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Oregon

August 7, 2018

### **MEMORANDUM**

**TO: Council Members**

**FROM: Ben Kujala**

**SUBJECT: Presentation on California Markets and California Independent System Operator**

### **BACKGROUND:**

**Presenter:** Stacey Crowley, Vice President, Regional and Federal Affairs, CAISO

**Summary:** Stacey Crowley leads the regional coordination efforts for the California ISO. She will discuss coordination between the CAISO and the Northwest on several different efforts.

- The Energy Imbalance Market (EIM) has expanded to include seven utilities outside the CAISO and is expected to expand further. In part, because of this success, there have been conversations about a larger western market or potential expansion of the EIM to a day-ahead marketing stage.
- The CAISO and Bonneville are jointly studying the potential for increasing the capabilities of transfers between the Northwest and California.
- The CAISO will be an option for providing reliability coordination to the Northwest when Peak Reliability winds down operations by the end of 2019.



# Western Energy Imbalance Market and Regional Energy Activities

Stacey Crowley, Vice-President, Regional and Federal Affairs  
John Anders, Assistant General Counsel

August 14, 2018

# The California ISO is one of nine independent grid operators in North America

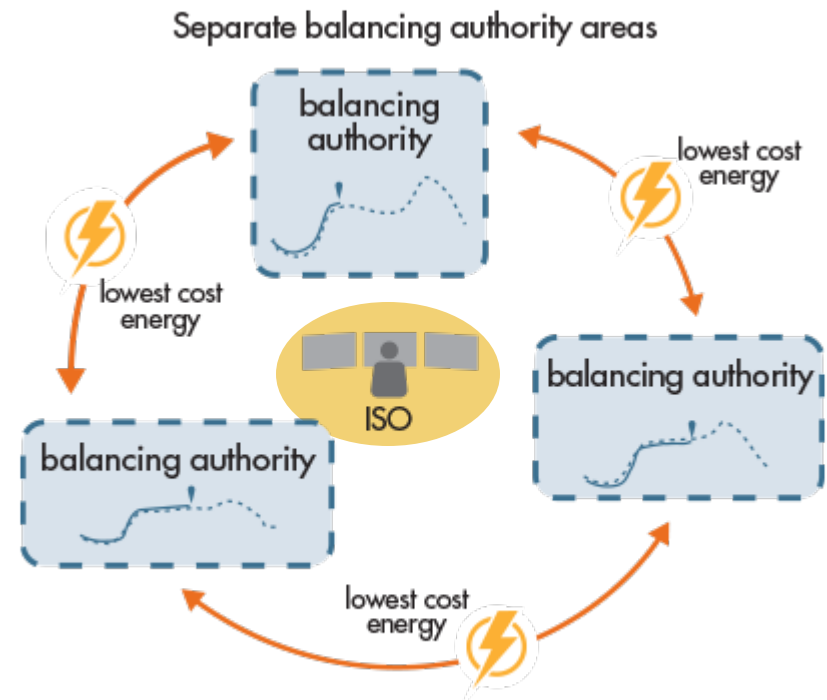
- One of 38 balancing authorities in the western interconnection
- Uses advanced technology to balance supply and demand every four seconds
- Operates markets for wholesale electricity and reserves
- Manages new power plant interconnections
- Plans transmission expansion and upgrades



