Interim Storage Design Project Update

Education Presentation

June 23, 2020

ieso
Connecting Today.
Powering Tomorrow.

Purpose

- To provide an update on the Storage Design Project (SDP) and discuss draft market rule and manual changes that are being developed through the SDP engagement initiative.

Storage Design Project - Scope

The SDP will:

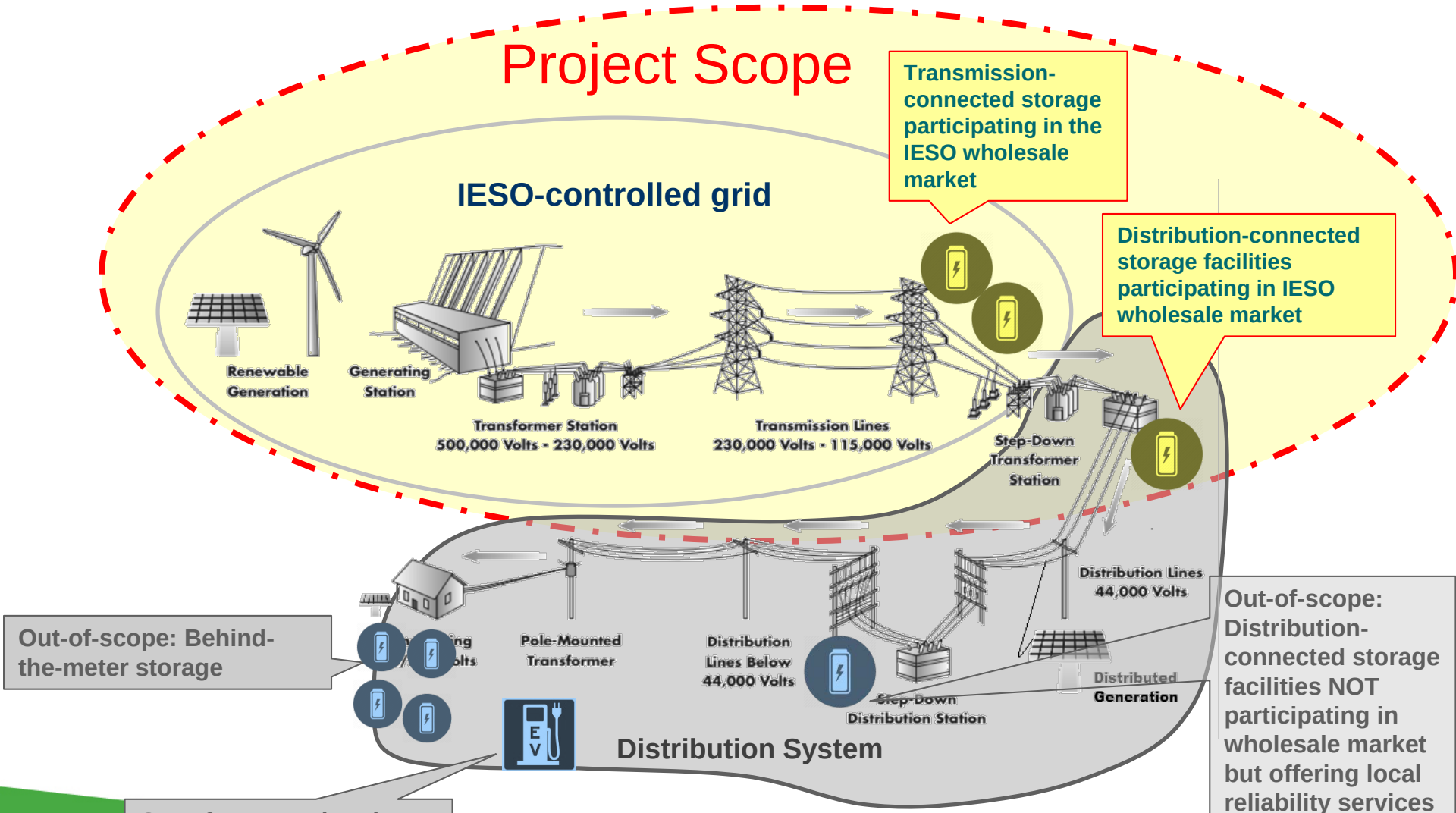
1. Clarify how energy storage resources can participate in today's IESO Administered Markets (the **interim period**), and
2. Provide a vision for how storage resources will participate in the IESO Administered Markets on an enduring basis once investment in IESO tool upgrades to fully integrate storage resources are made (the **long-term period**)

The SDP is an important step towards ensuring energy storage can fully compete to reliably and efficiently provide needed system services.

