

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

Demand Response Availability Data System (DADS)

PLMA Fall Conference 2011

RELIABILITY | ACCOUNTABILITY



- About NERC
- NERC and Demand Response
- Reporting Responsibilities
- Q&A

- North American Electric Reliability Corporation
 - Non-profit corporation, regulatory authority
 - Tasked with ensuring reliability of the Bulk Power System
- Develop and Enforce Reliability Standards
- Analyze system outages and near-misses
- Provide guidance and education
- Assess current and future system reliability



- Demand Response is an increasingly important component of our energy portfolio
- Quantifying DR is important for NERC
 - Understand the impact on system reliability
 - Analyzing the real performance
 - Knowing the characteristics pertinent to system planning and operations

- Recommendations from the 2008 & 2009 Long-Term Reliability Assessment (LTRA)
 - DR could be an effective option to preserve system reliability
 - DR may facilitate renewable/variable resource integration
 - Large-scale impact of DR must be better quantified and understood by industry and regulators
 - Better tools are required to measure and track availability and performance of DR

- Several Initiatives Underway
 - Inclusion of long-term DR projections in the LTRA
 - Inclusion of short-term DR projections in the seasonal assessments
 - Special Reliability Assessments
 - Integration of Variable Generation Task Force (IVGTF)
 - Reliability Impacts of Climate Change Initiatives Task Force (RICCITF)
 - **Demand Response Data Task Force (DRDTF)**

- **Demand Response Availability Data System**
 - Similar to TADS and GADS
- Goal is to collect DR event and market participation to measure influence on reliability
- Enables NERC to receive, assess and disseminate data on DR programs and products
- Closes the loop on projections and improves future year forecasts

- **DADS Deployment**
 - **Phase I (2010): Voluntary Reporting**
 - Dispatchable and Controllable, Reliability-Driven DR Programs
 - **Phase II (2011): Mandatory Reporting**
 - Capacity
 - Reserve
 - Energy
 - Regulation
 - **Phase III (TBD): Voluntary Reporting**
 - Economic
 - Time-Sensitive Pricing
 - **Phase IV (TBD): Mandatory Reporting**

- Demand Bidding and Buy-back
- Peak Time Rebate
- System Peak Response Transmission Tariff (4CP Response)
- Pricing programs
 - TOU
 - CPP (without direct signal/control)
 - RTP