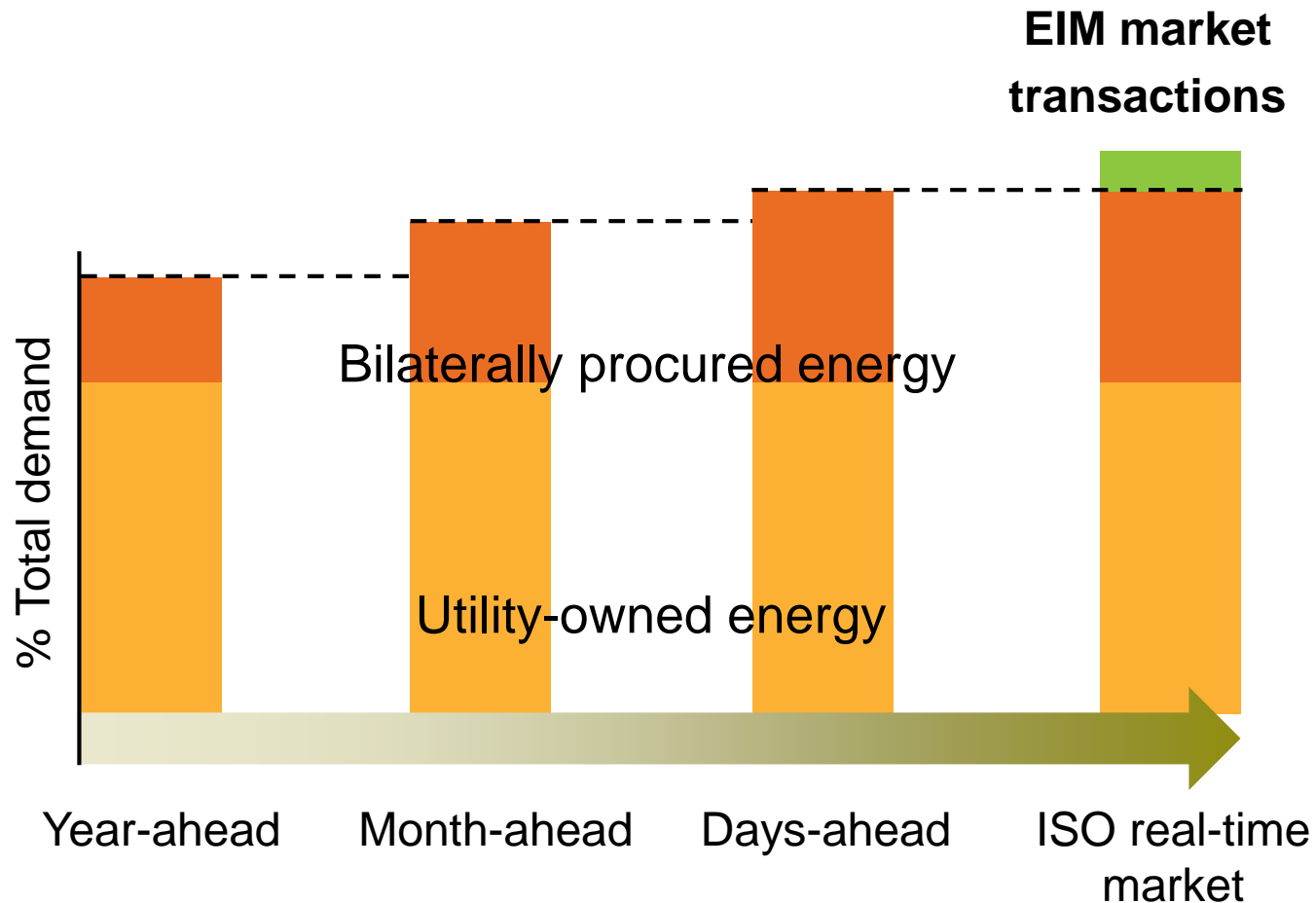
*Note: Xcel has withdrawn from MWTG effort*

# EIM provides an easily-scalable extension of real-time market to the broader region

- Builds on existing market: automated dispatch minimizes cost, facilitates renewables, resolves imbalance & avoids congestion
- Situational awareness enhances reliability
- Easily scalable, low-cost, low risk, no exit fees, voluntary option for new participants
- Preserves BAA autonomy, including compliance, balancing, and reserve obligations

