

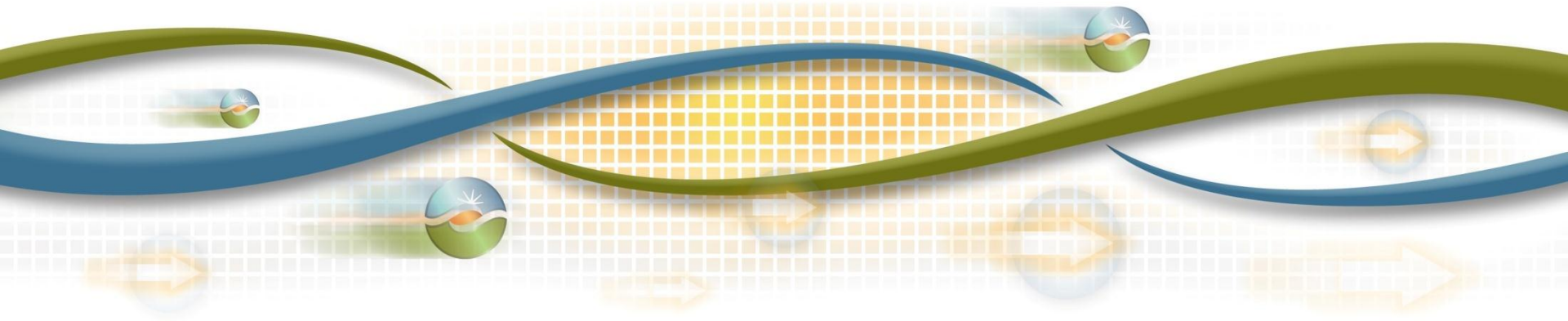


California ISO  
Shaping a Renewed Future

# Expanding Metering & Telemetry Options – Phase 2 (Distributed Energy Resource Provider or “DERP” proposal)

*Revised Straw Proposal (May 12, 2015)*

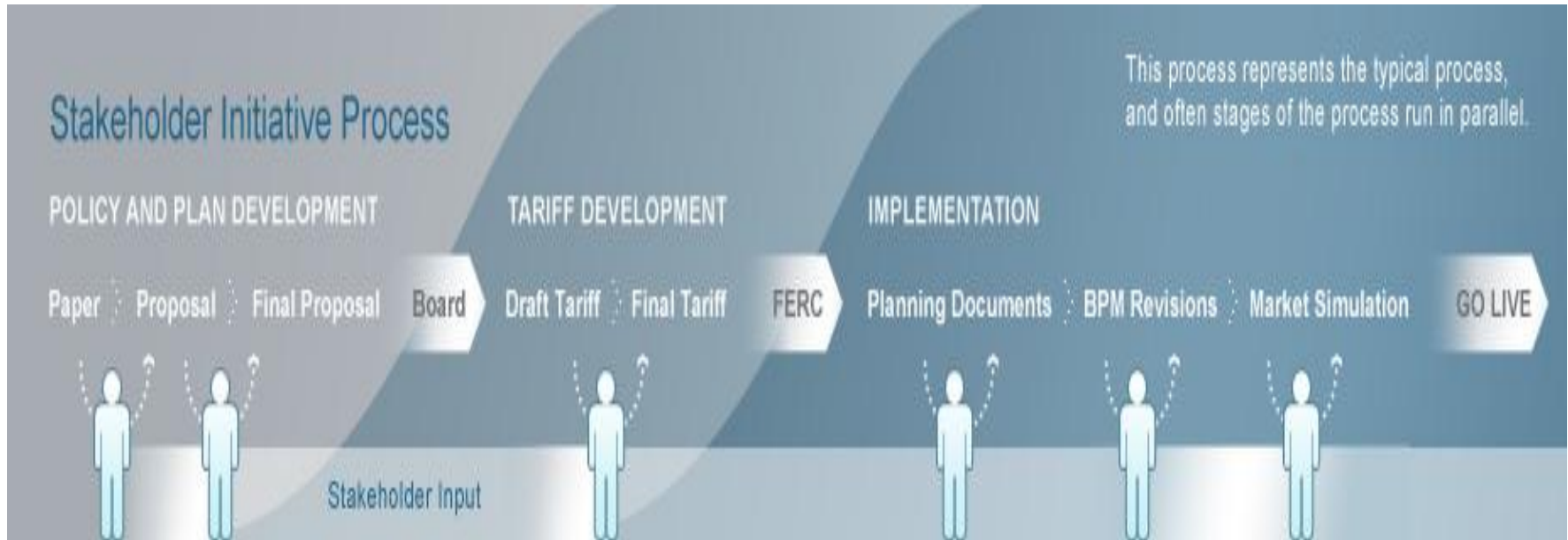
Stakeholder web conference  
May 19, 2015  
9:00 – 12:00