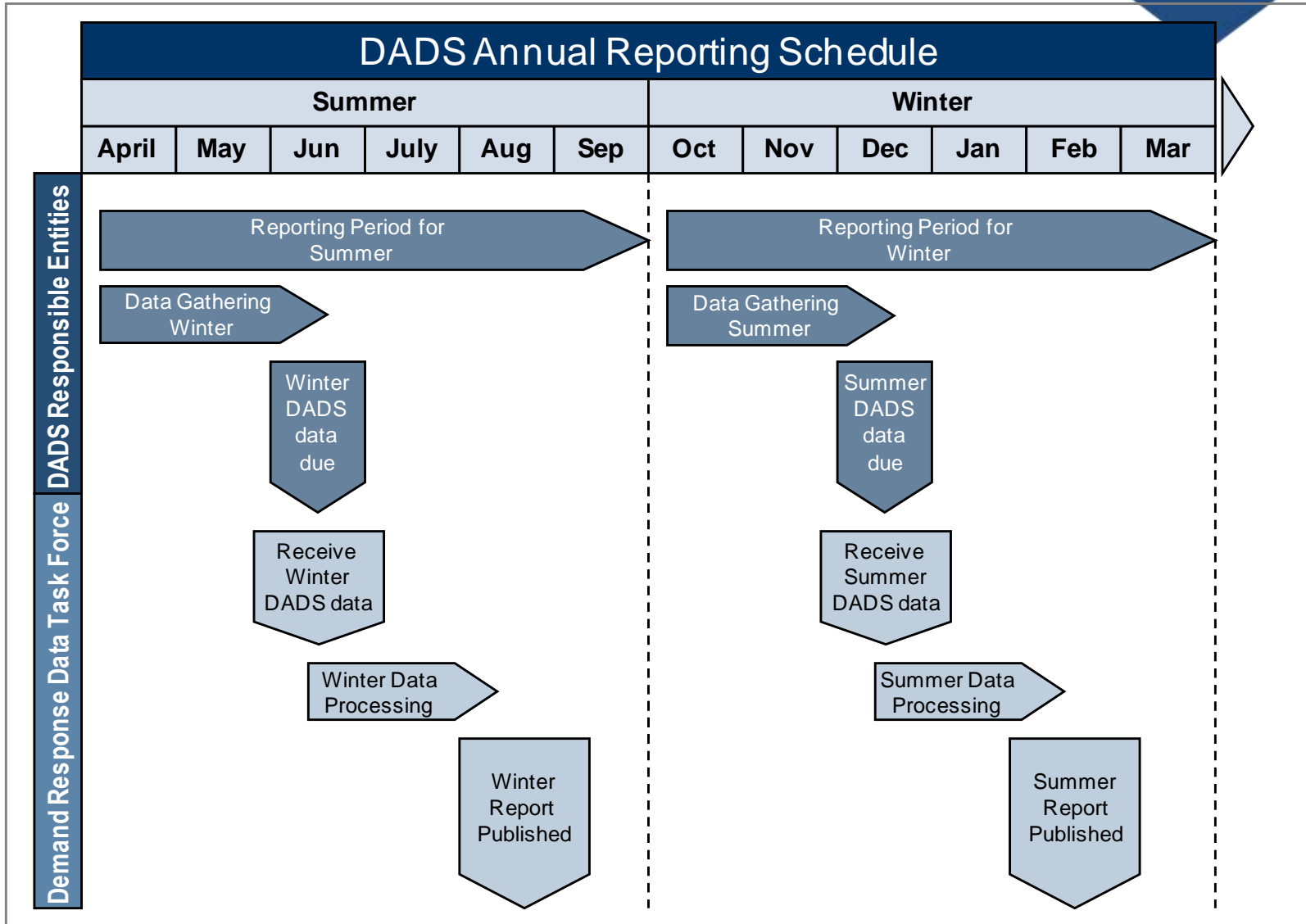
- DADS reporting is required for all DR programs currently in effect if:
 - The DR program has been in service commercially for at least **12 months**
 - The DR program has enrolled **10MW or more** of combined resources
- Trying not to discourage the uptake of small-scale DR and encourage pilot programs

- Responsible Entities are required to report and maintain DR data in DADS
- Responsible Entities are NERC Registered Entities that either:
 - dispatch a DR resource
 - administer a DR program or product

NERC Responsible Entities for DADS Data	
Function Name	Responsible Entity
Balancing	Balancing Authority
Distribution	Distribution Provider
Load-Serving	Load-Serving Entity
Purchasing-Selling	Purchasing-Selling Entity

- Reporting is the duty of the entity that dispatches or administers the DR program or product
 - Not necessarily the controlling entity
- For example, if the ISO/RTO calls on another entity to enact DR, then they are responsible for reporting
 - As opposed to the DP that ‘presses the button’

Reporting Responsibilities



Phase II DADS Data Collection & Deliverable Schedule

Date	Action
April 1 st – September 30 th	Summer DADS reporting period
December 15 th	Summer DADS data due to NERC
October 1 st – March 31 st	Winter DADS reporting period
June 15 th	Winter DADS data due to NERC

