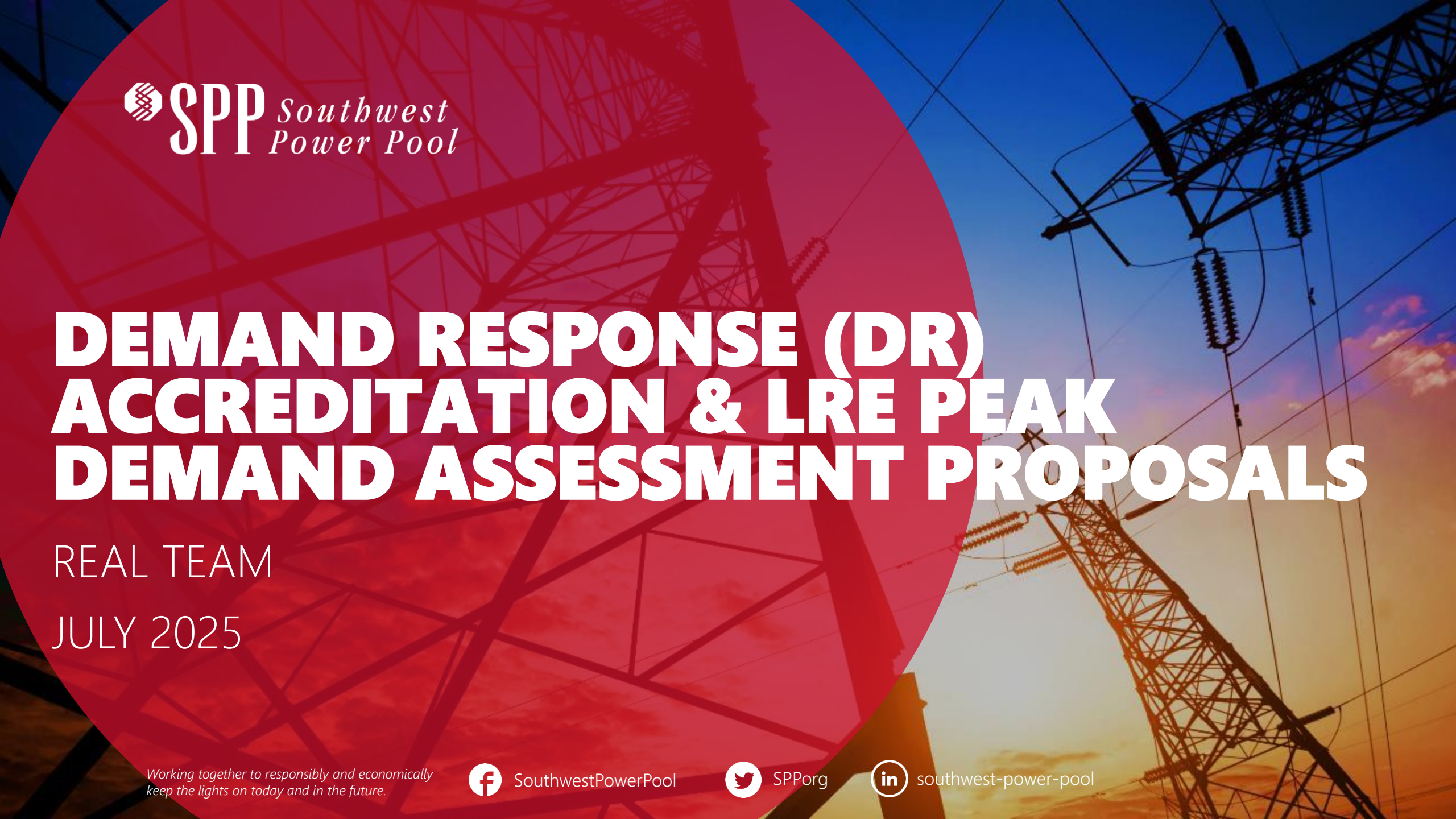


DEMAND RESPONSE (DR) ACCREDITATION & LRE PEAK DEMAND ASSESSMENT PROPOSALS

REAL TEAM

JULY 2025

Working together to responsibly and economically keep the lights on today and in the future.

