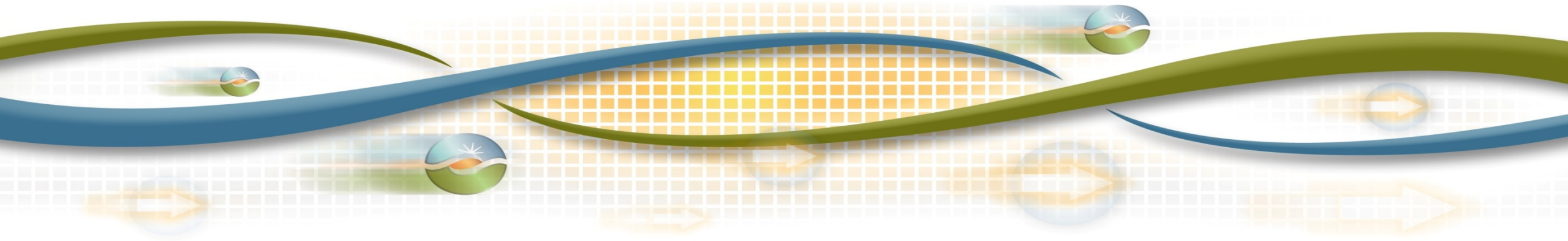




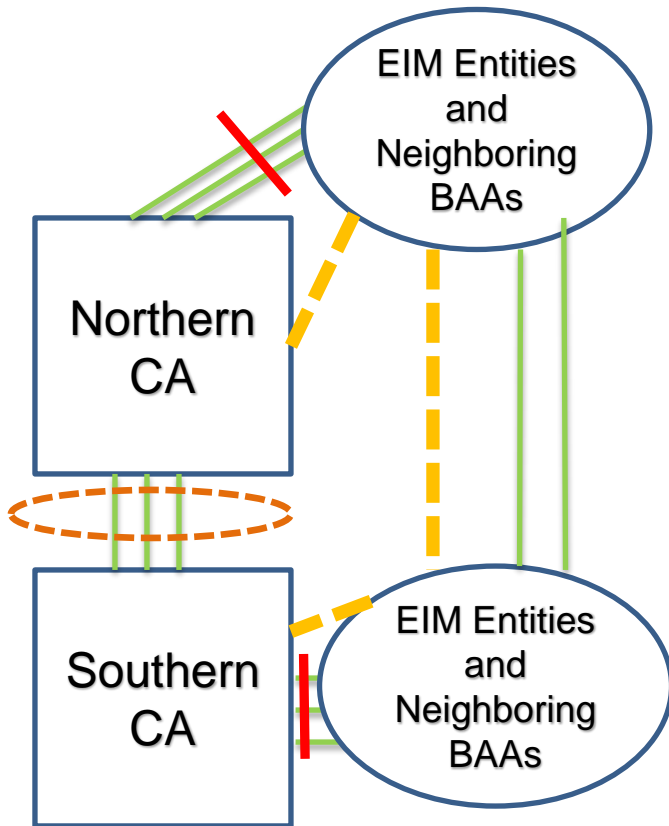
California ISO

Management of Transmission Constraints in CAISO Market

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Market minimizes bid costs, while accounting for multiple transmission limits and parallel flow impacts



Schedules on contract paths reflect e-tagging limits .

Flow limits: Originally, modeling boundary injections in real-time, but not day-ahead, caused congestion and uplift costs.

- Example: Day-ahead market could dispatch up to 4000 MW of flow on Path 26 without knowing impacts from external area

Now: Market models flow throughout WECC region, with actual sources and sinks, to enforce flow limits in ISO.

- When model expects parallel flow, market can enforce physical limits on ISO and EIM transmission. Expected 100 MW of parallel flow can limit to Path 26's physical flow to 4000 MW.
- No actual TTC reductions on any ATC Path.

Transfer between EIM Entities, and market flows on external paths, is limited to EIM entities / providers rights.

➤ Congestion is posted on ISO's OASIS.

ISO responds to real-time changes in transmission availability as described in operating procedures on www.caiso.com

(“Rules” / “Operating Procedures” / “2000 Series” & “3000 Series”)

- If certain limitations are known prior to Hour-Ahead Scheduling Process (HASP), ISO may reduce intertie capacity in HASP using Transmission Reliability Margin (TRM) to minimize impacts on market (# 3620):
 - Uncertainty in transmission topology (e.g., fires near lines, outages)
 - Unscheduled flow
 - Simultaneous path interactions (derates from non-ISO paths)
- For COI, conditions anticipated through WECC’s Unscheduled Flow Mitigation Policy (UFMP) (e.g., approval of unscheduled flow reduction 30’ prior to start of operating hour) use schedule-specific instructions through WebSAS, considering transmission priority (# 3510A, 3510E)
- Conditions not eligible for UFMP require fast response, using ISO’s rapid curtailment tool, based on transmission priority on ISO transmission segments (firm, unless ETC or TOR) (# 2540)