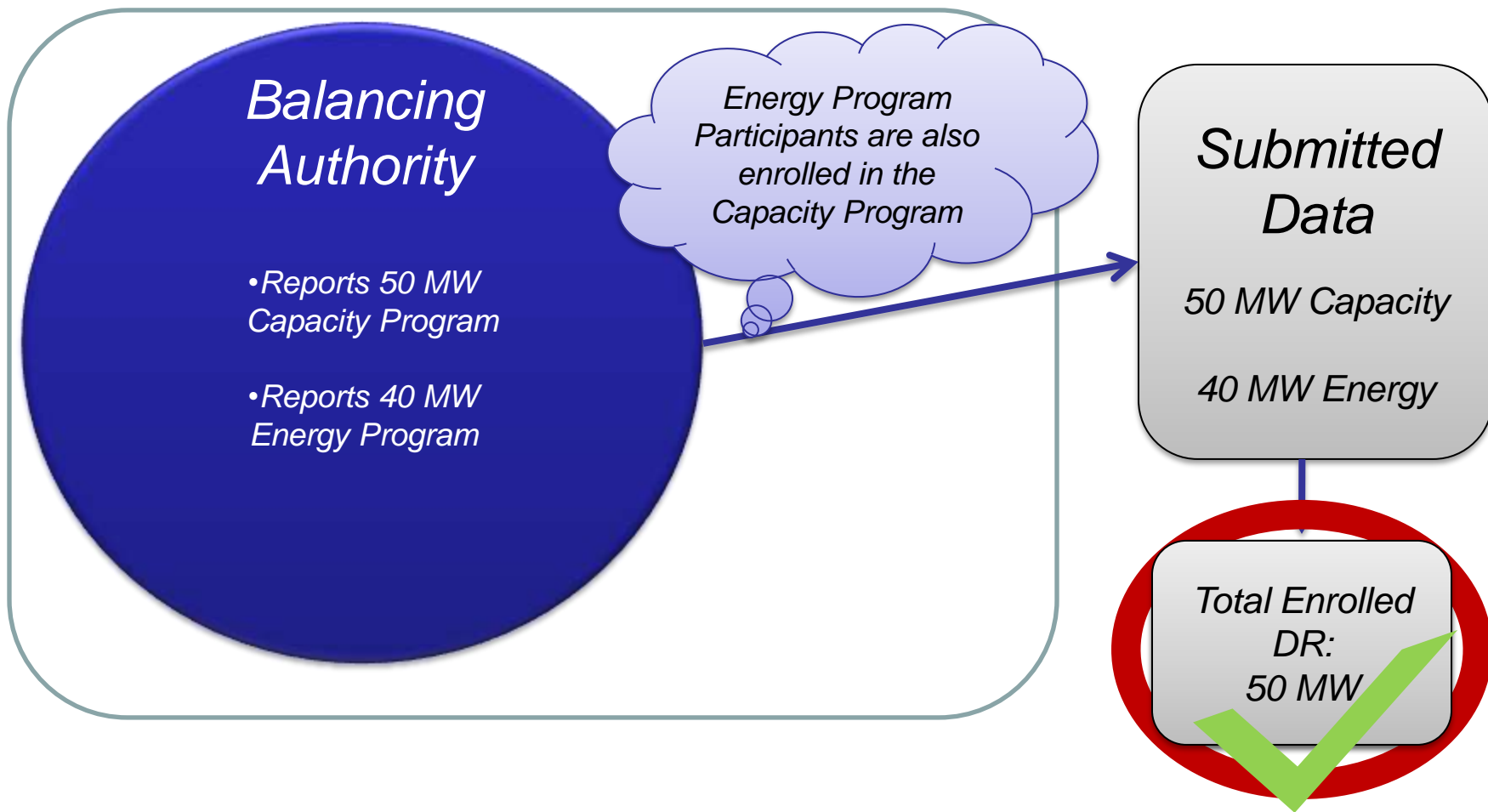
*First Reporting Period will be for Summer 2011. Summer DADS data is due for Reporting Entities **December 15, 2011.***

- Data to be collected in DADS
 - Program Registration and Enrollment Data
 - Form 1.0: Resource Relationship Information
 - Form 2.0: Registered Program
 - Form 3.0: DR Event Data
 - Form 4.0: Monthly Market Participation Data
 - Form 5.0: Monthly Ancillary Services Product Data