SouthwestPowerPool SPPorg southwest-power-pool

OBJECTIVES

- Review the Demand Response and LRE Peak Demand Assessment Policy Proposals
- Seeking REAL Team approval of the Demand Response Policy Framework today, contingent on later endorsement of the LRE Peak Demand Assessment, such that both can be filed at FERC simultaneously

DR PROCESS AND TIMING

- DR has been **discussed for years** in the working groups without consensus, hence **modifications in process were necessary** to create an effective DR framework.
  - Under the direction of REAL, a DR cohort team was formed to provide staff with additional focused feedback.
  - SAWG, ORWG, MWG, and CAWG have also had the opportunity to provide input in both working group meetings and by submitting comments and discussion with SPP Staff
- Change in DR policy will require LRE's to **modify customer contracts**
  - The decision to expedite policy and RR approval is intended to give LRE's an additional 3 months (or longer) to do so, prior to the effective date of the policy
  - The LRE Peak Demand Assessment needs additional time to develop so the policy and RR approval is now adjusted to be one quarterly cycle behind the DR framework. However, DR and LRE Peak Demand Assessment will be in a single FERC filing, after both RR's are approved.

KEY MODIFICATIONS

- No opt out for EEA2 testing – stakeholder feedback
- Moved the accreditation lookback from 1 year to 3
- Authorized outage allowed for and 50% accreditation w/o test in first year Market Registered DR – stakeholder feedback
- 100 hours max for EEA2- stakeholder feedback
- Changed to allow partial accreditation – June feedback
- Change to gross up accreditation for PRM- July based on June REAL feedback
- Cap on amount in EEA2 bucket- July staff proposed to avoid excessive EEA2 events
- A staff proposed registration threshold of 1 MW is now removed based upon CAWG and other feedback this week, to allow more time to determine the interaction between DR and LRE Peak Demand Assessment (slide 7)

