous					
ENTITY	Entity Name	Net Energy Zone	Start Date	End Date	MW Value	Submission Id	Updated By	Updated Date	MW Value	Submission Id	Updated By	Updated Date
			01/01/2020	12/31/2020	375.0000000	904		06/18/2019 10:09	500.0000000	903		06/18/2019 10:09

Net Energy Data Upload Screens



06/19/2019 08:49:51 Net Energy Data Submission is successful.



06/19/2019 08:49 PDT

06/19/2019 08:50:53 Upload Failed with Below Errors
Invalid Trade Period



06/19/2019 08:50 PDT

Settlement Data Validation – Sample Informational Statement Publication

2. ISO to publish sample informational statement on MRI-S with mock up data

- When: 7/10/2019
- Who: RC entities participating in Map-stage Data Validation and Production
- What: Test ability to download statements from UI
- How – Navigate to MRI-S and click on RC/HANA Statements
 - Download Informational Statement



Net Energy Data **RC/HANA Statements** RC/HANA Publication Status

Start Date End Date ENTITY Net Energy Zone

Net Energy Data

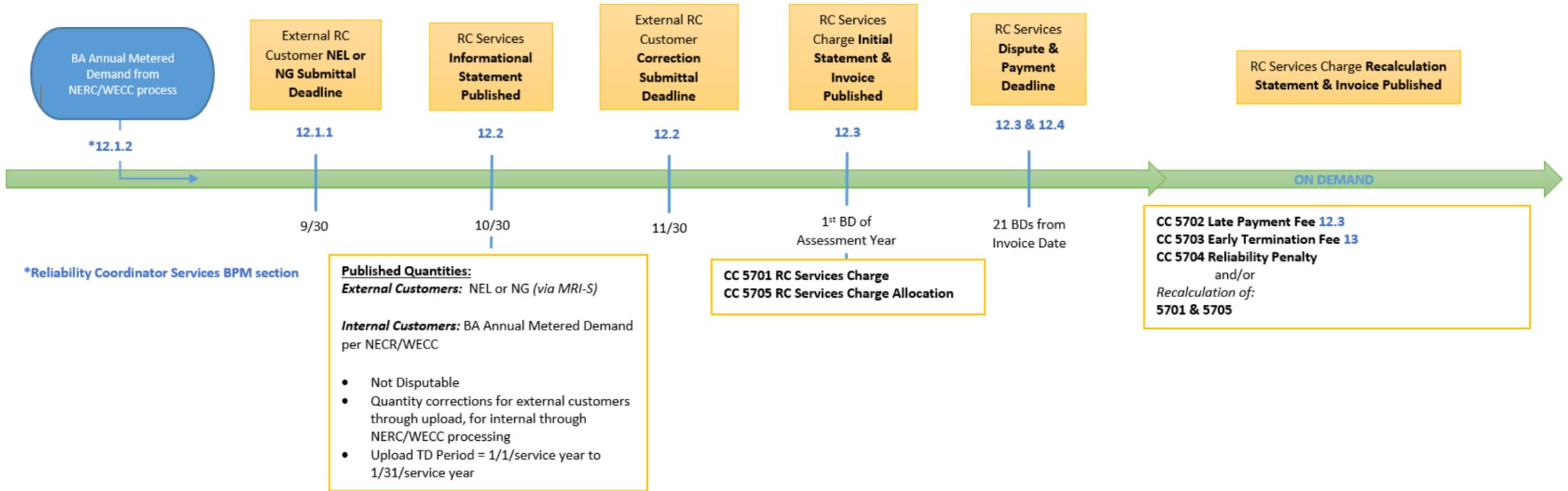
											Rows <input type="text" value="25"/>		
											Current	Previous	
ENTITY	Entity Name	Net Energy Zone	Start Date	End Date	MW Value	Submission Id	Updated By	Updated Date	MW Value	Submission Id	Updated By	Updated Date	
			01/01/2020	12/31/2020	375.0000000	904		06/18/2019 10:09	500.0000000	903		06/18/2019 10:09	

Questions



Appendix

RC Services Settlement Overview



Timeline Legend

YR 1 Example:

1 time manual PTB of 2019 assessment year charges
 Submittal/Processing Deadlines = 2019
 Assessment/Service Year = 2020
 Base Data (MD, NEL, NG) = 2018

YR 2 Example:

Submittal/Processing Deadline = 2020
 Assessment/Service Year = 2021
 Base Data (MD, NEL, NG) = 2019

RC Services Production Timeline

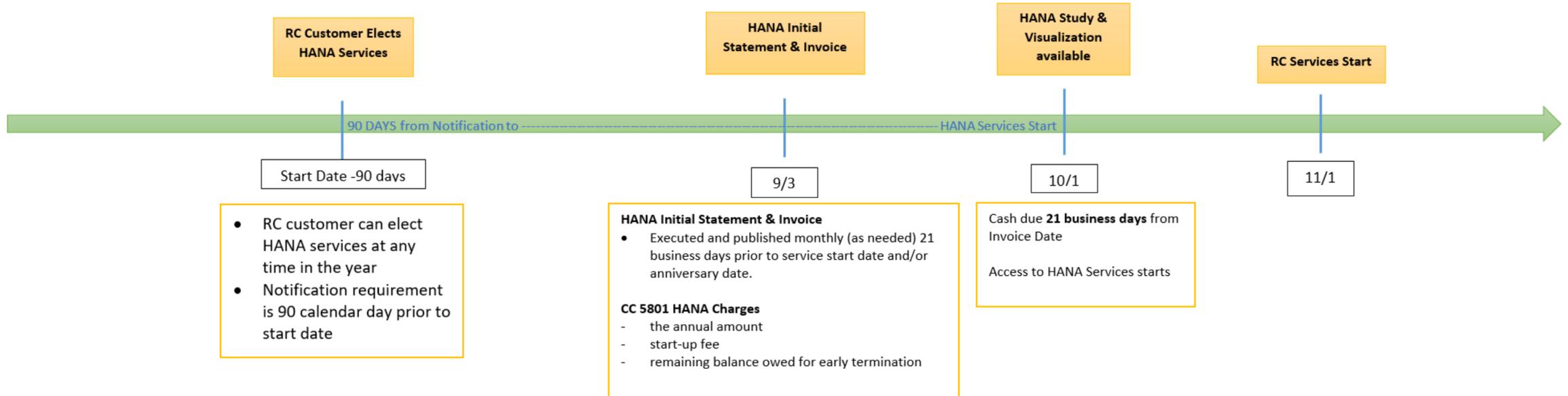
- 9/30/19 **RC Customer** deadline to submit 2018 NEL/NG MWh in MRI-S
- 10/30/19 **RC West** releases Information Statement which lists volumes provided in MRI-S for review prior to invoicing
- 12/2/19 **RC Customer** deadline to validate volumes on Information Statement and re-submit if necessary
- 1/2/20 **RC West** bills for 2019 and 2020 RC Charges
- » The 2019 RC charges will be prorated and based on 2017 NEL/NG MWh
 - » The 2020 RC charges will be based on 2018 NEL/NG MWh
 - » Charges will be on one invoice available in MRI-S
- 1/31/20 **RC Customer** payment due date
- » Federal entity payments are due monthly in 1/12 increments

HANA Services Production Timeline

- HANA invoices go out 21 business days prior to Customer's official HANA start date.
 - Initial HANA services being offered 10/1/19 with shadow opportunity 09/01/19 – 09/30/19 (only)
 - Annual recurring invoices will be sent out 21 business days prior to RC Customer's anniversary date
 - Invoices will be available in MRI-S
 - Payments are due 21 business days from invoice date
- Supplemental invoices will go out during the year if RC Customer elects to purchase additional subscriptions.
 - Charges will be prorated to co-term to original anniversary date.

HANA Services Invoicing Overview

- 3-year initial commitment, 12 months written notice to exit on anniversary date
- HANA is a monthly invoice that assesses annual fees
- Statement & Invoice are published the same day
- Additional Initial statements and invoices published as needed