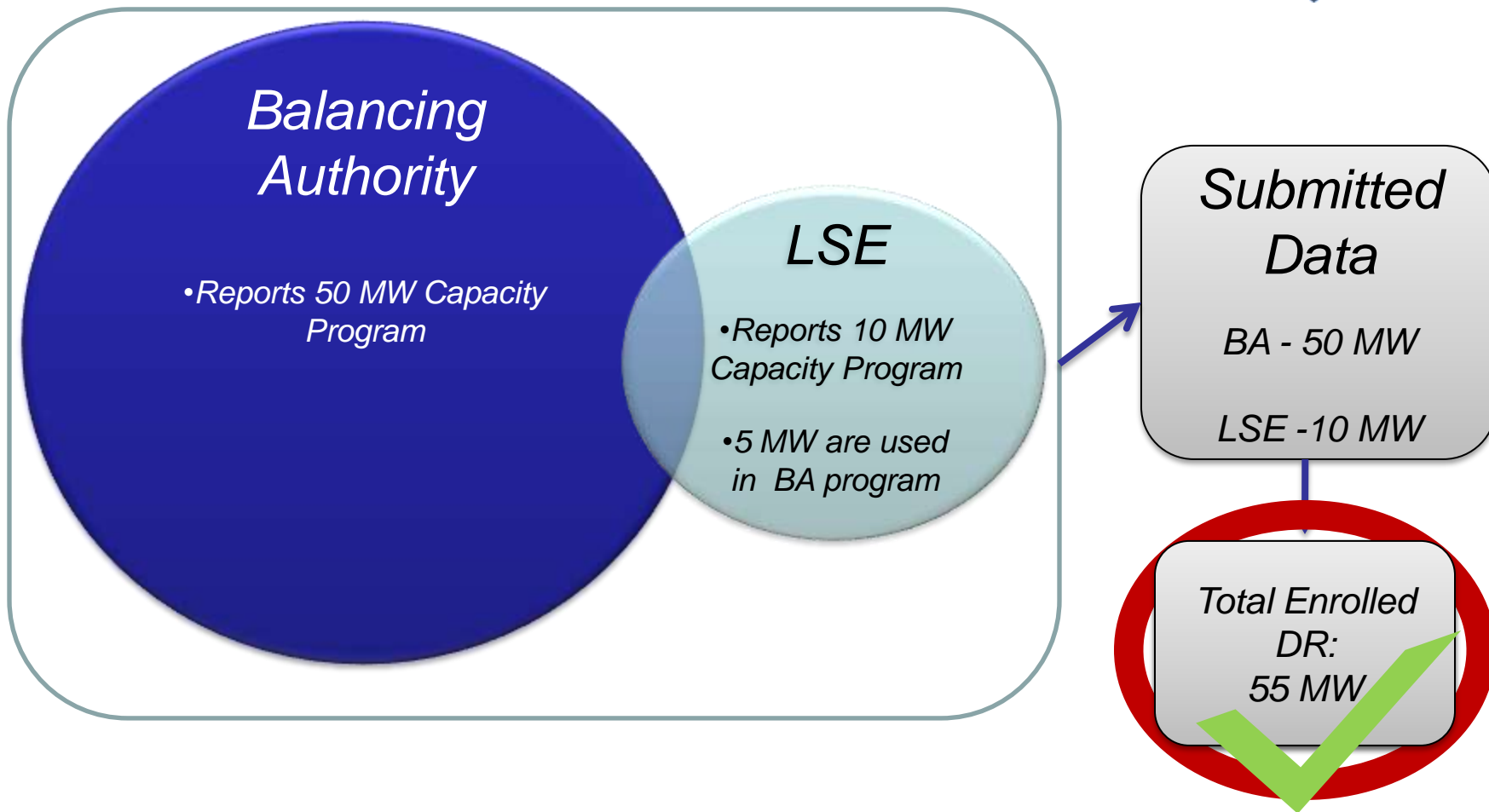
- Identification of the Demand Response Program
- Zone Information
- Product Type
 - Energy, Capacity, Reserve, Regulation
- Service Type
 - e.g. Direct Load Control, Load as a Capacity Resource, Spinning Reserves, Regulation
- Program Start/End Dates
- Registered/Enrolled Number of Resources
- Registered/Enrolled Capacity

- Must identify both internal and external DR resource relationships
- Must capture all jointly-enrolled resources
 - e.g. Resources registered in both Capacity and Energy programs
 - e.g. Resources registered to both BA and LSE
- NERC needs to know each unique MW to understand the actual amount of resources that could respond if all are called upon simultaneously

