Safeguarding the reliability of the bulk electric system in Minnesota, Nebraska, North Dakota, Manitoba, and Saskatchewan and parts of Iowa, Montana, South Dakota, and Wisconsin

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GUIDING PRINCIPLES FOR PLANNING RESERVES

In view of the Notice of Proposed Rulemaking issued by the Federal Energy Regulatory Commission on July 31, 2002, to create a Standard Market Design (SMD) that includes a Long-Term Resource Adequacy Requirement, MAPP issues the following guiding principles for planning reserves[1]:

1. Planning reserves should be the responsibility of Load Serving Entities (LSEs). Planning reserves are intended to ensure that sufficient generating capacity and energy will be available to meet *customer loads*, taking into account planned unit maintenance outages, unplanned unit forced outages, reduced generating unit capacity (derates), unexpected unit retirements due to equipment failure, unit outages for modification or repowering, unexpected increases in customer demands, transmission outages, unusual weather, and acts of nature. MAPP urges that all LSEs be required to maintain adequate planning reserves.

[1] Planning reserves, sometimes called "generation planning reserves" or "installed capacity reserves," provide Adequacy and involve long-term issues of generation planning and investment, In contrast, operating reserves provide Security and deal with short-term issues of generation dispatch options. Refer to NERC's definitions of Adequacy and Security (http://www.nerc.com/glossary/glossary-body.html). The FERC refers to planning reserves as Long-Term Resource Adequacy.

These guiding principles do not address operating reserves.

2. The amount of planning reserves considered to be adequate varies from region to region (where planning reserves are shared by LSEs on a regional basis) and varies from LSE to LSE (where planning reserves are not shared by LSEs). The amount of planning reserves considered to be adequate varies because of differences in size, age, condition, and fuel supply of generation resources; population density; customer demand characteristics; available demand response programs; electric transmission adequacy; system stability; and other factors. Where planning reserves are determined on a regional basis, diversity among LSEs in factors such as generation mix, coincidence of peak load, load pattern, weather, and time of day, allow an individual LSE to carry less planning reserves than it would otherwise be required to maintain as a stand-alone entity to achieve an equivalent level of reliability.

3. Verifiable and enforceable demand response programs should count as "capacity" available to meet an LSE's capacity obligation including planning reserves. Planning reserves should not be limited to generation supply-side resources. Verifiable and enforceable demand response programs, such as interruptible load and other customer load management programs, that are available to reduce peak load in a timely manner should be included as planning reserve resources. Verification of demand response programs to assure peak load reduction should be accomplished through detailed written procedures that contain specific requirements for the timely reduction of specific load, periodic testing, auditing and reporting.

4. The adequacy of planning reserves should be measured by a loss of load probability (LOLP) study. MAPP recommends that the probability of customer outages resulting from blackouts to a large portion of the bulk electric system be limited to no more than 1 day in 10 years unless value-based reserve planning shows that a different LOLP benchmark is more appropriate. Value-based reserve planning balances the value to the customer in reliability for each additional megawatt ("MW") of generation reserve against the cost to provide each additional MW of generation reserve. LOLP studies, conducted periodically, should be based on historical unit and transmission outage statistics, load forecasts, transmission constraints, and other forward-looking projections. A uniform methodology for treatment of assumptions and inputs is essential to produce consistent and dependable results.

An LOLP study can be used to establish a planning reserve requirement -- a reserve margin (a percentage of load-serving resources in excess of peak load) -- that provides a cushion of generation capacity to meet forced outages and fluctuations in customer demand.[2]

[2] MAPP notes that its last LOLP study, based on the 1 day/10-year standard, relates to a 15% planning reserve requirement (called a Reserve Capacity Obligation in MAPP). This study did not consider transmission constraints. MAPP is now close to completing a new LOLP study that takes into account transmission constraints.