Charge Codes Overview – 5701 & 5705

- **5701 RC Services Charge**
 - Calculates annual RC Services charge to external customers (outside CAISO footprint)
 - Charged to BAs with Load, TOPs within BAAs (with or without load), gen-only BAAs
 - $RC\ Charge = (RC\ Customer's\ submitted\ NEL\ or\ NG) * Annual\ RC\ Services\ Rate$
 - If RC Customer does not submit data, Settlements will calculate the RC charge using the customer's default NEL or Installed Capacity value per contract
- **5705 RC Services Charge Allocation (replaces Peak CC 6496)**
 - Allocates annual RC Services charge to internal customers (entities within the CAISO BAA)
 - ISO passes through its share of the RC Charges to SCs within the CAISO BAA that serve load and to TOPs within the BAA
 - TOPs that have no NERC/WECC Metered Demand will receive the minimum charge (\$5,000)
 - $RC\ Charge = (entity's\ share\ of\ the\ total\ NERC/WECC\ Metered\ Demand\ for\ CAISO\ BAA) * Annual\ RC\ Services\ Rate$
- Initial Statement & Invoice published on the first business day of each year
- Not disputable
- Payment is due within 21 business days of invoice date
- Federal entities may choose to make monthly payments of 1/12 of annual invoiced amount
- Invoice issued on 1/2/20 will include 2020 RC charges based on 2018 NEL/NG and prorated 2019 charges based on 2017 NEL/NG

Charge Codes Overview – Late Payment Penalty (5702) & Default (5701)

- **5702 Late Payment Penalty**
 - Late payment penalty will be assessed if payment for RC Services invoice is not received by the due date
 - One-time \$1,000 charge will appear on supplemental RC Services statement & invoice (Recalc)
 - Federal entities opting for monthly payments of 1/12 of annual invoiced amount are subject to the late payment penalty for each instance of failing to pay by the due date
 - Due date is 21 business days from invoice date
- **5701 Default on RC Charges**
 - Unpaid amounts by defaulting customer will be re-allocated to all other customers in proportion to their original 5701 invoice amount (Recalc)
 - If defaulter pays back the amount in full or partially
 - Repayment amount will be reflected on the next Initial invoice (following year)

Charge Codes Overview – 5703 & 5704

- **5703 RC Services Early Termination Fee**
 - If RC Customer terminates services before the 18-month initial enrollment period or provides less than 12-month notice in subsequent years
 - One-time charge invoiced on supplemental invoice (Recalc)
 - Due date is 21 business days from invoice date
- **5704 RC Services Reliability Penalty Allocation**
 - Calculation accounts for any reliability-related penalties assessed by FERC, NERC, WECC against the CAISO

Charge Codes Overview – 5801

- **5801 HANA Charges**

- The CAISO will offer web-based Hosted Advanced Network Applications (HANA) services to its RC Customers
- Initial 3 year commitment, after which the RC Customer may take HANA services for additional one-year terms
- The CAISO will charge RC Customers that elect HANA services
 - The annual cost for the ongoing software license fee
 - A one-time Set Up fee amortized over the initial 3-year minimum commitment period; and
 - Annual Administrative fee for CAISO support of the HANA services
- RC Customer will be invoiced for HANA services 21 business days prior to when the services commence / anniversary date
- Due date is 21 business days from invoice date
- There is no Recalc for HANA
- If RC Customer adds additional licenses mid-year, Settlements will publish supplemental statement and invoice
- Early Termination Fee will be assessed if the RC Customer terminates the agreement before the expiration date

MAP Stage URLs

- Doc Attach:
https://wsmap.caiso.com/sst/stlmt/SubmitNetEnergyData_STLMTv1_DocAttach_AP
- Non-Doc Attach:
- https://wsmap.caiso.com/sst/stlmt/SubmitNetEnergyData_STLMTv1_AP

Contact Information

- MRI-S Access Provision
 - Your User Access Administrator (UAA)
 - If you have certificate installation issues, contact the Service Desk
 - Email: uaarequests@caiso.com
 - Phone:
 - RC Services: 916.538.5722
 - Toll Free: 833.888.9378
 - If you do not have access, please submit a CIDI ticket by navigating to:
 - <https://rc.caiso.com/> Apps > Prod > Customer Inquiry, Dispute & Information (CIDI)
- Issues & Questions
 - Submit CIDI tickets online
 - <https://rc.caiso.com/> Apps > Prod > Customer Inquiry, Dispute & Information (CIDI)
 - Guidelines for CIDI ticket submission:
 - Case Record Type: Use “Reliability Coordinator Inquiry” – NOT “Inquiry Ticket”
 - SCID: Use your new RC ID (XXX_TOP_RC or XXX_BA_RC), not your other SCID(s)
 - Functional Environment: RC Integration – during integration testing and data validation (MAP Stage)
 - Description: Make it short but meaningful; for access issues include certificate information
 - Attachments: Add screen shots or other helpful information, when necessary
 - Comments: Communicate via comments as opposed to venturing out to email
- Weekly Webinar will address additional questions

Thank You