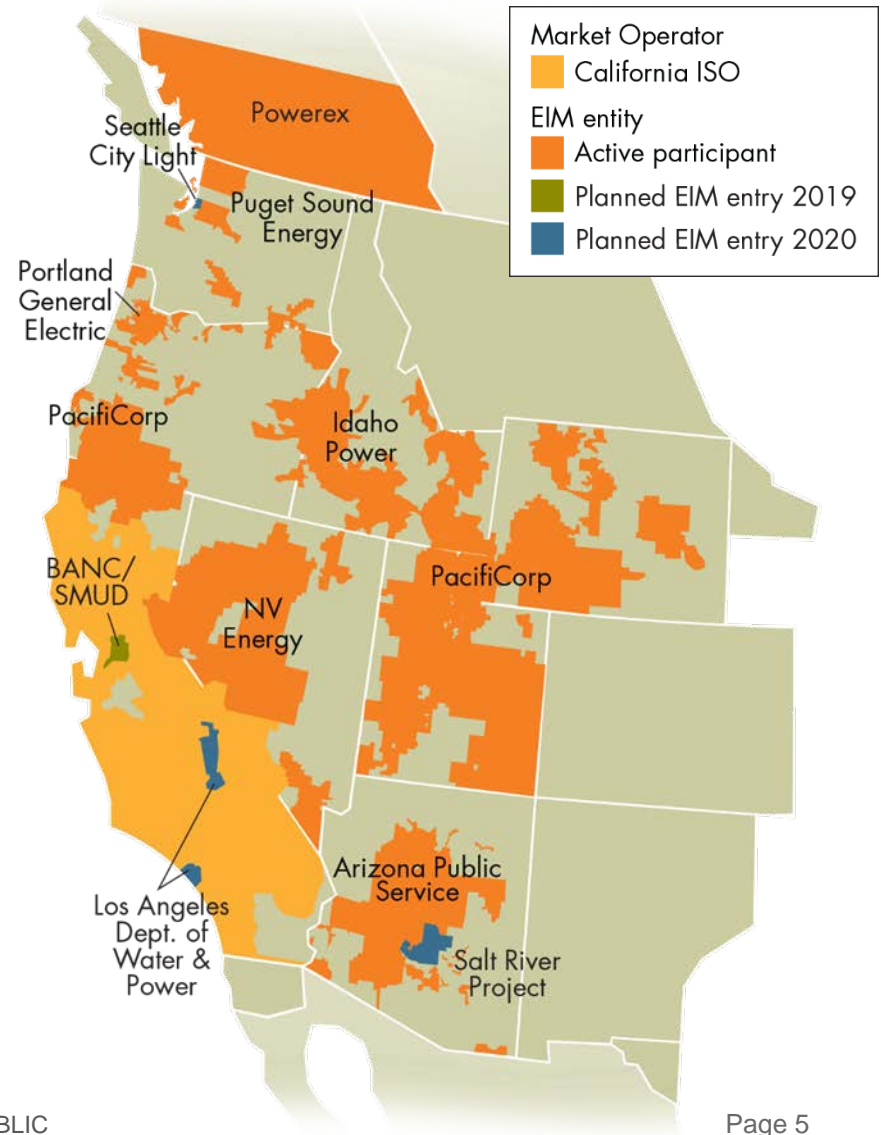


# Most demand is met in advance of the market through utility-owned or bilaterally procured resources



# The Western EIM continues to grow

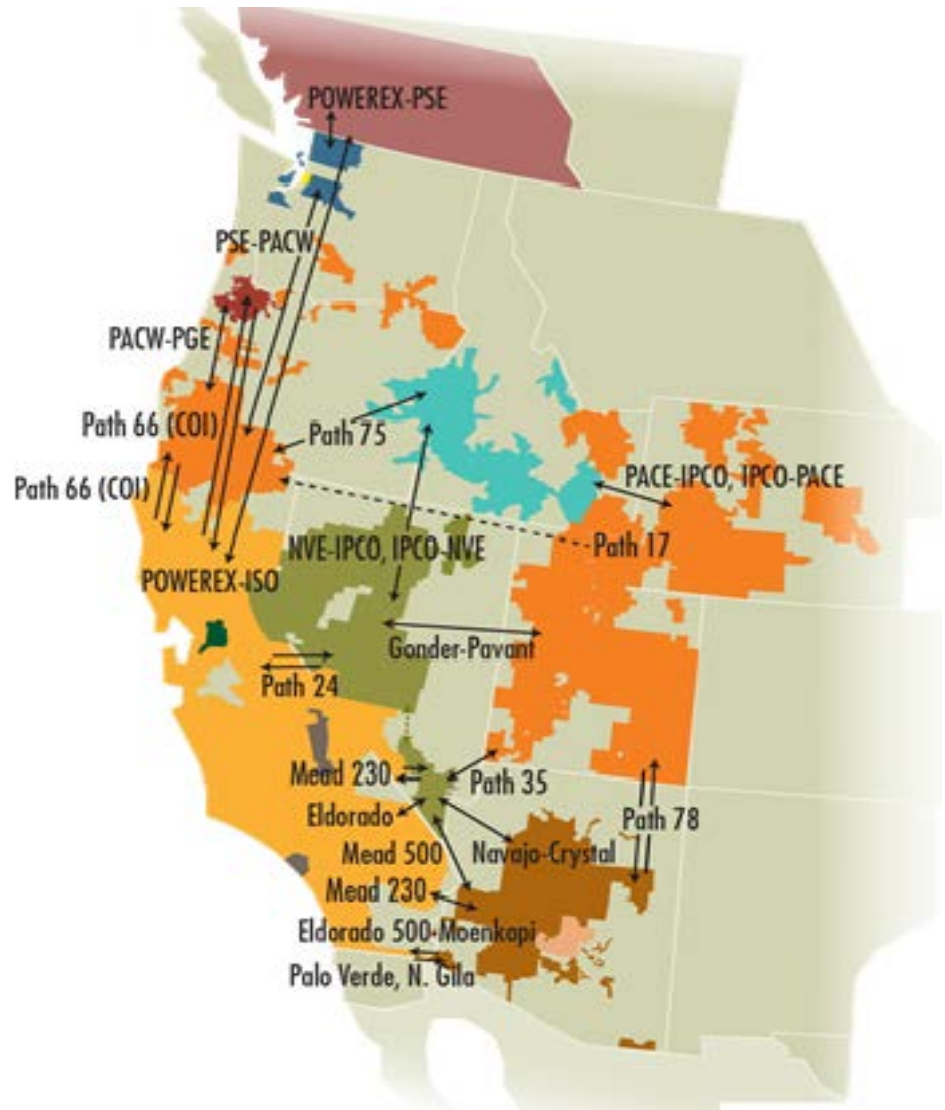
- Idaho and Powerex started full financial participation on April 4, 2018
- BANC/SMUD is scheduled for activation in April of 2019
- Seattle City Light, LADWP, and Salt River Project are scheduled for activation in April of 2020



# The Western EIM utilizes robust existing transmission capacity

← one direction  
 ↔ bi-directional

- California ISO
- PacifiCorp
- NV Energy
- Arizona Public Service
- Portland General Electric
- Puget Sound Energy
- Idaho Power Company
- Powerex
- BANC/SMUD *(planned entry 2019)*
- Seattle City Light *(planned entry 2020)*
- LADWP *(planned entry 2020)*