# Agenda

<b>Time</b>	<b>Agenda Item</b>	<b>Speaker</b>
9:00-9:10	Introduction, Stakeholder Process	Tom Cuccia
9:10-9:30	Background	Jill Powers
9:30-9:45	DERP overview	John Goodin
9:45-11:45	DERP revised straw proposal	Tom Flynn
11:45-12:00	Next Steps	Tom Cuccia

# ISO Stakeholder Initiative Process



**We Are Here**

# Stakeholder process schedule

Step	Date	Event
Straw Proposal	November 10, 2014	Post straw proposal
	November 13, 2014	Stakeholder web conference
	November 20, 2014	Stakeholder comments due
Revised Straw Proposal	May 12, 2015	Post revised straw proposal (posted as a slide presentation)
	May 19, 2015	Stakeholder web conference
	May 27, 2015	Stakeholder comments due
Draft Final Proposal	June 10, 2015	Post draft final proposal
	June 17, 2015	Stakeholder web conference
	June 24, 2015	Stakeholder comments due
Board approval	July 16-17, 2015	Board of Governors meeting

# Background

# Background

- This initiative began in 2012 to address stakeholders' experiences and issues with ISO metering and telemetry requirements.
- Technical working groups were formed to identify issues, business requirements and current rules, and specify BPM changes.
- Technical proposals addressing five topic areas were developed (see next slide).
- This work constituted phase one of the initiative.

# Phase 1 technical proposals

No.	Proposal	Status
1	Use of internet for telemetry and ISOME meter data bridging to the ISO energy communication network (ECN)	Implemented
2	Use of internet for telemetry with SSL and meter data transport directly to the ISO w/o SSL	Implemented, additional POC for secure meter data transport in progress
3	Expand the use of inter-control center communications protocol (ICCP) as an allowable option for RIG aggregators (telemetry only)	Development of BPM language and process alignment underway
4	Expand the ability for resources to submit settlement quality meter data (SQMD)	General guidelines have been developed; detailed business practices to be developed
5	Remove RIG aggregator resource ownership and location limitations	Addressed via DERP agreement

## Background *(continued)*

- In parallel with phase 1 implementation efforts, the ISO assessed the need to further develop and advance the proposal for the use of data concentrators.
- This assessment resulted in the proposed concept of a distributed energy resource provider or “DERP.”
- Development and finalization of the DERP proposal constitutes phase 2 of this initiative.



## Background (*continued*)

- The ISO published its initial DERP proposal with the posting of the *Distributed Energy Resource Provider Straw Proposal* on November 10, 2014.
- A stakeholder web conference was held on November 13 and written stakeholder comments were received November 20.
- The ISO has developed this DERP revised straw proposal based on a consideration of the comments received.
- Although much of the proposal remains unchanged, the revised straw proposal makes several clarifications and modifications to the previous proposal (see **red** font).

# DERP overview

# What is a Distributed Energy Resource Provider?

- The DERP is a new type of market participant. The DERP is analogous to a Participating Generator or a Participating Load but represents distributed energy resources (DER).
- The DERP is the owner/operator of distributed energy resources participating in the ISO market.
- The DERP is a scheduling coordinator metered entity (SCME), not an ISO metered entity (ISOME).

## What is a DERP? *(continued)*

- Just as a generator owner is bound to the ISO tariff through the Participating Generator Agreement (PGA), so will a DERP be bound to the ISO tariff through a Distributed Energy Resource Provider Agreement (DERPA).
- A DERP is not a scheduling coordinator (SC), but can contractually assume that role, just as a Participating Generator owner can be the SC for its resources.
- DERP resources will rely on data aggregation and concentration services to interact with the ISO through one point of contact.

# What is the primary objective of the DERP proposal?

- The ISO's PGA already provides an adequate framework for large resources interconnected to utility distribution systems to participate at the wholesale level.
  - The DERP proposal was not developed for such resources.
- To meet the ISO's minimum resource capacity requirement of 0.5 MW, DER may need to aggregate into a consolidated resource.
- The DERP provides a framework for aggregation of DER to meet ISO's minimum capacity requirements.
  - These are the resources for which the DERP proposal was developed.