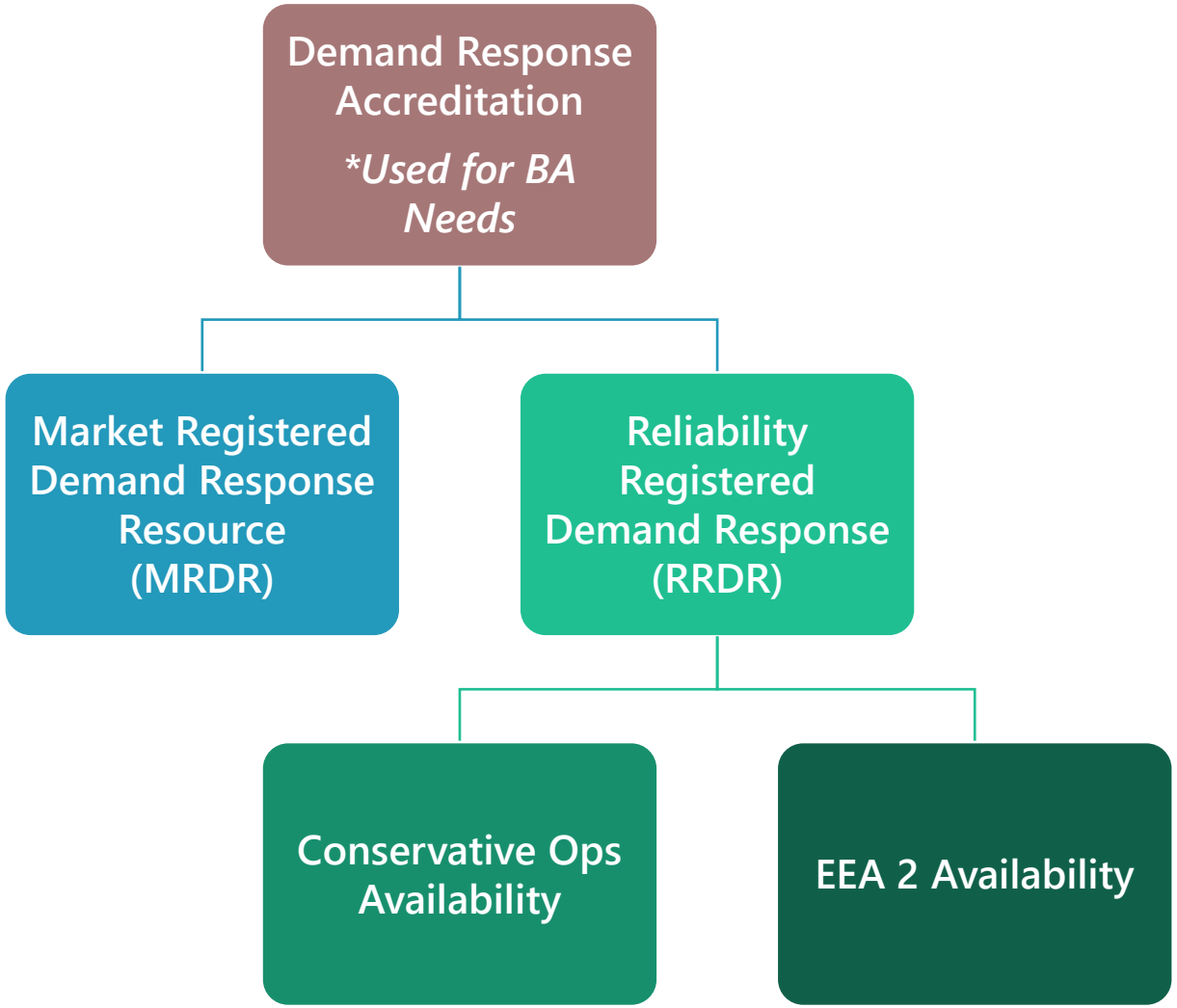
DEMAND RESPONSE

DEMAND RESPONSE TOPICS

- Market Registered Demand Response
- Reliability Registered Demand Response
- Rules for accreditation
- Example calculations
- Testing
- New Demand Response Resources
- Timeline

ACCREDITATION

Accredited



Not Accredited

Demand Response used for LRE Needs

Peak Demand

Assessing an option to allow controllable load modifiers.

Work will continue to limit load modifier controllable resources that will be subject to the Peak Demand Assessment.

MARKET REGISTERED DEMAND RESPONSE

Market

- Deployed economically based on market offer
- Outages submitted in CROW
- Required to participate in Energy in the Integrated Marketplace

Resource Adequacy

- Submitted as a resource, not as a load modifier
- Seasonal submission (Summer and Winter)
- Capability and Operational testing required
- Authorized Outages allowed

Accreditation

- 3-year lookback for accreditation using a Performance Based Approach
- Performance is measured during the entire season when deployed
- Availability is measured during top 3% net load, Conservative Ops, and EEA hours
- 4-hour minimum run time
- Intra hour partial accreditation considered

RELIABILITY REGISTERED DEMAND RESPONSE

Operations

- Deployed during Conservative Ops or higher Energy Emergency, based on BA needs
- Not dispatched by the market

Resource Adequacy

- Submitted as a resource, not as a load modifier
- Seasonal submission (Summer and Winter)
- Capability and Operational testing required

Accreditation

- 3-year lookback for accreditation using a Performance Based Approach
- Performance is measured during Conservative Ops and EEA Hours, within the season
- 4-hour minimum run time
- EEA 2 gets no intra-hour partial accreditation for the first hour of deployment
- Conservative Ops intra-hour partial accreditation considered

RELIABILITY REGISTERED DEMAND RESPONSE

Conservative Ops

- Deployed in Conservative Operations or higher Energy Emergency
- Accreditation – measured during all Conservative Operations and EEA hours, within the season
- 6-hour or less "start up" response time requirement

EEA 2

BA cap for EEA 2 ~1,700 MW (details on the next slide)

- Deployed in EEA 2 or higher Energy Emergency
- Accreditation – measured during the first 100 EEA 2-EEA 3 hours within the season, capped at a MW level
- 15-minute, or less, "start-up" response time requirement

BALANCING AUTHORITY (BA) CAP FOR EEA2 MW'S

- An Energy Emergency Alert 2 (EEA2) is a NERC defined condition when the BA is no longer able to provide its expected energy requirements and is energy deficient
  - SPP action for EEA2 includes a number of required actions, including public appeals
- The MW Cap is to be based upon historical remaining capacity in real-time. 1700 MW is an initial estimate on what a cap may be.
- The allocation method of the MW Cap will need to be defined:
  - Was initially proposed to be based upon a pro rata share of program performance

RELIABILITY REGISTERED DEMAND RESPONSE IMPLEMENTATION

RRDR deployment will be optimized locationally based on submitted parameters to maintain reliability and will occur after market-registered resources, including DRs, are committed.

Parameters required will be limited to what is necessary to effectively deploy the RRDR

Metering requirements are necessary to ensure visibility and performance measurement

PERFORMANCE BASED VARIABLES

Actual Real-time Values

Metered load

- Actual metered value

Undeployed Availability

- Actual amount available to deploy in real-time that wasn't deployed by SPP

Capability Values

Firm Service Level (FSL)

- Amount the Demand Response Resource can reduce its load to after full deployment

Capability Tested Amount

- Amount reduced during the SPP performed Capability Test

HOURS OF PERFORMANCE CONSIDERATION

Market Registered

- Top 3% net load hours
- All EEA and Conservative Ops hours
- Other hours when instructed to deploy (market offer based)