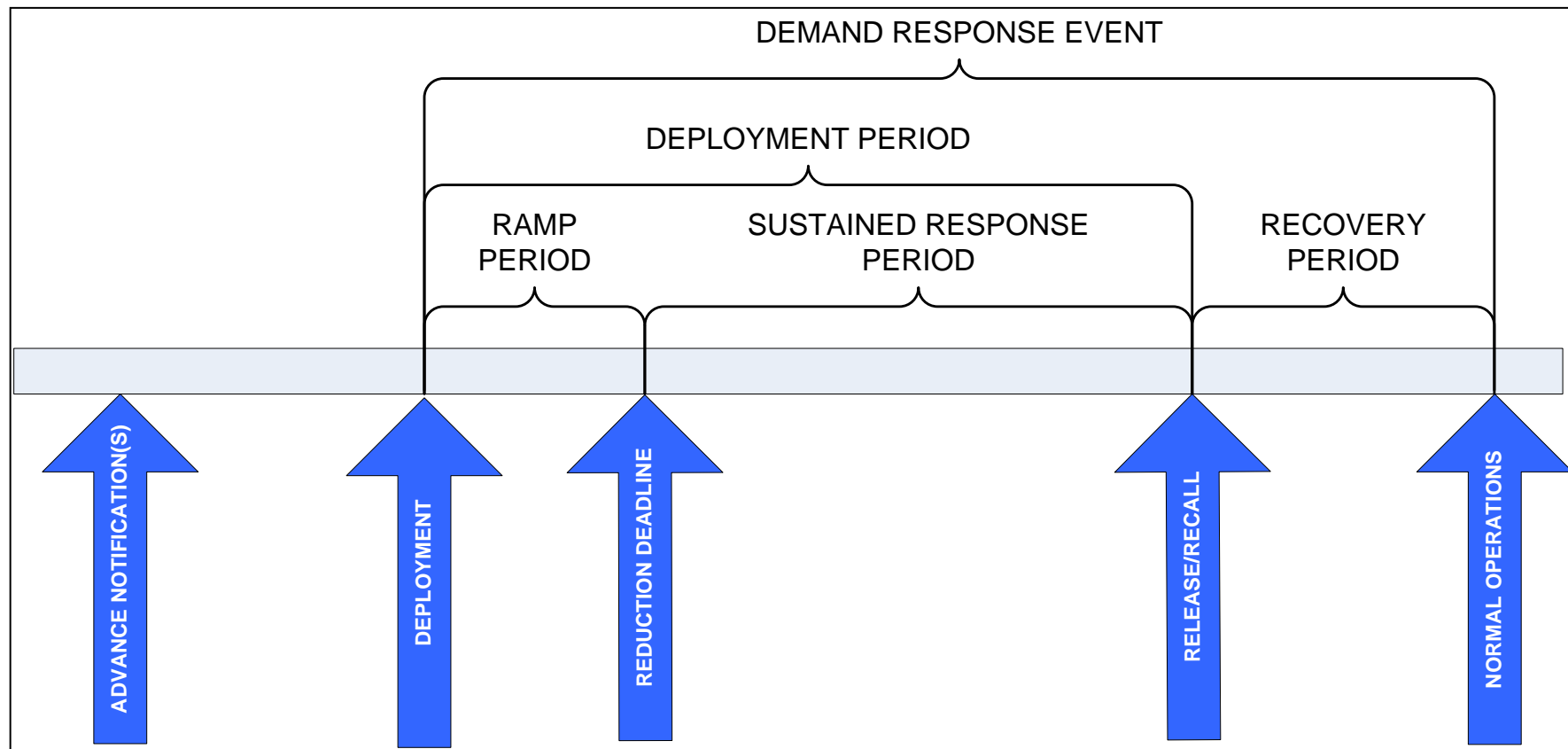
1.0: Relationship Registry



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- Must list all resources on aggregated basis by program
 - Number of registered resources
 - Registered capacity (MW)
 - (program information is auto-populated from prior entries)



- Along with the timeline data
 - Registered capacity (MW) (auto-populated)
 - Registered number of resources (auto-populated)
 - Committed capacity
 - Committed number of resources
 - DR Dispatched (MW)
 - System demand at dispatch (MW)
 - Realized demand reduction (MW)
 - Realized energy reduction (MWh)

- Monthly reporting
 - Number of resources
 - Capacity (MW)
 - Offered and Self-Scheduled
 - Total number of hours
 - Energy or demand reduction amount scheduled
 - Estimated of energy or demand realized
 - Scheduled and Cleared Hours
 - As above

- Monthly reporting
 - Total Hours of Procurement
 - Total Hours of DR Participation
 - Cumulative Awarded or Self-Scheduled DR Capacity

- DADS data will be a crucial input to NERC's annual Reliability Report and other assessments
- As the central repository for DR enrollment and event data, several useful metrics can be obtained and published for industry consumption
 - Total enrollment
 - DR MW Density
 - Event metrics
 - e.g. deployment rate, mean time, frequency

- All submitted data will be treated as:
 - Confidential Business and Market Information
 - Critical Energy Infrastructure Information
- The aggregated information will be treated as:
 - Non-confidential
 - Enrollment specifics and event data can be treated as confidential upon request

- Questions?
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