Storage Design Project - Deliverables

1. **Design Considerations**
   - Answer key questions about how IESO will treat storage in IESO Administered Markets (IAMs)
   - Reflect different timeframes (e.g. greater detail for interim period and a higher-level-vision for the long-term)
2. **Market Rules and Manuals**
   - Draft, and invite stakeholder feedback on, market rule/manual language required to implement interim measures
   - Produce inventory and description of future market rules/manual changes required to implement long-term design questions addressed in the project
3. **Inventory of IESO Tool/Process Changes**
   - Develop list of tools/processes that will require updating to enable design questions addressed in the project
4. **Schedule for Market Updates**
   - Develop schedule to roll out changes that reflects dependencies on/timing of other initiatives

Storage Design Project – Facilities Involved

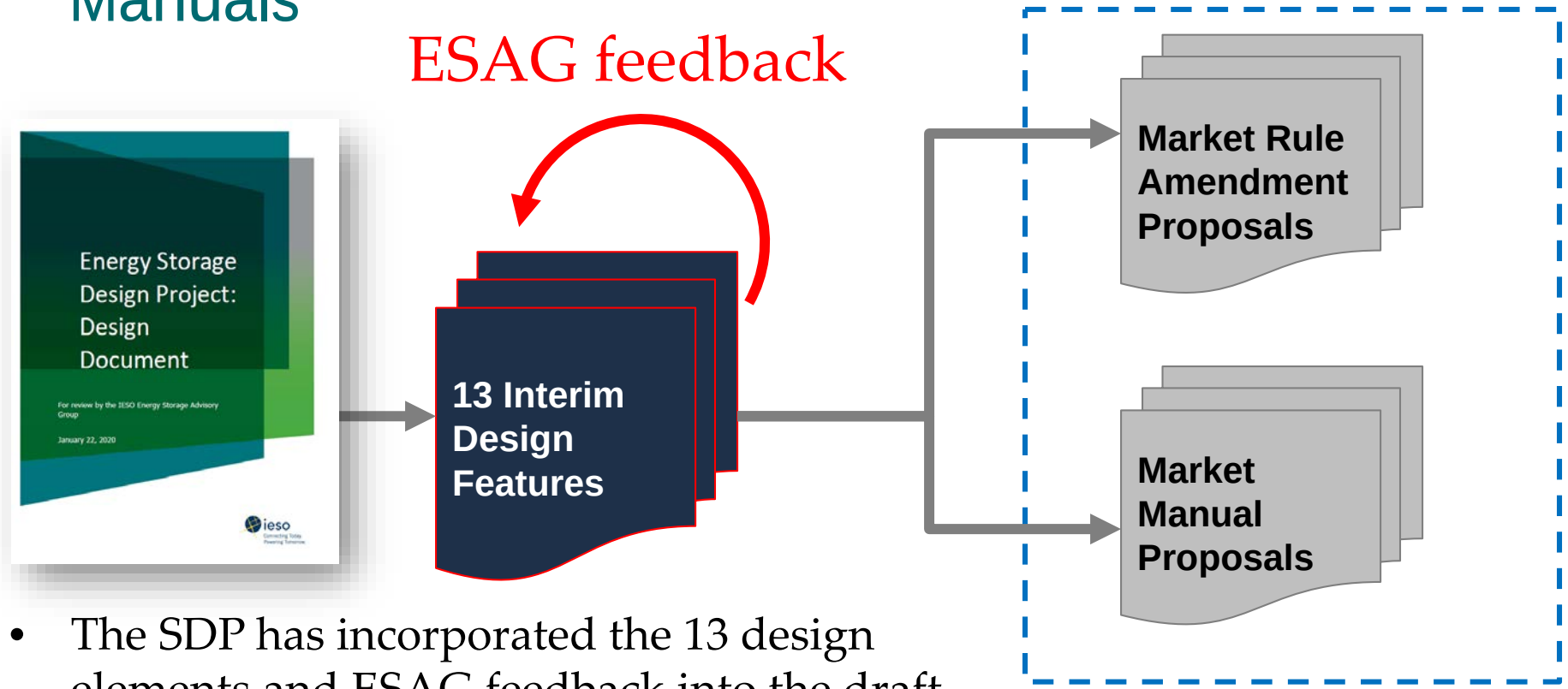


ieso
Connecting Today.
Powering Tomorrow.