Conservative OPS

- Conservative Ops hours
- All EEA hours

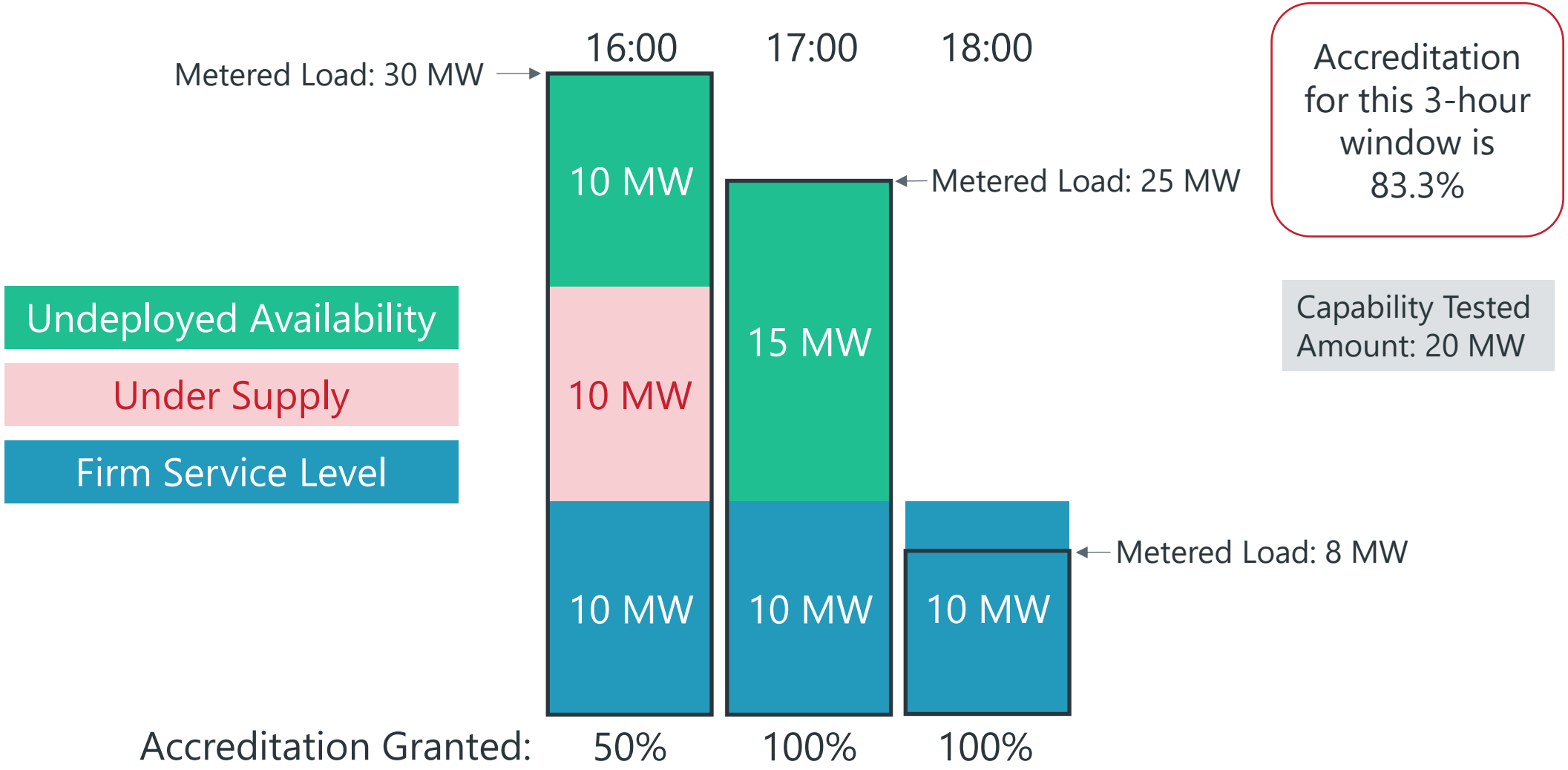
EEA 2

- First 100 EEA 2 and EEA 3 hours for each season

100% accreditation during hours with no availability but the metered load is at or below its Firm Service Level

The Capability Tested amount must be the capacity available unless the load is already reduced to the Firm Service Level

