

Background

In early 2020, the Center for the New Energy Economy (CNEE), at the request of the Western Energy Industry Leaders (WEIL), convened a group of Western governors' energy advisors along with a small but diverse group of experts representing utilities, power marketing administrations, renewable energy companies, and clean energy advocates, referred to as the Western Interconnect Regional Electricity Dialogue (WIRED). The goal of this effort is to provide a set of recommendations to governors by the end of the year. To achieve this goal, CNEE has facilitated a series of work group meetings to discuss and analyze a range of regional electricity issues including resource adequacy (RA), state clean energy and climate policies, and transmission development.

Ensuring adequate resources for reliability has always been a cornerstone of utility service. The availability and type of generation resources and new technologies are changing rapidly and market participants are implementing new ways to integrate resources across the Western Interconnection. The existing Western Energy Imbalance Market (EIM) and the possible extension of the EIM to a day-ahead market (EDAM) are two examples of how market participants are or will cost-effectively integrate a cleaner generation resource mix into the western grid while maintaining reliable electric service. There are challenges and opportunities as the West transitions to a cleaner grid. A collaborative and coordinated effort by the states, utilities, market participants and advocates can address these challenges and embrace the opportunities.

The goal of the RA work group was to develop a common understanding of RA and reliability and to explore the potential benefits of regional approaches to RA. The work group gave special consideration to the fact that there is variation in the approaches used for RA in the West today, both at the regional level and among utilities. Given the importance of RA, the work group's main objective was to provide a set of principles and recommendations for Western governors to consider as they explore greater regional collaboration as an opportunity to achieve state policy objectives.

Definition of RA

Recognizing that there are many definitions of RA, one of the first efforts of the work group was to arrive at a common definition of RA:

“Resource Adequacy (RA) is fundamental to reliability of the electric grid and can be defined as a forward-looking planning framework to identify future resource needs, considering:

- *Transmission deliverability*
- *Resource capabilities and limitations*
- *Planning for uncertainties (e.g., generation/transmission outages, customer demand variations)*

Being resource adequate means a high expectation of having *sufficient* resources to serve customer demand at all times.”

The work group's definition for RA was important for providing a common understanding and starting point for principles and policy recommendations. It should be noted that the work group's definition is scalable; it functions for local approaches to RA and regional approaches to RA.

The Opportunity Statement

The work group also felt it was important to define the “problem” or opportunity statement that describes the need for the deliverables of the work group. The opportunity statement seeks to describe what is currently being done in the West that is working effectively but also what could be improved upon.

The work group observed that RA is being examined or addressed in various forums and venues throughout the West. Utilities address RA in their local utility resource planning processes. State-regulated utilities produce Integrated Resource Plans (IRPs), which are overseen by public utility commissions and include stakeholder involvement in the IRP review process. Non-jurisdiction, publicly-owned utilities also conduct resource planning, which in many cases also includes development of an IRP that is overseen by each of those organization’s respective internal oversight processes. The work group agreed that while utilities generally employ prudent utility practice when executing resource planning and produce quality results, each utility is conducting its own analysis, relying on various sources of data, and utilizing a range of assumptions. As a consequence, it is not always easy to understand how one utility’s IRP or planning process relates to another utility’s or to the region as a whole. For example, utilities must make assumptions about market liquidity to support short-term supply needs. Across the West, utilities utilize differing assumptions about short-term market supply availability and it therefore becomes difficult to ascertain the true depth of market supply. In addition, in the individual utility planning model the utility plans for RA on a stand-alone basis; it has no ability to plan and rely on regional diversity of resources and demand which could present efficiencies and savings opportunities.

In the West today, there is only one Independent System Operator which also administers an RA program. The California Independent System Operator (CAISO) administers a formal RA planning and procurement process in coordination with the California Public Utilities Commission (CPUC), which defines many of the RA requirements for jurisdictional load-serving entities (LSEs) in the state. The RA program administered by CAISO is nevertheless primarily a single-state program and, as such, the approach used for RA in California may vary greatly from the RA planning processes used by all the other utilities in the West. In sum, the West has multiple RA planning processes and this creates some challenges for transparency, efficiency and the ability of the region as a whole to tackle reliable integration of the resource mix of the future. Additionally, states in the West are in different stages when it comes to formalizing RA. Some states (such as California) have established RA programs or rules, some states may be in various stages of considering RA rules beyond existing rules for integrated resource planning, and some states may not be currently looking at RA.