- Salt River Project *(planned entry 2020)*



# Gross economic benefits since start of EIM: **\$401.73M**

BAA\$71M this quarter 55,267 metric	2014	2015	2016	2017	2018		Total
					Q1	Q2	
<b>Arizona Public Service</b> (10/2016)			5.98	34.56	5.90	8.59	<b>55.03</b>
<b>California ISO</b> (11/2014)	1.24	12.66	28.34	36.96	14.85	27.93	<b>121.97</b>
<b>Idaho Power Company</b> (04/2018)						7.75	<b>7.75</b>
<b>NV Energy</b> (12/2015)		0.84	15.57	24.20	4.17	5.34	<b>50.12</b>
<b>PacifiCorp</b> (11/2014)	4.73	26.23	45.47	37.41	10.51	11.67	<b>136.02</b>
<b>Portland General Electric</b> (10/2017)				2.83	3.64	5.34	<b>11.81</b>
<b>Powerex</b> (04/2018)						2.27	<b>2.27</b>
<b>Puget Sound Energy</b> (10/2016)			1.56	9.86	3.01	2.32	<b>16.75</b>
<b>Total</b>	<b>5.97</b>	<b>39.73</b>	<b>96.92</b>	<b>145.82</b>	<b>42.08</b>	<b>71.21</b>	<b>401.73</b>