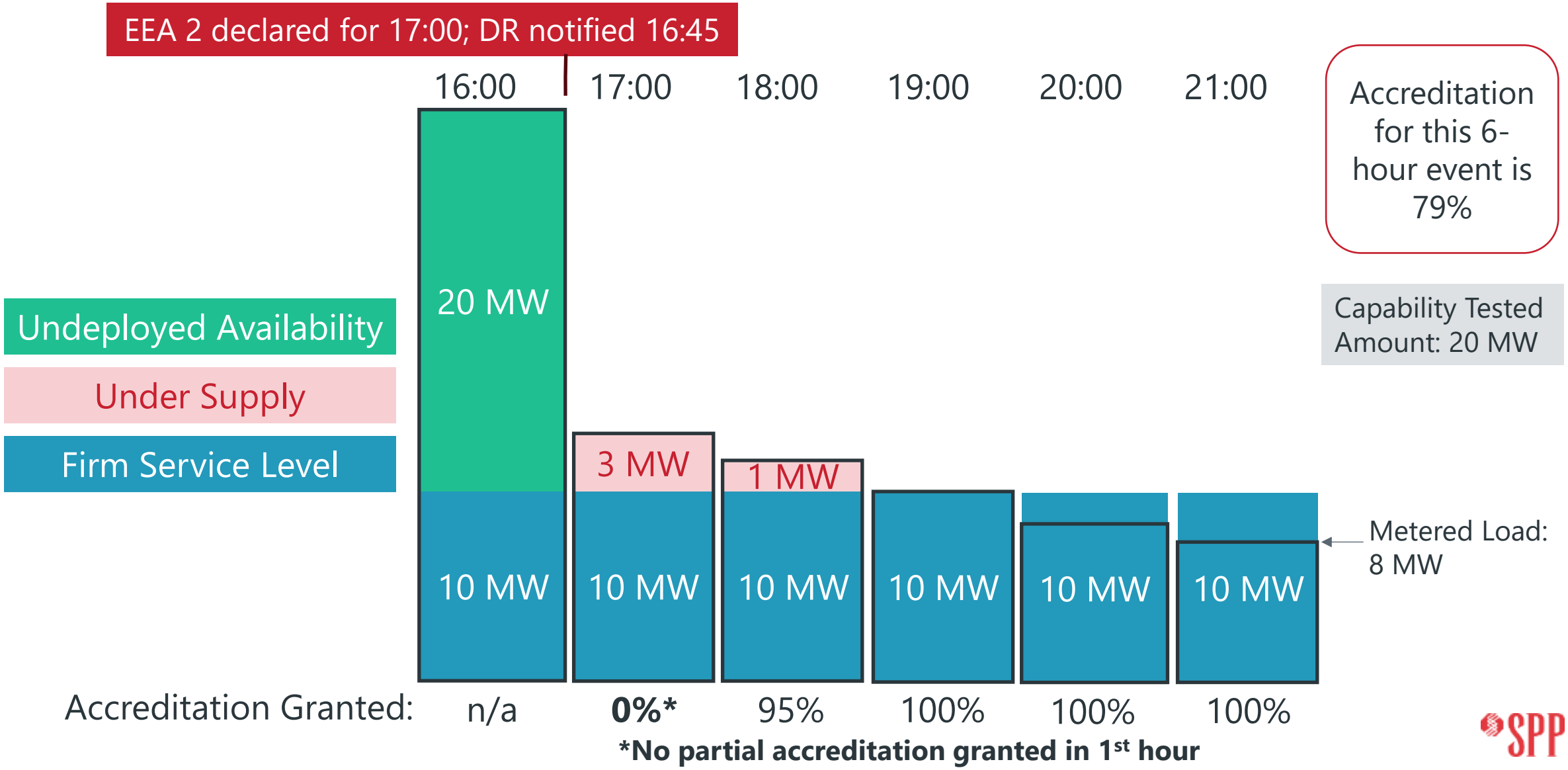
EXAMPLE PERFORMANCE CALCULATION



Accreditation for this 3-hour window is 83.3%

Capability Tested Amount: 20 MW

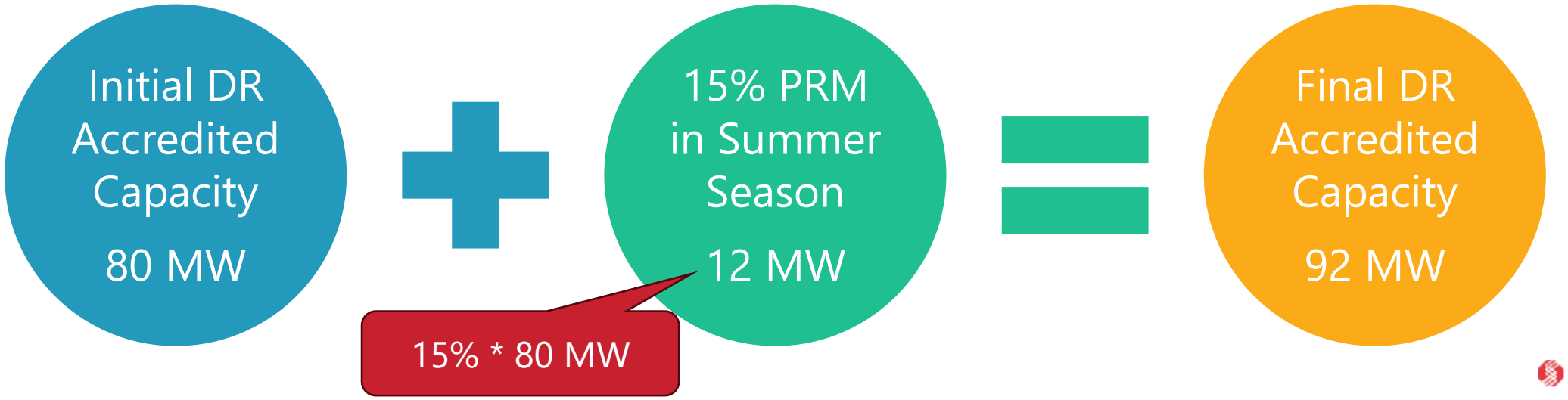
EXAMPLE PERFORMANCE CALCULATION: EEA 2 RRDR



