

**Announcement: DE-FOA-0000068**

**Activity Description: Topic B, Cooperation Among States on Electric Resource Planning and Priorities**

**Project title: The Eastern Interconnection States' Planning Council**

Applicant:

The National Association of Regulatory Utility Commissioners  
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Washington DC 20005

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**A Proposal to the United States Department of Energy**

## **Introduction**

In response to the June 2009 Funding Opportunity Announcement (FOA),<sup>1</sup> requesting state interaction with Eastern Interconnection-wide planning, the National Association of Regulatory Utility Commissioners (NARUC) respectfully submits this application on behalf of the various entities described herein.

From its early 20<sup>th</sup> century origins as hundreds of local, non-connected distribution systems, the electric industry has evolved physically, structurally and commercially. The Eastern Interconnection, comprised of 39 states (in whole or in part) and the District Columbia, now includes five regional transmission organizations (ISO-New England, New York Independent System Operator, PJM Interconnection, Midwest ISO, and Southwest Power Pool). The Eastern Interconnection also has a mix of generation and transmission entities, including vertically integrated utilities, independent generation companies, independent transmission companies and distribution-only companies. Some states in the Eastern Interconnection have introduced retail competition while others have not. Some states have authorized or mandated generation divestiture while others have not. Some states engage in formal, binding resource planning of their in-state generation and transmission resources and others do not. Some states may be reconsidering each of these decisions.

Over the century that has spawned these differences, a variety of multi-utility, multi-state processes has evolved, starting with industry efforts to “pool” both planning and operations for economic and reliability purposes – some at the holding company level, and some at the multi-utility level. All these efforts have occurred at geographical levels smaller than the Eastern Interconnection. The American Reinvestment & Recovery Act of 2009 (ARRA), and the U.S. Department of Energy’s FOA, afford an opportunity for stakeholders to carry out an interconnection-wide process that would examine ways to increase economies and reliability across this entire territory through a cohesive, thoughtful process.

Despite the multistate nature of the interconnected grid and the power markets that depend on it, state-level decision-making continues to have a profound effect. Legal authority differs from state to state, with some states exercising varying degrees of jurisdiction over (a) the siting of generation, transmission and distribution; (b) the establishment of retail service territories; (c) decisions on whether retail utilities should buy generation at wholesale or build their own units; and, (d) most importantly, recovery from consumers of costs incurred to support the entire interconnected infrastructure. The Topic A process envisioned by the FOA seeks to bring together many stakeholders to develop transmission plans for the Eastern Interconnection. Given the continuing importance of the role of the states, the Topic A process is less likely to succeed without significant input, and direction, from the state policy-makers. While the states intend to preserve individual decision-making over their own resource and market decisions, the states recognize that decision-making in this study process will produce better results if they can communicate their needs jointly and consistently to the Topic A participants (the Topic A Group).

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<sup>1</sup> U.S. Department of Energy (DOE) Funding Opportunity Announcement DE-FOA-0000068.

A group of decision-makers from the states<sup>2</sup> that make up the Eastern Interconnection, including representatives from Governors' offices, energy offices, and public utility commissions, intend to meet this opportunity. These policy-makers convened to propose a new collaboration to address the requirements identified in Topic B. The new collaboration will include support for these electricity policy-makers through a professional staff that will help coordinate these key officials, and create and synthesize the analyses that will be essential to developing consensus. The outcome of this collaboration effort will include a coordinated and consistent set of directives to the Topic A Group in terms of assumptions and scenarios to be used in modeling, and criteria for evaluating the models' output.

Although consensus and cooperation are recognized by all participants to be important for the success of this multi-state effort, it must be recognized also that the effort has potential for affecting virtually every part of a state's energy, economic, and environmental situations. Consequently, states must be continually alert to and concerned about consequences of the activity and take necessary actions best to protect the interests of their citizens. The states in EISPC will ensure this in the following ways: First, the participation of any state entity in any EISPC activity, including but not limited to any activities concerning scenarios, factors, regulatory structures or processes, or state or federal policies, does not necessarily constitute endorsement, prejudgment, or preapproval of any of these by any state. Second, each of the states in EISPC must individually agree whether to address, when to address, and how to define, measure, or analyze any scenarios; any economic, energy, and environment situations, resources, concepts, or technologies and assumptions or data inputs relating to these; state or federal regulatory structures, processes, or policies; any of which may be considered by EISPC. In the event that any state does not agree concerning these or other such factors, specific procedures will be developed and implemented for the filing of minority or dissenting viewpoints and for ensuring that these are explicitly acknowledged and recognized by EISPC.