# DERP Revised Straw Proposal

# DERP revised straw proposal

## 1. General functions of the DERP

- Offers energy and ancillary services (AS) from its DER into the ISO market through a SC (the DERP could serve as its own SC or hire the services of an SC).
- Provides ISO with accurate information about its DER and updates this information when changes occur (e.g., resource additions, meter and telemetry data, resource attributes).
- Responsible for operating and maintaining its DER consistent with applicable ISO Tariff provisions (e.g., ISO dispatch instructions, operating orders).

## DERP revised straw proposal (*continued*)

2. DERP resources will be SC metered entities (SCME).
  - Metering arrangement is between the SC and the sub-resources (avoids having the sub-resources engage in a direct metering arrangement with the ISO).
  - The SC aggregates the settlement quality meter data (SQMD) and submits it to the ISO for use in settlements.
  - The DERP will ensure that its revenue meters or metering devices meet local regulatory authority (LRA) requirements.



## DERP revised straw proposal (*continued*)

### 3. DERP resources will be SCME (*continued*)

- If no LRA requirement exists, then SQMD must comply with set of default ISO requirements to be incorporated into the ISO Metering BPM (see Appendix A of Nov 2014 straw proposal).
- The SC for the SCME will need to conduct self-audits annually and have the capability to disaggregate resource level SQMD from the sub-resources for audit purposes.
- ISO will maintain the authority to audit and test the metering facilities and data handling and processing procedures of the SC and the DERP.

## DERP revised straw proposal (*continued*)

4. DERP aggregations must be within a single sub-LAP.
5. DERP aggregations may be across multiple Pnodes within a single sub-LAP.
6. DERP aggregations may consist of one or more sub-resources at single or multiple locations within a single sub-LAP.
7. Individual sub-resources in DERP aggregations may exceed 0.5 MW, and no limit on minimum size of sub-resources, but all resources must be metered per LRA or ISO standards.
8. DERP aggregations across multiple Pnodes may not exceed 20 MW.
  - Tariff section 7.6.1(d) would apply if 10 MW or greater or certified to provide ancillary services.

## DERP revised straw proposal (*continued*)

9. In the case of DERP aggregations limited to one Pnode, there is no MW size limitation.
10. Individual sub-resources in DERP aggregations must be homogenous– i.e., they must all be DG, storage, DR, or EV, but not a mixture of resource types.
11. Individual sub-resources in DERP aggregations must always participate as an aggregate resource and not as individual resources.
12. For DERP aggregations of NGR across multiple Pnodes, all sub-resources must move in the same direction as the ISO dispatch instruction.

## DERP revised straw proposal (*continued*)

13. Individual sub-resources in DERP aggregations may be either single-phase or three-phase resources.
14. Sub-resources in DERP aggregations must be represented as a single market resource located at a custom LAP specific to the aggregated resource.
15. A custom LAP may be as small as a single resource settled at a single Pnode or represent multiple sub-resources that the ISO would settle based on generation distribution factors (GDF) across specific Pnodes.
  - The GDFs will reflect the distribution of power among the individual Pnodes.

# DERP revised straw proposal

16. Each DERP, regardless of how many aggregations it has, will only execute a single DERP agreement. The single agreement allows the DERP to have multiple aggregated resources, each with its own resource ID.
17. Individual sub-resources in DERP aggregations must be identified and updated in a schedule attached to the DERP agreement. (No registration system yet for DERs).
18. Individual sub-resources in DERP aggregations would not enter into an additional participation agreement such as a PGA or PLA.

## DERP revised straw proposal (*continued*)

19. If an existing participating generator elects to become a sub-resource in a DERP, then the resource would no longer be an ISOME and would need to meet the requirements as an SCME and included under applicable owner's DERPA.
  - a. The resource's established PGA provisions and ISOME status would be terminated.
  - b. If a sub-resource wants to return as a stand-alone Participating Generator, the resource would be required to re-execute a PGA and the MSA CAISOME, and recertify metering to meet ISOME metering requirements.

# Next Steps

Request for stakeholder comments by May 27, 2015

Comments mailbox [initiativecomments@caiso.com](mailto:initiativecomments@caiso.com)

Step	Date	Event
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	May 19, 2015	Stakeholder web conference
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