ESAG Feedback received

- The IESO published a Draft Design Document on February 18, 2020.
- In response, the IESO received 8 submissions from stakeholders including a Consortium of Renewable Generators, Energy Storage Providers and Industry Associations.
- General themes;
  - Overall support for the notion of an interim period along with the interim design proposals to expedite the participation of energy storage resources
  - Appreciation of the tool limitations that requires an interim design, but a desire for the IESO to address these limitations as soon as possible
  - Desire for the IESO to expand scope of project to include hybrid (generator & storage) and BTM resources.

Interim Design Features to Draft Market Rules and Manuals



- The SDP has incorporated the 13 design elements and ESAG feedback into the draft Market Rules and Manuals
- Redlines are "draft" and give stakeholders an opportunity to view the IESO's proposals in advance of the formal Baseline Process

Introduction to the Storage Redlines

- **Market Rules**
  - Changes to ten chapters and their appendices
  - Edits to over 100 sections of Market Rules
- **Market Manuals**
  - Updates to 30 Market Manuals
  - Market Manuals provide more detailed descriptions of the requirements for various activities specified in the Market Rules, and include the forms and agreements required by market participants
  - Applicable forms and agreements, technical reference documents, training guides etc. will be updated when storage-related Market Rules come into effect; expected in early 2021

The Approach to the Storage Redlines

Change	Description	Example	Where are they?
Interim Design Features	Market Rules are intended to be replaced with long-term design	Rules required to implement the no-overlap requirement	Dedicated section (Ch. 7, Sec. 21) for interim electricity storage rules
Other Changes	Rules may not require changes for the long-term design	Requirement to coordinate outages	Throughout rules. E.g., where outages currently exist; Ch. 5, Sec. 6.

Market Rule and Market Manual Scoping Principles

To the extent possible, the Storage Design Project team has endeavoured to update Market Rules and Market Manuals based on the following principles:

- **Supports Interim Design** – relates to requirements needed to support the interim storage design
- **Clarifies an existing IESO practice** – relates to items that the IESO is already doing with electricity storage, but have yet to be formally documented
- **Includes storage into existing requirements** – relates to the inclusion of electricity storage in standard rules/manuals that are required for all market participants

Examples of Changes to Defined Terms in Chapter 11

New terms

- Electricity storage facility
- Electricity storage participant
- Electricity storage unit
- Embedded electricity storage facility
- Lower/upper energy limit
- Remaining duration of service
- Self-scheduling electricity storage facility
- State of charge

Revisions to existing terms

- Capacity export request
- Connection applicant
- Connection point
- Constrained on event
- Facility
- Operating reserve
- Station service
- Self-schedule

Changes have been made to both refer to electricity storage and to reflect the unique nature of their operations

New Market Rule Section: Ch.7, Sec 21

The SDP created a new section in Chapter 7 of the Market Rules which contains the interim design elements.

These interim design elements are not expected to be needed over the long term when the IESO can update its tools to more fully integrate storage resources.

The sections are as follows:

- 21.1 - Purpose of Section
- 21.2 - Market Registration
- 21.3 - Provision of Regulation Service
- 21.4 - Energy Offers and Energy Bids
- 21.5 - Revisions to Dispatch Data
- 21.6 - Provision of Operating Reserve
- 21.7 - Interpretations

Next Steps

- The IESO has posted the redlined market rules and market manuals in preparation for the June 24 ESAG meeting
- The IESO is accepting stakeholder feedback on the redlines until July 15
- IESO will work to consider feedback and incorporate comments as appropriate and post responses on the ESAG Webpage
- Draft market rules are targeted for review at the September TP meeting

Appendix: Project Timeline