The policy-makers involved in this endeavor do not suggest that the states' directives should be the sole assumptions and scenarios examined by the Topic A Group. The preferences of market participants need a voice; in fact, the states will participate in Topic A Group's discussions along with those other entities. But the distinct role of state decision-makers, with their legal authority over siting, resource planning, retail market structure, asset ownership and cost recovery, requires that the modeling process take into account their distinct preferences.<sup>3</sup>

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<sup>2</sup> In addition to 39 states, the applicants also include the regulatory commissions of the District of Columbia and the City of New Orleans totaling 41 entities. When used in this document, the term "state" includes these entities unless otherwise indicated. The states also intend for the Canadian provinces located in the Eastern Interconnection to have an identified role in this process.

<sup>3</sup> Those participating in this application understand that a coordinated group of consumer advocates will be filing a separate request for funding. The participants in this request also support any reasonable request for travel funding that will allow consumer advocate representatives to participate in the planning activities identified in the FOA.

## **Project Objectives**

The goal is to create an unprecedented collaborative among the states in the Eastern Interconnection. Comprised of public utility commissions, Governors' offices, energy offices, and other key government representatives, this collaboration will foster and produce consistent and coordinated direction to the regional and interconnection-level analyses and planning conducted under Topic A. Significant state input and direction increases the probability that the Topic A Group's outputs will be useful to the state-level officials whose decisions may determine whether proposals that arise from such analyses become actual investments.

Known as the Eastern Interconnection States' Planning Council (EISPC), this group of representatives from the states in the Eastern Interconnection has already met several times, both in person and telephonically, to organize this effort. Over a short four month period, these meetings have already produced agreement on (a) a framework to establish future decision-making processes, (b) substantive priorities, (c) staffing needs, (d) budget requirements, (e) institutional arrangements to ensure expert and infrastructural support of the new staff, and (f) methods to ensure the accountability of the staff and its supporting institution to the council and its Executive Committee. The group also has retained expert facilitation assistance for the period prior to hiring of permanent staff. Throughout all these efforts, we have included not only the states in the Eastern Interconnection, but have also reached out to Canadian provincial representatives. Thus far, representatives from Saskatchewan, Ontario and Quebec have joined one or more EISPC teleconferences.

Due to these efforts, we will be prepared to make effective use of U.S. DOE funds as soon as they become available.

We view the proposed four-year funding period as but the first phase in a long-term role. The four years of funding will support EISPC's initial formation and operations, after which it is hoped that the group will become self-sustaining, continuously guiding any future Eastern Interconnection-wide transmission planning analyses.

EISPC's missions include producing a common position among its members on the assumptions and inputs that the Topic A Group will use in its modeling runs. The generation expansion model is an example. The model will require data, assumptions and methodologies about such key variables as:

- Renewable/Alternative Energy: type, location, quantity, capacity factors
- Demand and energy projections
- Fuel costs
- Life cycle costs of proposed technology
- Capital costs per generation type
- Energy efficiency penetration levels
- Retirements of existing generation
- Financial parameters, such as inflation rates and discount rates
- Emission costs for carbon, SO<sub>x</sub>, NO<sub>x</sub>, and mercury
- Carbon caps, and the rate at which carbon reductions may occur.

As a result of EISPC's internal collaboration and consensus-building, the Topic A Group will receive a consistent set of assumptions based on a consistent vision of electric-supply options. Absent EISPC's work, the Topic A Group would have to process multiple and inconsistent state approaches, while having no common audience to comment on the outcomes. The risk then is a surplus of activity and a deficit of results. The likelihood that the Topic A Group's output will have practical value depends on that output reflecting a practical consensus. In this way, technical modeling will combine with policy leadership to produce outputs that serve the entire Eastern Interconnection.

