



Planning Assessment Practices

American Transmission Company generally subscribes to the zone approach to transmission planning assessment using a multi-level planning concept. Diagrams of the planning zones for which regional plans have been developed by ATC are attached in response to Part 3 of FERC Form 715 and show the existing transmission facilities, 100 kV and above, within ATC's transmission system.

The concept behind the zone approach to transmission planning is to develop plans that consider all of the needs, limitations and developments within each zone and develop an overall plan for the zone (that is, a plan that emphasizes projects that serve multiple purposes or solve multiple limitations within the zone). In addition, ATC's transmission planning philosophies incorporate the concept of multi-level transmission planning. When carrying out a comprehensive transmission planning process, consideration must be given not only to individual transmission needs, zone needs, and ATC-wide needs, but also to plans of other transmission providers. Solutions identified via planning activities within each level are vetted against those in adjacent levels until the most effective overall comprehensive plan is developed. ATC's planning process will continue to develop the first three levels (individual, zone, ATC-wide). ATC is participating with other transmission owners within and affected by the MISO territory in assessing regional needs.

ATC employs the long-standing practice of using power flow analysis to identify needs and limitations and to evaluate alternative mitigation measures. ATC identifies limitations and needs by simulating non-simultaneous outages of each line, transformer, bus section, and generator. ATC does implement operating guides, such as opening lines and bus sections, to mitigate limitations (overloads, low voltages, etc.) during extreme flow conditions.

ATC also conducts dynamic stability analyses within each of its zones to assess the ability of its system to withstand power system disturbances. Many of these analyses have been or are being conducted in conjunction with proposed generation interconnections. Other independent analyses are being conducted to assess dynamic and/or voltage stability performance.

ATC develops transmission projects to address the congestion issues in its footprint. ATC uses the PROMOD model to analyze congestion across the ATC footprint and develop projects that will relieve the congestion.

Further, ATC works with neighboring transmission owners, stakeholders and the Midwest ISO to develop transmission projects that provide multiple benefits including reliability, economic and public policy benefits. These projects are often more strategic and regional in nature to help provide benefit to multiple areas as well as maintain reliability here in Wisconsin well into the future. ATC developed three projects that underwent the Candidate



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Multi Value Project (MVP) portfolio study in 2011. These projects include Badger Coulee (a 345 kV line from La Crosse, WI to Madison, WI), Cardinal Bluffs (a 345 kV line from Dubuque, IA to Madison, WI) closing the 345 kV loop to La Crosse and a 345 kV line from Pleasant Prairie, WI to Zion Energy Center in IL. These projects were evaluated using traditional reliability planning tools, PROMOD for economic benefits and a combination of traditional FCITC analysis and economic analysis to quantify their public policy benefits. All three projects were approved by the MISO Board for MVP cost sharing and have already begun regulatory and outreach efforts in WI and IL.

As part of the Midwest Independent System Operator, Inc. (MISO), ATC is participating in the MISO Transmission Expansion Plan process. ATC participates actively in all portions of MISO's planning efforts, including numerous committees and task forces, in regional and economic study efforts and in development of the Midwest Transmission Expansion Plan (MTEP).

In 2012, ATC is working with MISO and other transmission owners to study the Upper Peninsula (UP) of Michigan and the Northern part of Wisconsin for reliability needs that may be best fixed with a regional solution. ATC has not only suggested strategic regional projects that meet additional load and market needs but has also determined what the local reliability only projects may look like to meet the needs of the UP area in the future. These projects are being evaluated at MISO for which project best supports the needs of our customers but also provided benefits into the future.

ATC solicits public and other stakeholder input on the identification of ultimate solutions through its iterative planning process. Projects may be modified as potential solutions listed in this plan are further developed to address the specific needs identified by all stakeholders. The solutions selected to address the needs and limitations identified will reflect the input of transmission planning process stakeholders, including customers, state and local officials, the public, and coordination with other planning processes, to the extent possible.

Specific opportunities for public and stakeholder participation in the planning process are provided in accordance with ATC's tariff Attachment FF filed at the FERC in response to the portion of FERC's Order 890 calling for open, inclusive and transparent planning processes. The order was approved conditionally and, after a compliance filing by ATC, was approved in August 2010. ATC's Attachment FF covers six separate planning processes and the opportunities stakeholders have to participate in the processes. The six planning processes include:

- Network adequacy planning
- Economic project planning
- Generation-transmission interconnections



10-Year Assessment

An annual report summarizing proposed additions and expansions to ensure electric system reliability.

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- Transmission-distribution interconnections
- Transmission-transmission interconnections
- Transmission service requests.

Provisions include opportunities for stakeholders to provide input to the planning processes in terms of assumptions and projects, provide review of interim results and see final results.

ATC participates in regional transmission assessments conducted by the MRO Transmission Assessment Subcommittee (TAS), the RFC Transmission Performance Subcommittee (TPS), the MAPP Transmission Reliability Assessment Working Group (TRAWG), the ERAG Reliability Assessments and MISO Reliability Assessments.

In addition to the planning criteria, ATC considers a number of other factors in its transmission planning process. Following is a description of such factors.