# EIM governance structure was designed by a transitional committee of western stakeholders

## EIM Governing Body (GB)

- 5 independent (non-stakeholder) members
- Delegated authority over EIM-related market rules
- Selected by stakeholder nominating committee, confirmed by EIM Governing Body
- Provides western entities a decision-making voice

## EIM Body of State Regulators (BOSR)

- Advise EIM Governing Body and ISO Board on matters of interest
- Currently 8 state officials from EIM states
- Provides a state regulatory perspective

## Regional Issues Forum (RIF)

- Public vehicle for discussion of EIM-related issues, including impacts to neighboring balancing authority areas
- Organized by ten self-selected sector liaisons
- May produce opinions for EIM governing body or ISO Board of Governors

# EIM Governing Body and Body of State Regulator members represent variety of expertise and regional experience

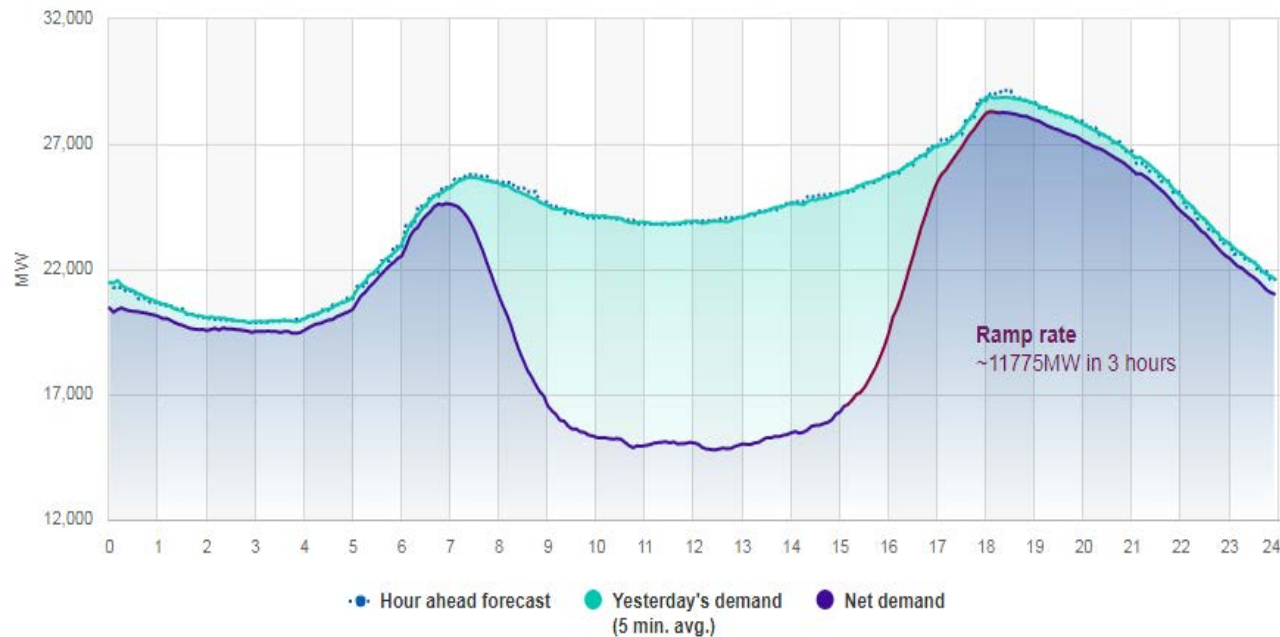
Governing Body Members
Chair Valerie Fong
Vice-Chair Carl Linvill
Travis Kavulla
John Prescott
Kristine Schmidt