To address the topic areas identified in DE-FOA-0000068, EISPC will engage in eight major tasks over four federal fiscal years:

1. Develop the new organization (including establishing decision-making processes and protocols, staffing needs, budget requirements, institutional arrangements to ensure expert and infrastructural support of the new staff, and methods to ensure the accountability of the staff).
2. Attempt to reach consensus on an initial set of modeling inputs and "future scenarios." A "future scenario" is a combined set of assumptions that describe one possible future world. Future scenarios assist policy-makers when dealing with uncertainty. Since we cannot know what the future may hold, a number of future scenarios are created to allow policy-makers to view modeling results from a number of future worlds. For example, given that Congress has not passed any carbon legislation, but is considering it, EISPC may decide to define multiple future scenarios on this issue, such as one that includes a cap on carbon emissions and another that does not.
3. Attempt to reach consensus on feedback to the Topic A Group's initial modeling results for the resource expansion plans and production cost modeling.
4. Conduct studies, which will facilitate further refinement to the modeling.
5. Prepare whitepapers to assist both in refinements to the modeling and to add context to EISPC's evaluation of the final results.
6. Attempt to reach consensus on revisions to the modeling inputs and future scenarios for iterative modeling runs.
7. Attempt to reach consensus on the evaluation of the final Topic A Group's results.
8. Participate in Topic A Group activities.

More detail on how the eight tasks will address the areas outlined in the FOA is included below in the *Project Management Plan* and *Merit Criterion Review* discussions.

The foregoing discussion identifies the short-term, tangible results of DOE's investment in our efforts. However, the potential benefits exceed these short-term and tangible measurements. Despite a century of interconnectedness, our states have never worked jointly, en masse, to produce the positive returns available. To be sure, there have been many multistate, sub-Interconnection efforts towards cooperation. However, there also have been interstate disputes over concerns like cost responsibility, pollution, rate differentials, and economic development. The cooperation and disputes are the result of the same physical fact of interconnectedness. It is time to increase the cooperation and reduce the disputes. This result is made dramatically more likely by further coordination and communication made possible by the availability of federal funding and the design of this FOA.

Our first four years of work will certainly increase the planning consistency within the Eastern Interconnection, even if it does not produce broad Interconnection-wide agreement. That sub-Interconnection consistency will be the necessary result of common understandings about modeling, data, and assumptions. Legitimate differences prompted by geographic diversity – including natural resource availability and weather conditions – as well as economic conditions drive state-specific preferences over fuel mix, generation options, market structures and rate design. Collectively understanding each state’s needs for resources will facilitate multi-state planning whereby economies of scale and scope can be maximized.

Interconnection-wide benefits aside, it is inescapable that state-by-state decision-making, especially in the areas of carbon reduction and renewable/alternative energy stimulation, will improve as a result of increased availability of data and modeling capability, and increased sophistication in how states use these tools. We are excited by the potential for the spread of knowledge arising already from our increase in communication and cooperation.

### **Merit Review Criterion Discussion**

Two organizations will have initial responsibility for this effort: the National Association of Regulatory Utility Commissioners (NARUC), and through a subcontract, its affiliated regulatory research entity, the National Regulatory Research Institute (NRRI). During the four-year DOE-funded period, NARUC will serve as the overall administrator of the effort, as DOE’s contractual partner, and as the organizer of many state-level decision-makers who comprise the EISPC. Staff from the National Association of State Energy Officials and the National Governors Association will also lend support.

The decision-makers that comprise EISPC are uniquely situated to stimulate and coalesce toward consensus results under Topic B. Members of public utility commissions exercise regulatory powers over retail service throughout the Eastern Interconnection. In this role, they rule on facilities siting, market structure, corporate structure, resource planning, financing and cost recovery. They establish the parameters for the timing and mix of power supply that will serve the hundreds of millions of residents within their states. The Governors and state energy offices also play central policy roles. Governors in most states appoint the members of their public utility commissions; and, along with their state energy officials, knit together economic-development goals, land-use preferences and environmental concerns into coherent energy policies.

In two meetings in the summer of 2009, representatives from every region in the Eastern Interconnect gathered, including both commission representatives and representatives designated by the Governor of their state. Convened by Commissioners Lauren Azar of Wisconsin and Doug Nazarian of Maryland, this group included over 50 state representatives to address the Topic B question. This assembled group has been adding participants as the EISPC’s governance and other structures develop.