PRM GROSS UP FOR DEMAND RESPONSE RESOURCES

PRM amount added to Demand Response Resources registered as resources

- Applicable for Market Registered and Reliability Registered DR programs
- Allows similar benefit as Peak Demand DR programs in relation to PRM requirement
- Added as additional Accredited Capacity for the program



TESTING

No longer considering the Testing opt out for EEA 2 Availability DR.

Capability Test

- Performed by SPP
- Test every 3 years
- Test seasonally if claiming accreditation in both seasons

Operational Test

- Performed by SPP
- Yearly test at 90% of Capability Test
  - Operational test must meet 90% of both Summer Season Capability Test and Winter Season Capability Test to claim in both seasons
- Successful deployment will suffice for an Operational Test

NEW DEMAND RESPONSE RESOURCE

Market Registered Demand Response Resource

- 50% accreditation with no Capability Test
- Up to 100% accreditation with a valid Capability Test
- Must perform an SPP directed Capability Test during the 1st Summer/Winter season after enrollment to get accreditation in year 2

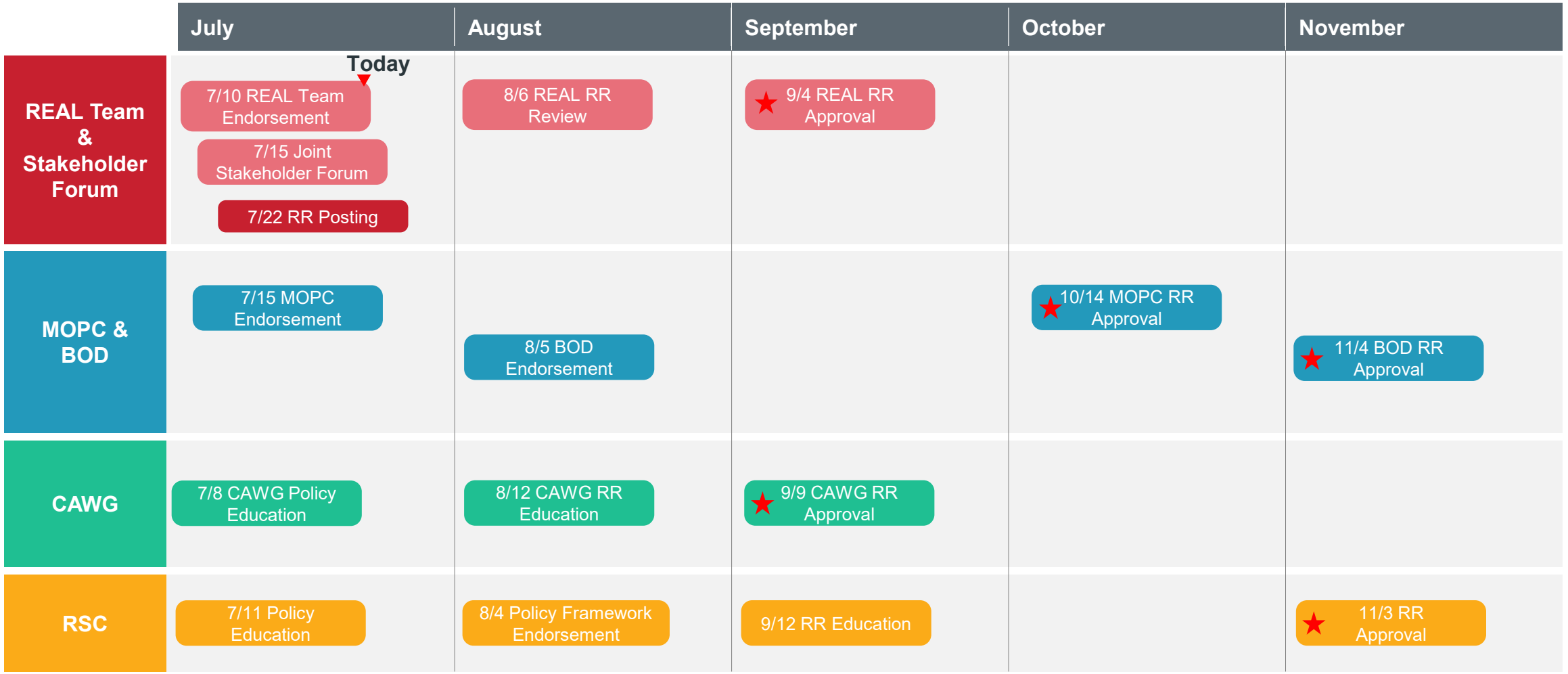
Reliability Registered Demand Response Resource

