



# Decision on expanding metering and telemetry options initiative (aggregation of distributed energy resources)

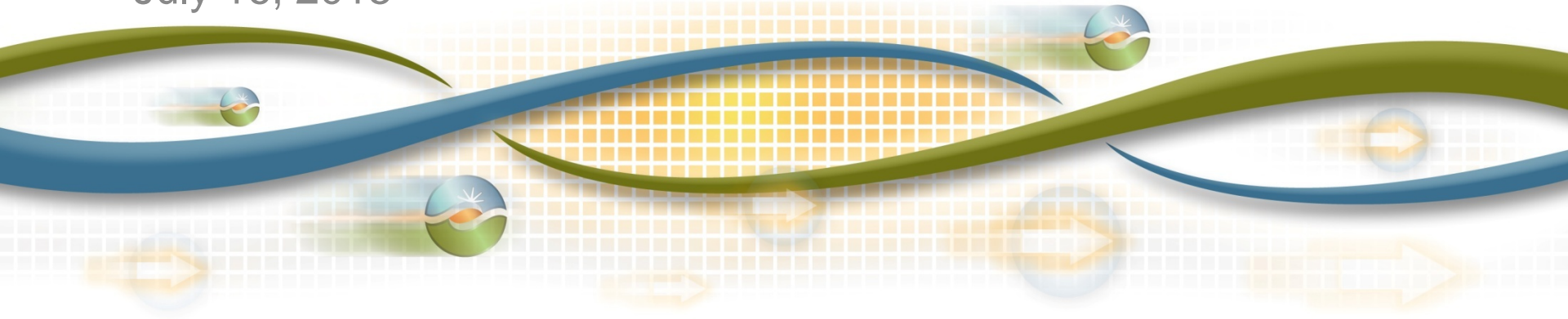
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# Proposal provides new provisions to enable distribution connected resources to participate in ISO market.

- Distribution connected resources are becoming an increasingly important part of resource mix.
- ISO's tariff does not offer a clear platform for smaller distribution connected resources to participate in ISO markets.
- Creating a pathway for these resources to participate in the ISO market will help lower carbon emissions and provide operational benefits.

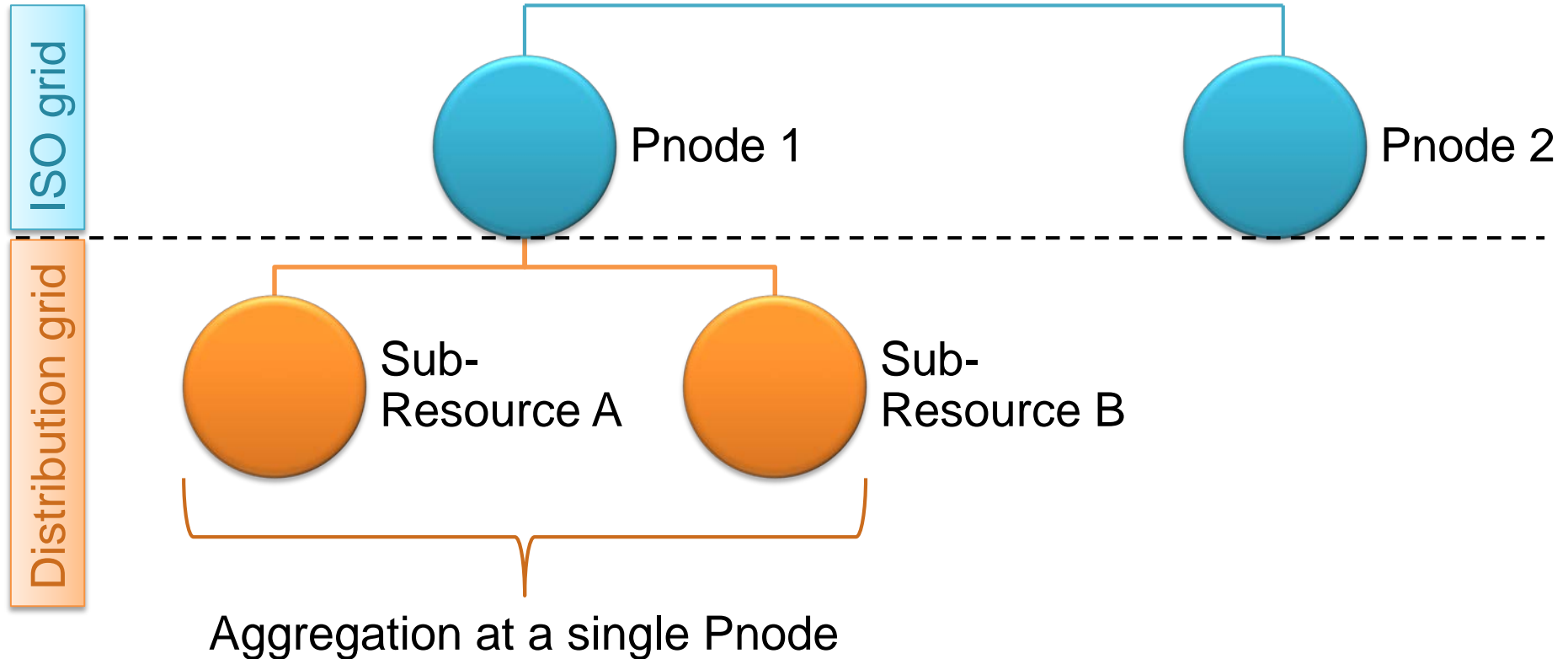
Proposal allows aggregations of distribution connected resources to participate in the ISO market as a single market resource.