## **Criterion 1: Impact & Technical Understanding**

As stated in the Statement of Performance Objectives, the EISPC participants will create a platform to facilitate coordination. The assembled participants, backed by their regulatory organizations and staffs, are the public officials whose decisions affect the mix and location of resources that serve the public. If those decisions can be informed by a coherent, mutually communicative interstate process, they will make best use of the nation's technical and physical resources with the least amount of uncertainty and controversy. These officials also have direct regulatory powers over the retail utilities, whose forecasting and planning processes may need to evolve to accommodate the complexities ahead.

The EISPC collaboration will bring together the policy-makers with the greatest technical understanding of the issues at hand and the powers to deploy that understanding to serve the goals of Topics A and B. Subjects outlined in the FOA that the EISPC will address include:

1. Identify Eastern Energy Zones of particular interest and potential locations for low- or no-carbon electricity generation, allowing for regional diversity.
2. Conduct studies on key issues, as illustrated on the accompanying Gantt chart. That list is indicative of the types of work but it is not final, exhaustive or binding.
3. Develop other inputs as needed for the Eastern Interconnection-level analyses prepared under Topic A.
4. On receipt of the Topic A Group's outputs, provide insight into the economic and environmental implications for the various states and sub regions.
5. Demonstrate and develop if necessary consensus-building and coordination mechanisms for the EISPC, so that the Topic A Group receives clear signals about the preferences of the officials who make or implement policy for the Eastern Interconnection.

### **FOA Topic Area 1. Identify Eastern Energy Zones of particular interest for low- or no-carbon electricity generation (including renewable, alternative, low-carbon emitting resources, carbon-capturing resources, and others)**

Transmission planning requires identification of the likely locations of new generation capacity and the loads that will use the electricity. Given recent pressures to reduce carbon dependency, we will develop a process for identifying two types of attractive locations for power supply: renewable/alternative energy zones, and potential locations for non-renewable low- or no-carbon generation.

As to renewable/alternative energy zones, the starting point will be to create an inventory of zones previously identified. This inventory process will obtain information from the Eastern Interconnection's five regional transmission organizations, the state representatives, transmission owners and operators, including the state-jurisdictional retail utilities. Next, EISPC may revise the

previously identified zones or identify additional renewable/alternative energy zones. The location of these additional renewable/alternative zones will be driven by, among other things, the strength of the resource (e.g., availability of wind or solar or geothermal). Hence, data must be collected that identifies resource potential by geographical location. EISPC will then attempt to develop consensus on the renewable/alternative energy zones that should be included within the Topic A Group's modeling.

EISPC will also explore potential locations for new low- and no-carbon generation, such as coal with carbon capture and storage (CCS), nuclear energy, and other resources to be used in the Topic A Group's modeling.

Identification of the potential location of these zones is the first phase. The second phase is to assess their potential for practical development. With the locational information gathered, states within each RTO or transmission authority region would assess technical and economic potential, and identify key barriers to the development of the resources and/or associated transmission system upgrades. This assessment process, including identifying evaluative criteria and their weightings, will be vetted by states and sub-regions.

## **FOA Topic Area 2. Conduct studies on key issues for the Eastern Interconnection.**

EISPC will conduct a number of studies. An indicative listing of such studies can be found on the attached Gantt chart and may include:

- Identification of state-by-state potential for renewable and/or alternative energy (e.g., wind, solar, biomass, landfill, hydro), as well as imports from Canada. The results of this study will assist in the evaluation and/or reconfiguration of Renewable/Alternative Energy Zones
- Assessment of the location of new nuclear facilities and of the potential for upgrading existing nuclear resources.
- Assessment of coal potential, including carbon capture and storage.
- Identification of state-by-state potential for demand-side resources, including price-responsive demand, peak demand management (including customer-owned energy storage), and energy efficiency.
- Identification of state-by-state potential for distributed generation.
- Assessment of the state-by-state potential for energy storage, and waste-to-energy facilities.
- Assessment of the state-by-state potential for rapid start-up fossil back-up generation.
- Assessment of gas and other fuel price issues.
- Other issues as identified by EISPC.

EISPC will remain flexible and will modify this list as technology, policy, and other input factors evolve. EISPC recognizes the fact that the results of these studies are not likely to be available until after the initial set of modeling assumptions are developed. Therefore, a primary purpose of these studies will be to refine the modeling assumptions in subsequent modeling runs.