- 0% accreditation with no Capability Test
- Up to 100% accreditation with a valid Capability Test
- Must perform an SPP directed Capability Test during the 1st Summer/Winter season after enrollment to get accreditation in year 2

SUMMARY

	Market Registered Demand Response Resource	Reliability Registered - Conservative Operations	Reliability Registered – EEA 2	Peak Demand DR Programs
Incentive	RA accreditation w/ PRM gross up, paid LMP for deployments	RA accreditation w/ PRM gross up		RA Peak Demand Forecast deduction
Notification Lead Time Restriction	None	Up to 6 hours	Up to 15 minutes	None
Deployment	Deployed based on economics (before Reliability Registered DR)	Deployed for BA reliability (only in Conservative Ops or EEAs)	Deployed for BA reliability (only in EEA 2 or EEA 3)	Must deploy during LRE's non-coincident peak demand; assessed by LRE Peak Demand Assessment
Participation Requirements	Full market participation: SCADA, settlements, etc.	No SCADA or settlements; minimal parameter and metering requirements		None
Performance for Accreditation	Measured during the entire season when deployed, and availability during top 3% net load hours, 3-year lookback	Measured during all Conservative Operations and EEA hours within the season, 3-year lookback	Measured during the first 100 hours of EEA 2 & EEA 3 within the season, 3-year lookback	None
Testing Requirements	Capability Test seasonally every 3 years; Operational Test at 90% annually			None
First-Year Accreditation	50% with no Capability Test; up to 100% with the test	0% with no Capability Test; up to 100% with the test		LRE forecasted Peak Demand reduction

DEMAND RESPONSE TIMELINE



Stakeholder Comment Period is 6/9 - 10/1

Target Effective Timing

Winter Season 26/27, Summer Season 27, or Winter Season 27/28

Contingent on implementation complexity and vendor availability

MOTION

MOVE TO APPROVE DEMAND RESPONSE POLICY FRAMEWORK AS PRESENTED

LRE PEAK DEMAND ASSESSMENT

LRE PEAK DEMAND ASSESSMENT TOPICS

- LRE Peak Demand Assessment Need
- Tool for Measuring Effectiveness for DR Programs
- DR Performance Impacts from Load Forecasting
- Potential Approaches
- Policy Challenges
- Key Policy Questions
- Timeline

NEED FOR LRE PEAK DEMAND ASSESSMENT

Demand Response is being redesigned to include registration requirements, accreditation rules, and performance criteria

Demand Response Programs that are not registered will generally be included in the LRE's Peak Demand Forecast (i.e., "LRE Needs Demand Response")

Reduce the risk of unreliably increasing programs and MWs associated with "LRE Needs Demand Response" migrating toward the Peak Demand Forecast

PEAK DEMAND ASSESSMENT AS A TOOL FOR MEASURING EFFECTIVENESS OF LRE PEAK DEMAND DR PROGRAMS

The Post Season Analysis is a current tariff requirement in which LRE Load Forecasts are reviewed for their accuracy with performance during the Season.

The effectiveness of LRE Peak Demand DR Programs can be tracked through the Peak Demand Assessment.

The Peak Demand Assessment will allow LREs to claim DR programs for their own Net Peak Demand

LREs will be able to consider the total impact from each of their DR Programs into their total expected Net Peak Demand

SPP will still require data submissions for DR programs

ISOLATING DR PERFORMANCE IMPACTS FROM LOAD FORECASTING

Load Forecasts are considered to be 50/50 forecast

- 50% chance the load may be higher than forecast, 50% chance the load may be lower than forecast
- Weather is a major driver of uncertainty in the load forecast
- Currently no guidance for how accurate the load forecast should be in any given year
  - No guidelines for a '**band**' (threshold) of over forecast or under forecast.