- Includes distribution resources connected behind or in front of the end-use customer meter.
- Allows sub resources to be scheduling coordinator metered entities.
  - Avoids having each sub-resource in an aggregation engaged in a direct metering relationship with the ISO.
- Resources must comply with applicable utility distribution company tariffs and requirements of the local regulatory authority.

Proposal limits geographic dispersion of an aggregation of distribution connected resources to meet ISO operational needs.

- Aggregations of distribution connected resources may be at a single pricing node or across multiple pricing nodes.
- Each resource aggregation must be within a single sub load aggregation point.
- Different rules apply to single versus multiple pricing node aggregations to accurately predict congestion effects.

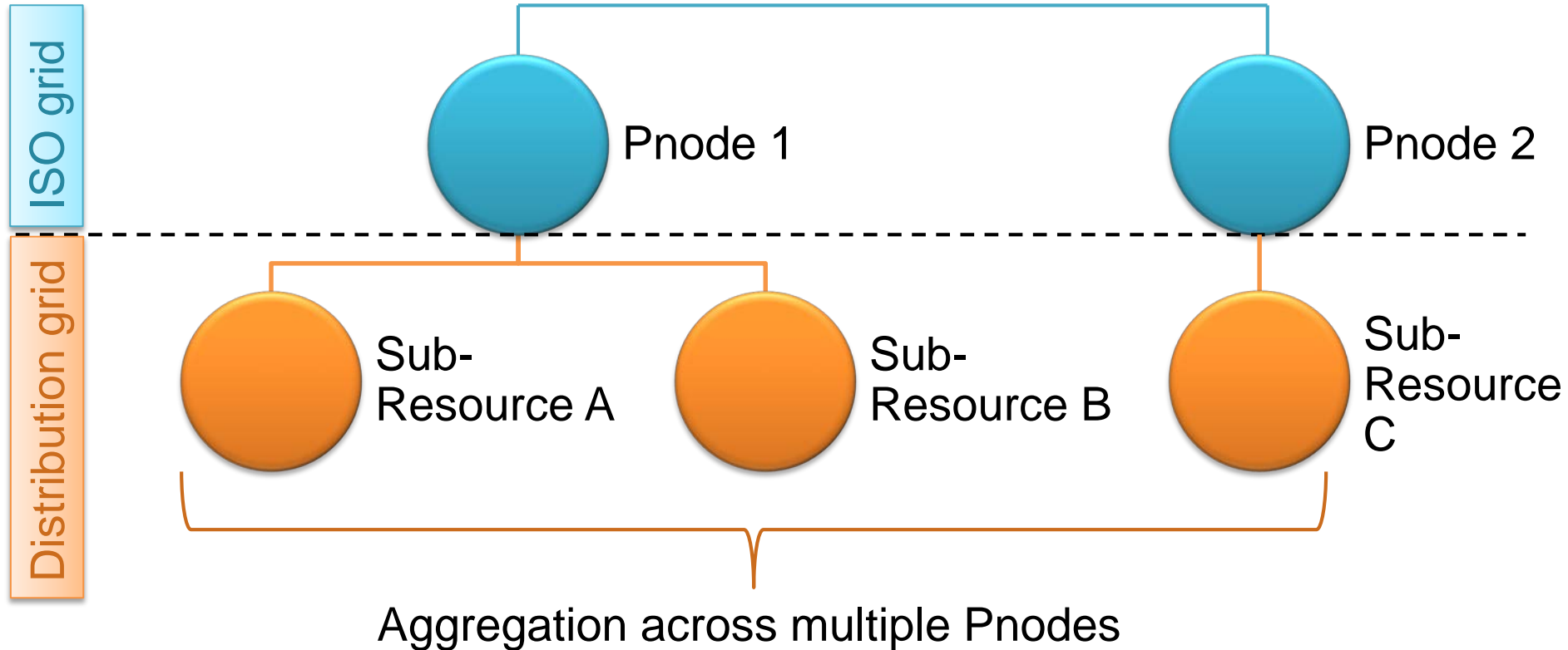
# Illustration of an aggregation at a single pricing node.



For aggregations limited to a single pricing node, greater flexibility is provided due to predictability of its effect on congestion management.

- No maximum size limitation.
- A mixture of sub-resource types is allowed.
- All sub-resources do not have to move in the same direction as the ISO dispatch instruction.

# Illustration of an aggregation across multiple pricing nodes.



For aggregations across multiple pricing nodes, additional rules are needed to limit adverse effects on ISO's ability to accurately predict congestion.

- Aggregations may not exceed 20 MW.
- Sub-resources must be homogenous and must move in the same direction as the ISO dispatch instruction.
- Energy storage aggregations must have all sub-resources operating in the same mode (i.e., charging or discharging) in response to an ISO dispatch instruction.



Stakeholders generally support the proposal but some seek greater flexibility for aggregations across multiple pricing nodes.

- In taking this first step, Management's proposal relies on existing market models and tariff rules to the maximum extent possible.
- Management will reevaluate appropriateness of the 20 MW limitation after gaining operational experience with several aggregations of sufficient size.
- Management will reassess the other limitations in the energy storage and distributed energy resources stakeholder initiative in 2016.

Management recommends that the Board approve the proposal.

- Acknowledges that distribution connected resources represent an increasingly important part of the future resource mix.
- Opens a pathway for these resources to aggregate together to meet the ISO's 0.5 MW minimum participation requirement.
- Supported by a majority of stakeholders.