*Next meeting is August 22 in Denver, CO*

Body of State Regulators	
Utah	Chair Jordan White
Washington	Vice-Chair Ann Rendahl*
Arizona	Bob Burns
California	Cliff Rechtschaffen
Idaho	Kristine Raper
Nevada	Ann Pongracz
Oregon	Letha Tawny
Wyoming	Bill Russell
<i>*Nominating Committee representative</i>	

*Next meeting is a teleconference on August 3*

# Day-ahead market enhancements address net load curve and uncertainty previously left to real-time market

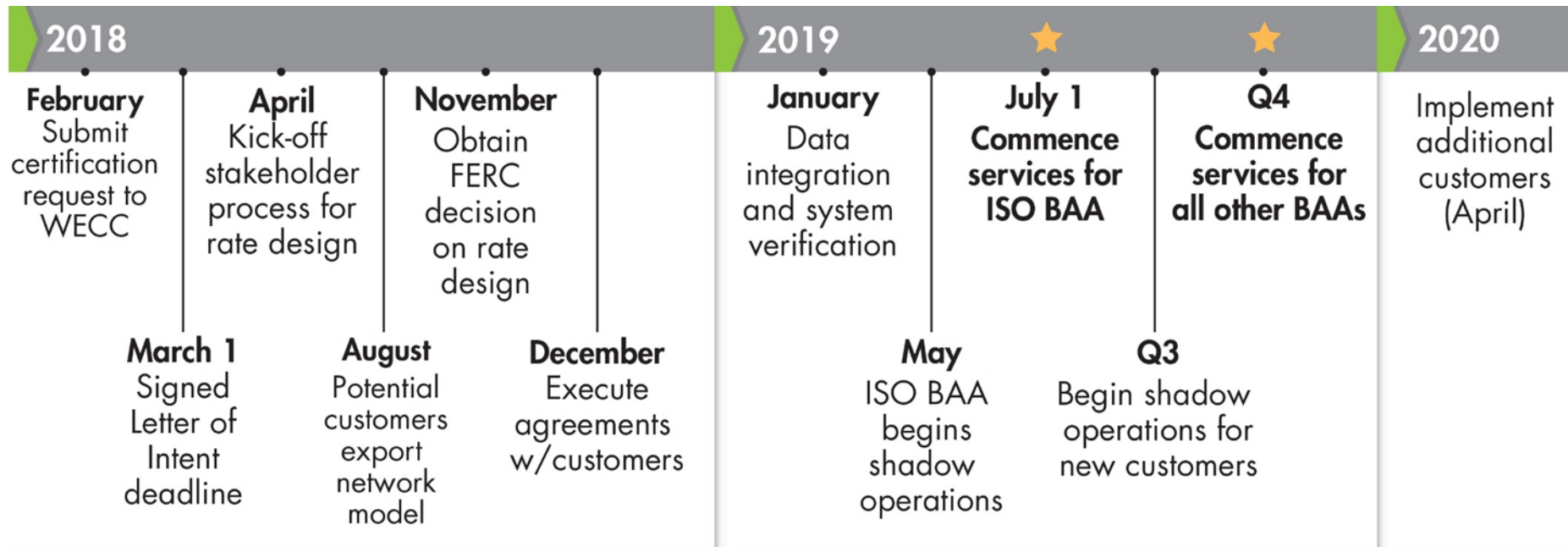


- 15-minute scheduling granularity in Day Ahead Market
- Day-ahead imbalance reserve product
- Offers opportunity for EIM entities to participate

# California Assembly Bill 813 – Multistate regional transmission system organization (RTO)

- AB 813 would:
  - allow a California utility or transmission owner to participate in an RTO, if certain requirements are met
  - authorize the ISO to submit a governance proposal that complies with those requirements to the Energy Commission, who would review for compliance
  - and, with interest from western utility or transmission owners, would authorize the ISO to implement the proposal

# The ISO is committed to closely coordinating with Peak Reliability (and other RCs) on a reliable transition



- ISO can leverage existing capabilities, network model and other systems across the Western Interconnection
- ISO can provide high quality services at lower cost
- Design is flexible to support the phased implementation and varied number of potential customers