### **FOA Topic Area 3. Develop other inputs as needed to go into the Interconnection-level analyses prepared under Topic A.**

Three areas of activity are necessary for the EISPC participants to successfully address this topic area: (1) developing inputs for modeling, (2) evaluating the reference case<sup>4</sup>, and (3) evaluating the scenarios entering into interconnection-level analyses being prepared by the Topic A Group. These are discussed in more detail below.

#### **Developing Inputs for Modeling**

EISPC will develop modeling inputs to enable the development of a long-term Reference Case and evaluation of scenarios to consider a robust portfolio of alternative resource options. The assumptions used in the Reference Case and the sensitivity analyses will include forecasts of economic, environmental, efficiency, technological and public policy factors. The scenarios will address the potential implications of an array of resource technologies including demand-side resources (demand response, price response, and energy efficiency), energy storage, supply-side resources (renewable/alternative, fossil-fueled, and nuclear), and transmission technologies. Some of the scenarios may also reflect carbon restrictions and the effect they will have on retirements and retrofitting of the existing coal-fleet.

By developing the foregoing portfolio options and scenarios, we will have the bases for examining transmission options.

#### **Evaluating the Reference Case**

In the first year of effort, the EISPC collaborators will need to define the key assumptions and data inputs for the Reference Case including (but not limited to):

- potential ramifications of state and federal environmental regulations,
- planned resources,
- planned retirements,
- demand and energy growth,
- inflation rates,
- interest and cost of capital rates,
- fuel costs,
- resource construction costs and lead times,

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<sup>4</sup>A “reference case” is sometimes referred to as a “Base Case,” “Business as Usual Case,” or “Most Expected Case.” The Reference Case, as used in load forecasting, might be usefully defined as the best estimate of forecasted energy and demand over a given period (e.g., 20 years). Often, the reference case is where there is approximately an equal probability of higher and lower cases. Similarly, in resource planning, the reference case (or Base Case or Business as Usual Case) would attempt to strike the balance among the reference case and the probabilities associated with the various scenarios. The reference case need not be the “recommended case.”

- combined heat and power,
- carbon emission costs (if applicable),
- implications of state and federal renewable/alternative energy standards and credits,
- potential changes to the load forecasts from energy efficiency and demand / price response,
- various generation and transmission technologies, and
- operational characteristics of resources (e.g., forced outage rates, availabilities, heat rates).

A concerted effort to develop a consensus on the data, studies, and assumptions employed in the Reference Case will be essential as a foundation for constructing / developing various scenarios integral to a long-term resource plans.

To better ensure credibility of the Reference Case and subsequent scenarios, this collaborative process, aimed at achieving consensus, will have to assess data accessibility, quality, appropriateness, and availability. For future years, we are going to have to evaluate every aspect of the process to make continual improvements to the data, assumptions, and analytical techniques.

The states, while recognizing that some of the data is viewed as confidential or proprietary, will need access to such information to ensure credibility but will do so in a manner that protects commercially sensitive or proprietary information. For example, entities may not wish to disclose the specifics of load forecasts, fuel costs, or plans for new generation or transmission.

With regard to load forecasts, simple aggregation of demand forecasts may be appropriate for the initial study because of the absence of a good alternative(s), however, caution is necessary to reduce such problems as double-counting and under-counting of loads. Over the long-term and in addition to avoiding problems of over / under-counting, a concerted effort needs to be undertaken to improve the quality of load forecasts and their requisite databases.

Well-considered incorporation of energy efficiency and demand (including price response) into the load forecasts is imperative. A concerted effort must be made to improve the demonstrable effects of energy efficiency and demand response. In the long-run, there is a need to subject this analysis to studies to assess the persistence of energy efficiency and demand response measures on the load forecasts.

Careful consideration needs to be given as to what “planned resources” are included in the Reference Case. EISPC will have to decide if it is sufficient to include resources that are in a planning queue or whether to apply a higher standard (e.g., to include only those resources that have received all state, federal, and planning authority approvals or that have construction underway). Because of the difficult decisions regarding data, studies, and assumptions, a consensus may not always be possible but it will be the goal.