5. Meaningful and enforceable regional mechanisms that permit LSEs to share planning reserves to meet planning reserve requirements should be established in all regions of the North American electric power grid. Regional reserve sharing arrangements should be encouraged to allow LSEs to pool their resources to promote efficiency and optimize their respective planning reserve requirements. "Meaningful and enforceable" in this context means that (1) planning reserves should represent real and available generation resources and demand response programs, (2) planning reserve requirements should be clearly stated and measurable, and (3) an LSE's failure to comply with a planning reserve requirement should have financial consequences directly related to the magnitude of its capacity deficiency. In a competitive electric market structure, objections to planning reserve mechanisms would tend to dissipate if all LSEs were required to meet an enforceable planning reserve requirement either individually or through a reserve sharing arrangement.

6. LSEs should be allowed to self-provide and make their own arrangements to provide planning reserves. The possibility of market manipulation or the exercise of market power would be significantly mitigated if LSEs are able to effectively access a competitive wholesale electric market to meet planning reserve requirements. An LSE in a reserve sharing pool should not be limited to acquiring planning reserves from the other pool participants. Other wholesale power market participants, such as independent power producers and power marketers, should be encouraged to provide capacity resources for meeting planning reserve requirements as long as they meet the requirements of firmness and availability for such resources of the reserve sharing pool.

7. A planning reserve mechanism should not impose barriers to a diverse generation mix. A diversity of generation by fuel-type and operational characteristics promotes reliability of electric service. A planning reserve mechanism should embrace all types of reliable generation and demand response programs. Diversity of supply-side and demand-side resources contributes to operating efficiency and, thus, should be encouraged to the extent consistent with good integrated resource planning.

8. Planning reserve requirements should provide for independent verification of resources and compliance. In a competitive electric industry, independent staff should be used to verify resources and determine compliance and enforcement of planning reserve mechanisms. Independence is beneficial to assure confidence in the objectivity and appropriate confidentiality of verifying planning reserve requirements. Verification of resources and compliance should be accomplished by detailed written procedures that contain criteria for the uniform rating of generation equipment, including specific definitions and measures for generation testing and reporting. Similarly, specific criteria and measures should be developed for validating demand response programs. The terms and conditions of capacity sale/purchase transactions should also be

subject to validation under uniform criteria. This would assure uniform accounting of supply and demand-side resource capability to serve the system load and would provide the required amount of reserves to assure the necessary degree of service reliability.

9. A long-term planning horizon should be used to foster the adequacy of planning reserves. A long-term planning horizon, i.e., 10 years, should be used to allow for proper consideration of generation and infrastructure investment to meet future electric demand. A long-term planning horizon enables the economic evaluation of all types of generation capacity, demand-side management, and delivery infrastructure, as opposed to a short-term horizon that would favor generation that can be installed in a short timeframe. Also, plans for meeting future electric demand should be flexible, and subject to periodic updating, to respond to new technology and changes in forecasted load.

A plan for meeting future electric demand is not, however, an appropriate mechanism for determining compliance with planning reserve requirements. The forward-looking nature of such plans, based on load forecasts, do not provide a dependable basis for measuring whether an LSE has complied or will comply with a planning reserve requirement. Also, if it were used as a compliance tool, resource plans would be subject to gaming by understating future load and could actually compel the construction of uneconomic generation. (See Principle No. 5 for a discussion of compliance with, and enforcement of, planning reserve requirements.)

10. The ability to utilize planning reserves to serve load is essential for the successful operation of planning reserve mechanisms. Adequate transmission facilities are needed to support planning reserves. Transmission expansion plans should explicitly recognize the need to deliver capacity resources to maintain reliable electric service.

MAPP has issued these guiding principles on planning reserves to assist its members and state utility regulators in the MAPP Region. MAPP is concerned that the FERC's SMD proposal does not adequately provide options for planning reserve mechanisms that involve the sharing of reserves by LSEs to reduce the cost of electric generating capacity while maintaining electric reliability.