Sub-LAP Realignment Discussion

September 1, 2016
Agenda

• Introduction and Background- John Goodin
• Overview of Updated Sub-LAP Areas- Jim Price
• Implementation and transition for PDR/RDRR registrations and resources- Jill Powers
• Next Steps- Tom Cuccia
Background

• Sub-LAP areas have existed as currently defined since MRTU implementation, based on engineering analysis.

• Used for Congestion Revenue Rights (CRR) sink and later adopted for DR and DER aggregation purposes.

• Mismatches exist between local capacity areas and sub-LAP boundaries in certain areas, complicating local RA designation for aggregated resources.

• Fix the sub-LAPs was a priority identified Supply DR Integration Working Group compliance report.

• Jan 1 is opportune time to make sub-LAP adjustments to align with annual RA term and CRR auction.
Sub-LAPs are areas within default load aggregation points (LAPs) that group buses with similar grid impacts

• Other than publication of locational marginal prices (LMPs), Sub-LAPs have two purposes:
  – Aggregations of demand response and distributed energy resources must be within Sub-LAPs.
  – Sub-LAPs allow more precise reflection of congestion costs for congestion revenue rights (CRRs) than default LAPs, and allow additional CRRs to be awarded when congestion limits awards to default LAPs.

• Tariff does not list Sub-LAPs, or prescribe how boundaries of Sub-LAPs are determined.

• Existing Sub-LAPs were identified when current market design was implemented and are outdated
Updated Sub-LAPs reflect local capacity areas for RA, and notable congestion within some of the areas

• Existing boundaries were based on Reliability Must-Run (RMR) study areas, discussion with transmission planners, and preliminary “LMP Study” results.
• Now, ISO relies less on RMR, and has resource adequacy (RA) requirements including local capacity areas (LCA).
  – Reference: http://www.caiso.com/planning/Pages/ReliabilityRequirements
• Basing Sub-LAP boundaries on RA local areas will allow demand response to qualify as local RA resources.
  – Operations engineering concerns also lead to reflecting some RA sub-areas in defining some Sub-LAPs.
• Several Sub-LAP boundaries shift slightly to reflect RA areas, and some can be merged.
CRRs will be re-mapped to revised Sub-LAP areas

<table>
<thead>
<tr>
<th>Current Sub-LAP</th>
<th>New Sub-LAP</th>
<th>Current Sub-LAP</th>
<th>New Sub-LAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLAP_PGCC</td>
<td><strong>SLAP_PGCC</strong></td>
<td>SLAP_SCEC</td>
<td>SLAP_SCEC</td>
</tr>
<tr>
<td>SLAP_PGEB</td>
<td>SLAP_PGEB</td>
<td>SLAP_SCEN</td>
<td>SLAP_SCEN</td>
</tr>
<tr>
<td>SLAP_PGF1</td>
<td>SLAP_PGF1</td>
<td>SLAP_SCEW</td>
<td>SLAP_SCEW</td>
</tr>
<tr>
<td>SLAP_PGFG</td>
<td>SLAP_PGFG</td>
<td>SLAP_SCHD</td>
<td>SLAP_SCHD</td>
</tr>
<tr>
<td>SLAP_PGHB</td>
<td>SLAP_PGHB</td>
<td>SLAP_SCLD</td>
<td>SLAP_SCLD</td>
</tr>
<tr>
<td>SLAP_PGLP</td>
<td><strong>SLAP_PGZP</strong></td>
<td>SLAP_SCNW</td>
<td>SLAP_SCNW</td>
</tr>
<tr>
<td></td>
<td><strong>SLAP_PGKN (New LCA)</strong></td>
<td>SLAP_SDG1</td>
<td>SLAP_SDG1</td>
</tr>
<tr>
<td>SLAP_PGNB</td>
<td>SLAP_PGNB</td>
<td>Not defined</td>
<td>SLAP_VEA</td>
</tr>
<tr>
<td>SLAP_PGNC</td>
<td>SLAP_PGNC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SLAP_PGNV</td>
<td><strong>SLAP_PGNP</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SLAP_PGP2</td>
<td>SLAP_PGP2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SLAP_PGSA</td>
<td><strong>SLAP_PGSI</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SLAP_PGSB</td>
<td>SLAP_PGSB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SLAP_PGSF</td>
<td>SLAP_PGSF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SLAP_PGSI</td>
<td>SLAP_PGSI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SLAP_PGSN</td>
<td><strong>SLAP_PGNP</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SLAP_PGST</td>
<td>SLAP_PGST</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Identified Implementation Impacts for PDR/RDRR

• Locations will need to reflect new Sub-Lap areas effective 1/1/2017
  – Locations can be effective dated to reflect new Sub-Laps

• Registration will be impacted due to changed attribute of underlying Locations
  – Registrations can be effective dated to reflect Location Sub-Lap changes

• Pre-defined Resources will be available for revised Sub-Laps effective 1/1/2017
  – Available on request

Six (6) confirmed Registrations have been identified as being impacted beginning 2017
Locations require SubLap Identification

- Choices in **SUBLAP** field are determined by **Start Date/End Date**
- **Master file** will effective date SubLaps
- **Locations** in effected SubLaps will need to be staged
Model Enhancements Provides Ease of Resource ID Implementation

- Resources will be created on demand in the Masterfile when requested through the GRDT process
  - Maintain pre-defined resource ID option
  - Support custom resource ID requests within GRDT process timelines
  - Developing pre-defined resource IDs for new Sub-Laps
    - requires re-evaluation of current and development of new pre-defined nodal distribution per Sub-Lap

More information on model change requirements are in the Energy Storage and Distributed Energy Resource (ESDER) BRS locations at:
DRRS Activities Are Affecting Transition Implementation Schedule

• DRRS (Phase 2) Activities
  – Market Sim (14 days) 9/06 – 9/23
  – 1 Week Buffer 9/26 – 9/30
  – Go-Live 10/1

• Customer Partnership Group (CPG) meeting
  – More specific DRRS detail transition to 2017 SubLaps
  – Mid October (TBD)

The CAISO requests 2017 DRAM awardees that are required to make a January Monthly Plan showing to determine if their Resource will be located within one of the impacted Sub-Laps ASAP and provide that information in your submitted comments.
Next Steps

• Please submit comments to initiativecomments@caiso.com by C.O.B. Sept. 14, 2016
  – Including detail on potential 2017 DRAM resource impacts

• Overall update and implementation will be discussed at the Sept. 20, 2016 Market Performance and Planning Forum (MPPF)

• Customer Partnership Group (CPG) – October 11
  – watch for market notice