The potential ramifications of carbon legislation will have to be considered because of its potential effect on long-term resource decisions (e.g., the type of new capacity, the potential for carbon capture and storage, retirements or retrofits of existing capacity, the role of renewable/alternative energy, etc.). It is essential to carefully consider the assumptions that should be used to model the effects of a “carbon tax” or “cap and trade” regimen.

Largely as an extension of the carbon analysis, there is also a need to make an objective

assessment of the potential, under a variety of scenarios, for Renewable Portfolio Standards and Renewable Energy Credits (RECs). This work would include identifying methods for modeling REC impacts, both on the selection of generation types and on marginal prices.

Selection of planning reserve requirements is also necessary. Regardless of the planning reserve requirement, we will need to examine situations where the planning reserve requirements will increase or decrease in response to such things as: (1) the credibility of load forecasts, (2) the verifiability of demand response / energy efficiency programs, (3) varying degrees of reliance on intermittent renewable/alternative resources, and (4) operational capabilities under various carbon requirements.

Even the length of the study horizon is likely to be a matter of debate. Because many of the resources take considerable amounts of time to plan and construct. While some regions use 10 years as their typical planning horizon for reliability purposes, other regions use 15 years. It seems that a 15-year horizon is likely the minimum length of any study. However, there may be a rationale for a longer planning horizon so as to adequately capture variables like the potential for widespread use of electric vehicles, enhancements to make a “Smart Grid,” the inclusion of additional nuclear power, and the effects of potential carbon regulations.

Once the key inputs and assumptions for the Reference Case have been developed, they will be provided to the Topic A Group for use in running the resource expansion models. After the Topic A Group runs the initial case, adjustments to these preliminary inputs and assumptions will be made to develop the Reference Case. In making these adjustments, EISPC will consider feedback from the Topic A Group, changing circumstances (such as changes to environmental regulations), and results from various studies and whitepapers – including those done by the states in conjunction with this study. These studies will include the identification of state-by-state potential for: (1) renewable/alternative energy, (2) demand response / energy efficiency, (3) clean coal technology and/or CCS, and (4) nuclear power development.

To reiterate, the goal is to develop a consensus among the states.

## **Evaluating the Scenarios**

Scenarios will be developed through a similar collaborative process as the Reference case, that is, EISPC will determine an initial set of inputs, followed by revisions to the preliminary results based on input from the Topic A Group, changing circumstances, and various studies and whitepapers. The scenarios, based on various sensitivities to the assumptions in the Reference Case, will address the potential implications of an array of resource technologies including (but not limited to):

- demand-side activities (demand response, price response, and energy efficiency),
- utility and customer energy storage,
- biomass technologies,
- various renewable/alternative energy options and their attendant ramifications,
- distributed generation,
- various gas-fired generation,

- oil-fired generation,
- nuclear generation,
- coal and clean-coal technologies (with and without carbon capture and storage),
- plant-life extension and retrofits to incorporate environmental controls,
- retirements of the existing fleet – including those due to carbon restrictions,
- system load factor improvements,
- transmission development and transmission technologies, and
- Canadian imports and/or exports.

Recognizing that technological and geographical potential are necessary but not sufficient to development of a long-term reliable power supply at the lowest reasonable delivered cost to customers, states will also evaluate market structure and regulatory policy issues for their potential to impede or facilitate resource development. The states, for example, understand that the electric power industry is extremely capital intensive. Therefore, there are likely to be cost barriers to development of resources. From a wholesale market design perspective, what can be done to facilitate construction of resources? For state and federal regulatory commissions, short of a “guaranteed” recovery of costs, what can states do to facilitate the development of new resources?

**FOA Topic Area 4: Provide insight into the economic and environmental implications of the alternative electricity supply futures and their associated transmission requirements developed for the Eastern Interconnection under Topic A.**

Topic Area 4 does not relate to studies that will be conducted directly by or for the EISPC, but instead, how the states will interpret the results of the Topic A Group’s process and provide insight into that process. EISPC will address the following, among others: (1) economic development and uncertainties that could affect resource expansion plans, (2) authorities for funding and cost recovery (such as “pre-approval” methods and early cost recovery options such as construction work-in-progress), and (3) costs of emerging technologies (such as advanced nuclear and coal facilities). We will also consider the state-specific incentives or disincentives that will alter the resource expansion modeling. Transmission system effects (such as congestion costs, losses, and reliability impacts) will also be considered.