Performance of LRE Needs DR Programs can impact the magnitude of load actuals compared to load forecasts.

If the impacts of weather can be estimated, the impacts of LRE Need DR Programs can potentially be measured

Each individual LRE, and even each load within an LRE can experience different weather impacts. The method of estimating weather impact can become complex

POTENTIAL APPROACHES TO ASSESSMENT

- **Approach 1**: Assess in accordance with weather variability in the SPP Balancing Authority
  - Utilizes a rolled-up forecasting methodology to set the SPP BA load
  - Consistency with methodology of setting the PRM
  - *Example*: 3% 3-year band allowing LRE's to miss the summer forecast by no more than 3%, 3 years in a row
- **Approach 2**: Assess in accordance with weather variability in each LOLE zone
  - Utilizes the forecasting methodology to set each LOLE zonal load
  - Consistency with setting the PRM
  - Allows more granularity with local weather conditions
  - *Example*: 2.5-5.4% 3-year band, allowing LRE's to miss the summer forecast by no more than 2.5-5.4%, depending on the zone, 3 years in a row
- **Approach 3**: Weather Normalization on an LOLE zonal basis
  - Would need a clearly defined methodology for determining the methodology
  - Allow less boundary error

PEAK DEMAND POLICY DEVELOPMENT CHALLENGE

LREs Challenge

- Individual LREs experience greater weather variability than regional or zonal averages, potentially facing higher assessment costs under broader weather bands
- Example: Regional weather band of 3% vs. individual LRE weather variance of 7% could result in an LRE assessment due to weather variance
- LREs may lack consistent weather normalization methods, and overly granular approaches risk over-normalization of weather impacts

SPP Challenge

- Setting regional bands to match the widest individual LRE weather variance (7% vs. 3%) allows for a perpetuated 2,400 MW under forecast, that is not considered in the PRM
- This gap incentivizes LRE under-forecasting and reduces DR deployment, causing actual loads to exceed forecasts despite weather adjustments
- Weather normalization for 65 LREs is resource-intensive and the method will take time to agree upon
  - Normalizing on an LRE risks over-normalization of weather impacts
  - LREs may request more granular class-level normalization

KEY POLICY QUESTIONS

Questions have been modified from posting to clarify/simplify

- **Thresholds for Deviation:**
  - Should LRE forecast deviations be limited to the levels of **regional and zonal weather risk** embedded in the LOLE study?
  - Or should the assessment ensure forecasts are accurate only beyond **LRE level weather risk**? (this may require a resource intensive LRE post season weather normalization)
- **Methodological Standards:**
  - Should an **alternative one-year post season weather normalization** be used instead of 3-/5-year threshold bands? (this would require development of set method)
  - At what level (regional, zonal, **LRE**) should variability be measured? (the more granular, the more **resource intensive**, and the more challenging to define the method)
- **Risk Alignment:**
  - How can the policy ensure consistency with LOLE assumptions and the Planning Reserve Margin (PRM)?
  - How can the policy ensure incentives to deploy non-registered DR?

LRE PEAK DEMAND ASSESSMENT TIMELINE

	July	August	September	October	Nov/Dec	Jan/Feb
REAL Team & Stakeholder Forum	7/10 REAL LRE Education 7/15 Joint Stakeholder Forum	8/6 REAL Education RR Posting	★ 9/4 REAL Approval			
MOPC & BOD	7/15 MOPC Education	8/5 BOD Education		★ 10/14 MOPC Policy Approval	★ BOD Policy Approval	★ MOPC RR Approval ★ BOD RR Approval
CAWG	7/8 CAWG Policy Education	8/12 CAWG RR Education	★ CAWG Approval			
RSC	7/11 RSC Policy Education	8/4 RSC Policy Education	9/12 RSC Policy Education	RSC RR Education	★ 11/3 RSC Policy Approval	★ RSC RR Approval

Target Effective Timing

Winter Season 26/27, Summer Season 27, or Winter Season 27/28

Contingent on implementation complexity and vendor availability

FILE BOTH PEAK DEMAND AND DEMAND RESPONSE TOGETHER JAN/FEB 2026

- **Improves Accuracy and Confidence:**
  SPP must synchronize both LRE Peak Demand Assessment and DR policy to ensure realistic forecasts that reflect the impact of flexible load.
- **Aligns Stakeholders and Policy Decisions:**
  A joint FERC filing provides a single, transparent foundation for resource adequacy and tariff evolution.

WHAT QUESTIONS DO YOU HAVE?