The Northeast Power Coordinating Council (NPCC) offers the following comments in response to the U.S. Department of Energy’s (DOE) Office of Electric Transmission and Distribution’s notice of inquiry and opportunity to comment on issues relating to the identification, designation, and possible mitigation of National Interest Electric Transmission Bottlenecks (NIETBs). NPCC, through the implementation of its Membership Agreement, promotes the reliable operation and design of the bulk power system within the Northeast United States and Eastern Canada. NPCC views the existence of transmission bottlenecks as potential serious reliability issues and is thus very interested in any efforts undertaken by the DOE in the identification of transmission bottlenecks. To assure that the work already undertaken by NPCC in the identification and mitigation of transmission bottlenecks on the bulk power system is consistent and coordinated with any efforts undertaken by the DOE in this area, NPCC is willing to work with the DOE in establishing sufficient criteria that will enable this reliability issue to be dealt with in an effective manner throughout North America.

A. Criteria for Designating NIETBs

The U.S. DOE Secretary’s Electricity Advisory Board recommended that to be designated a NIETB; the transmission bottleneck must meet one of the three following criteria:

1. The bottleneck jeopardizes national security;

2. The bottleneck creates a risk of widespread grid reliability problems or the likelihood that major customer load centers will be without adequate electricity supplies; or

3. The bottleneck creates the risk of significant consumer cost increases in electricity markets that could have serious consequences on the national or a broad regional economy or risks significant consumer cost increases over an area or region.
B. Doe’s Proposed Questions for Comment

1. Are the Electricity Advisory Board’s recommended criteria for designation of National Interest Electric Transmission Bottlenecks appropriate and sufficient? If not, what should they be? For example, should DOE also consider disaster recovery, economic development, and the enhancement of the ability to deal with market and system contingencies in designating Niters?

Response:

The criteria presented needs clarification as does the intent of the designation of the NIETB. Is it to help resolve technical reliability concerns regarding the electric power system? Is it to aid in the implementation of economic markets? Is it to allow for DOE involvement in the process for getting additional transmission built? These questions along with a clear explanation of the purpose are necessary before the designation of these bottlenecks can be made.

The term bottleneck should be thought of in a broader sense than simply a congested “corridor”. For example, in the case of security it could be a non-congested, yet high capacity, critical transmission hub or substation. For economics and market efficiency, it could include underutilized interconnections that are artificially restricted or “bottled” by seams issues or established protocols between various RTO areas. This latter situation provides a real opportunity since its solution or mitigation would not require equipment or physical construction.

The criteria suggests three “types” of bottlenecks –one related to national security, one related to grid reliability and a third related to economic impacts. If this is the objective of the criteria then it is important to clearly differentiate among the three. A bottleneck that jeopardizes national security would require further explanation as to what is meant by national security. Perhaps this criterion would be more meaningful if it read … bottlenecks whose security exposure could permit actions that would have a national impact.

A reliability bottleneck should be one that either has an adverse impact on meeting reliability standards and criteria, or significantly compromises the systems ability to deal with or recover from an extreme event. An economic bottleneck should be one that meets standard reliability criteria but is constrained as a result of economic or market transactions. Each of these categories is different and would be dealt with differently and it would be difficult to designate all bottlenecks with a single process.

If the DOE wishes to focus on bottlenecks that impact reliability then it needs to focus on bottlenecks that have a wide-spread impact on the bulk power system. Reliability bottlenecks are those that have the potential to cause cascading outages thus jeopardizing a significant portion of the bulk electric system within an interconnection. It must be emphasized that these bottlenecks are not limited to the United States grid system only but can extend beyond international borders into Canada (and Mexico) as well.
2. What should be the role of transmission grid operators, utilities, other market participants, regional entities, States, Federal agencies, Native American tribes and others in the process of identifying, designating, and addressing NIETBs? For example, should a NIETB be designated only if some entity applies to DOE for designation? Should DOE accept applications only from entities from regions that have an extant regional transmission (or resource) plan? Should DOE be able to designate a NIETB even if no entity asks DOE to do so?

Response:

Bottlenecks are regional in nature and as such, the Regional Reliability Council (or sub regional entity) should be responsible for identifying bottlenecks. The identification must be based on established regionally specific criteria that are based on NERC industry-wide standards. Regional Councils regularly coordinate efforts with other entities (e.g. ISO, RTO, regulatory agencies, etc.) to assure that the accurate identification of bottlenecks is done in the most effective way.

Bottlenecks identified between Regional Reliability Councils would require additional coordination. This coordination can be effectively accomplished through multi-regional arrangements, such as the Joint Interregional Review Committee that is comprised of membership from MAAC, ECAR, NPCC and VACAR. Other similar arrangements exist throughout North America and could be used to facilitate the issues raised by bottlenecks affecting multiple Regions.

The DOE, in conjunction with state commissions and regional state committees, in the designation of NIETBs could, upon request by the transmission entities and other parties involved, facilitate and support the completion of proposed transmission projects that face significantly complex siting and permitting issues that could unreasonably delay such projects. Consideration must also be given to in-progress or planned mitigation measures before qualifying particular transmission assets as an NIETB.

3. How might DOE identify bottlenecks in regions where much pertinent data are not available, in contrast to regions where transmission expansion plans have been developed and made public?

Response:

DOE can look to the Regions and the regionally-specific criteria that these Regions have developed to meet existing NERC Standards. All Regions have transmission plans identified as they are required to meet current NERC and Regional Standards for assessing transmission adequacy within their respective Region or sub-region. It is the responsibility of the Region and sub-region to obtain the information to assure that all participants affected provide the necessary information. In addition, Regional and sub-regional agreements exist to assure that non-members provide necessary information. Where these agreements do not exist the DOE may encourage the development of such agreements.

Distribution bottlenecks are local problems and should be dealt with at the local level.
4. What actions should DOE undertake to facilitate and monitor progress towards mitigation of designated NIETBs?

Response:

The Regional/sub-Regional transmission plans developed by regional or sub-regional entities and in some cases under requirements of existing tariffs, identify necessary assets and in the case of where bottlenecks are identified (according to acceptable criteria) plans to remove the bottlenecks. The DOE could work with state entities to aid in the siting process for new transmission projects where studies have demonstrated a need for new transmission to improve reliability.

Those entities involved in the designation of bottlenecks may not be involved in the development of mitigation plans. Economic mitigation work should be initiated and funded by the competitive market. Barriers to market investment should be addressed by FERC and DOE, including governmental obstacles and market design deficiencies, e.g. lack of effective cost recovery mechanism for merchant transmission, artificial seams. In this category the competitive market should determine the appropriate mitigation measures, e.g. building transmission, adding generation, etc. Mitigation work that addresses situations beyond meeting standard reliability criteria or economic efficiency should be funded at the federal level and administered locally (similar to the Interstate Highway projects).

Contrary to some of the suggestions highlighted in the notice, this entire process of identifying and dealing with significant assets must be handled in a confidential manner. The information, including the selection process itself, is a blueprint for potential terrorist activities. Without a credible confidential process, involved parties will likely be unwilling to share sensitive system information.