State perspectives will also be provided on the cost and other effects of increasing or decreasing indicators of system reliability and performance, including reserve margins.

Finally, environmental considerations will play a key role in EISPC activity and discussion. States may want to specify environmental exclusionary zones where transmission and generation should be prohibited or limited due to siting challenges and other environmental conditions or preferences. There may also be specific geographic locations that may pose challenges to infrastructure deployment (such as the Appalachian Mountains and the Mississippi River). States will need to identify these challenging locations and provide a potential resolution for them.

**FOA Topic Area 5: Demonstrate and develop if necessary consensus-building and coordination mechanisms for the interconnection-wide entity.**

This task requires EISPC to mesh technical decisions with policy judgments. The foundation of this proposal is that the states, acting in concert, will produce the policy premises used in the Topic A Group's modeling. Additionally, states would observe and review technical analysis conducted by the Topic A Group; and, based on that review, offer refinements in inputs and assumptions for future model runs.

The participating states have a great deal of experience building and carrying out these types of consensus-building and collaborative processes. Through Governors' associations, regional state committees, and informal collaborative initiatives, states are addressing difficult regional resource planning challenges. Such efforts allow for coordination and information exchange with respect to transmission line and generation siting proposals. These efforts also allow states to present multi-state sponsored positions before Federal agencies, enable education of state officials, and form regional policies on electric markets and new electric infrastructure.

Examples of collaborative organizational work among the states include:

- Organization of MISO States (OMS),
- Organization of PJM States (OPSI),
- Southwest Power Pool Regional State Committee (SPP RSC) ,
- New England Conference of Public Utilities Commissioners (NECPUC)
- New England States' Committee on Electricity (NESCOE)
- Entergy Regional State Committee (RSC),
- Southern States Energy Board,
- Southern Governors Association,
- National Association of State Energy Officials (NASEO),
- National Association of Regulatory Utility Commissioners (NARUC),
- National Governors Association (NGA), and
- The Regional Greenhouse Gas Initiative (RGGI).

The state representatives also have extensive experience relating to some of the thorniest regional transmission planning, cost allocation, and collaborative policy issues. Multiple specific examples of state collaboration in regional transmission efforts similar to the Eastern Interconnection projects or related policy include:

- Cost Allocation and Regional Planning (CARP) in the Midwest ISO,
- Upper Midwest Transmission Development Initiative (UMTDI),
- New England Governors' Energy Blueprint (Blueprint),
- Southwest Power Pool (SPP) Cost Allocation methodology, and
- The Regional CO<sub>2</sub> Sequestration Partnership in the Midwest and Southeast states.

States have provided collaborative policy guidance and general support (as appropriate) for multiple transmission planning and analysis efforts in the Eastern Interconnect region. Examples include:

- Eastern Wind Integration and Transmission Study (EWITS),
- Midwest ISO Transmission Expansion Plan (MTEP),
- Regional Generator Outlet Study (RGOS) that includes the western half of MISO (ND, SD, MN, IA, WI, IL) and is on schedule to be completed in late 2009,
- Regional Generation Outlet Study II (RGOS II) that is underway and incorporates the eastern portion of MISO, and
- The SPP Regional Transmission Study.

In defining future scenarios, policy-makers will need to identify economic and policy variables that shape those future scenarios. The foregoing lists reflect significant experience in performing this kind of process. This experience can be upscaled to the Eastern Interconnection level.

Evaluating scenarios requires judgment based on explicit criteria with explicit weightings. Those criteria and weightings reflect policy choices. The appropriate source of these policy choices is the set of state officials with decisional responsibility, working together. While differences in preferences are natural, given different economic circumstances, these differences need not culminate in conflict if processes exist to learn about the differences in perspectives, and to find solutions that achieve one state's goals without impairing other states' goals. Awareness, exposure, interstate and interpersonal trust, a record of successful compromise and a culture that discourages intransigence and isolation are proven prerequisites for success.

To achieve these conditions, EISPC will make decisions pursuant to its governance principles. EISPC will include representatives of state executive offices, provincial ministries, and state and provincial regulatory agencies. The process would be transparent to siting, environmental, and consumer agencies within the state and provincial governments.