There are organizations that take a region-wide approach to RA in the West. The Western Electricity Coordinating Council (WECC) examines RA for the Western Interconnection through its annual Long-Term Reliability Assessment (LTRA). There are also sub-regional organizations that periodically evaluate RA. However, these region-wide reviews are still limited by the fact that they are traditionally relying on the differing assumptions and inputs of the individual utilities.

In addition, we are seeing some movement toward a more regional approach, such as the Northwest Power Pool (NWPP) which is currently evaluating establishing a voluntary regional RA program for its members which includes utilities across the Northwest and West.

In summary, the work group observed that across the West, there exist a multitude of different RA approaches using different planning assumptions, data, and with varying levels of transparency. While there are region-wide evaluations for RA, these are still based upon differing inputs. The

work group concluded that this presents challenges related to understanding how to best meet RA needs at the local utility, state, and regional levels and that a regional approach could provide a clearer picture of RA needs.

Benefits of a Regional Approach to RA

The work group next turned to RA in the regional context, recognizing the unique opportunity presented by the composition of the work group, which includes Western policymakers. The work group identified the following benefits of a regional approach or framework for RA:

Enhanced Reliability

A regional approach to RA enhances reliability because it can provide the broadest view of the physical capability of the grid to serve customer demand at all times. Examining resource and grid capability on a local level presents the risk of information silos and lack of relevant regional data points, especially given the highly interconnected nature of the grid. Additionally, a regional RA program would enhance reliability because of the opportunity for increased sharing of resources between participants on a regional or sub-regional scale. Finally, reliability could be improved through a regional approach because of increased transparency and consistency.

Cost Savings

The work group observed that an RA program operating in a larger regional footprint will have more demand and resource diversity, which can also reduce the amount of total resources needed for the region as a whole to meet RA. As such, there is a cost savings opportunity presented by a regional approach to RA because it unlocks resource diversity, allowing entities with surplus resources to assist entities who find themselves short – e.g., neighbors helping neighbors.

Facilitates State Policies and Goals

A regional RA approach can help states meet their energy and climate policy goals because it provides a framework for reliably transitioning to a cleaner generation mix. The work group made clear that even if there were to be a regional or sub-regional RA program, states would still approve the assets being added or removed from the system.

Principles

In consideration of the discussions and conclusions reached by the work group as described above, the following principles are recommended to Western governors:

- Regional RA programs should be compatible with state policy objectives/state policy objectives should seek to be compatible or be able to be harmonized with regional RA programs
- Regional RA programs should provide flexibility to participants to acquire resources that achieve cost savings for customers and meet state policy objectives
- Regional RA Programs should allow participating entities to have operational access to the shared set of resources
- Regional RA programs should be administered in an independent manner and should equitably allocate resource requirements to participants to ensure that all participants fairly contribute to reliability

- Regional RA programs should provide data and information to inform decision-making in utility Integrated Resource Plans
- Regional RA programs should encompass as many states as possible to ensure a robust and diverse resource portfolio
- Regional RA programs should include transparent transmission, market, and emissions assumptions, including ensuring that transmission policy is consistent with open access principles

Recommendations

In consideration of the discussions and conclusions reached by the work group as described above, the following recommendations are provided to Western governors:

- A multi-state Governors' declaration, recognizing RA principles and benefits and encouraging utilities, state public utility commissions and other local governing bodies to work collaboratively to support:
 - Assessment framework: A region-wide assessment of sufficient transparency, granularity and quality to evaluate sub-regional RA (and any seams that might exist between sub-regional RA programs) which assures reliability and provides information helpful for "unlocking" regional diversity benefits and investment cost savings
 - Advancement of regional or sub-regional RA programs
 - Industry-driven RA programs that address regional or sub-regional RA needs
 - State-driven RA programs that can be harmonized with regional or sub-regional RA frameworks and/or regional RA assessment framework