## **Criterion 2: Technical Approach and Project Management**

EISPC participants are developing a governance structure that will facilitate consensus among state representatives. The full Council will engage in consensus-building. This community of state participants will receive the consulting support of a professional staff.

This proposal envisions that the professional staff will be a cohesive unit led by its own Director and directly accountable to the EISPC Executive Committee. EISPC has chosen to place this unit initially within the National Regulatory Research Institute (NRRI), for several reasons. NRRI has articulated the following mission: "By creating new knowledge and democratizing access to existing knowledge, it seeks to empower regulators to make decisions of the highest possible quality." This mission resonates with EISPC's purposes. Further, NRRI is the state commissions' "own" entity, created by state commissions for state commissions. In January 2008, NRRI became an independent, Section 501(c)(3) corporation, and is now headquartered in Silver Spring, Maryland.

EISPC anticipates that, upon receipt of the DOE funding, NARUC will enter into a subcontract with NRRI that will obligate NRRI to carry out the instructions of the EISPC Executive Committee in terms of EISPC's hiring and support of the EISPC staff. The intent is for the new staff

to be directly accountable to the Executive Committee, and for NRRI to provide the infrastructural and advisory support and oversight necessary to the success of EISPC.

In the initial months, support for the EISPC will be provided by NRRI's Executive Director, Scott Hempling, Esq. Among other activities, Mr. Hempling will assist the EISPC Executive Committee in hiring EISPC's Director and appropriate staff, likely including a power systems engineer, an economist, and administrative support. Mr. Hempling has worked on electric industry issues since 1984, and has advised state commissions since 1990, when he founded a private law practice concentrating on state regulatory issues. He was appointed NRRI's Executive Director in October 2006. He is well-known throughout the state regulatory community as an advisor to dozens of commissions and as a teacher to thousands of staff.

EISPC's Director, once hired, will provide assistance to enable the day-to-day operations, provide analytical and other expertise to inform and improve EISPC participant decision-making, especially as it relates to the interaction with the Topic A Group. She or he will facilitate the development of the Executive Committee functions and engage EISPC participants in the workplan. This collaboration will engage in eight tasks to address the issues facing interconnection-wide planning efforts in the Eastern United States. These eight major tasks are described in greater detail in the Statement of Performance Objectives and Project Management Plan, and include:

1. Develop the new organization (including establishing and implementing the EISPC participants' decision-making processes and protocols, establishing and acting on staffing needs, budget requirements, institutional arrangements to ensure expert and infrastructural support of the new staff, and methods to ensure the accountability of the staff).
2. Attempt to reach consensus on an initial set of modeling inputs and future scenarios.
3. Attempt to reach consensus on feedback to the Topic A Group's initial modeling results for the resource expansion plans and production cost modeling.
4. Conduct studies, which will facilitate further refinement to the modeling.
5. Prepare whitepapers to assist both in refinements to the modeling and to add context to EISPC's evaluation of the final results.
6. Attempt to reach consensus on revisions to the modeling inputs and future scenarios for iterative modeling runs.
7. Attempt to reach consensus on the evaluation of the final Topic A Group results.
8. Participate in Topic A Group activities.

Participants in EISPC who have been engaged in the formulation of this proposal have engaged in an effort to develop principles that would guide the governance of the Council and the activity of its Executive Committee. These principles include:

1. The states which are within the Eastern Interconnection will form a Council to oversee the Topic B activities.
  - a. Members will include designees of Governors' offices, state utility regulatory authorities, and such other regional organizations as may be designated by the Governors' offices and/or state utility regulatory authorities to represent them on the Council.
  - b. Canadian provinces in the Eastern Interconnection are invited to join as ex-officio non-voting members of the Council and designate comparable members.
  - c. Bylaws will be prepared to guide the operation of the Council.

2. Leadership of the Council will be shared among regions.<sup>5</sup>
  - a. Officers and the Executive Committee will direct the administrative work of the Council.
  - b. Officers and the Executive Committee positions shall be rotated among regions.
3. The Council will provide a balanced representation for participation in the Steering Committee of the Topic A Group.
  - a. The Council's representatives will develop inputs and assumptions that shall be used in at least some of the Topic A Group's modeling runs.
  - b. The Council's representatives will expect and will be prepared to hold a primary role in directing Topic A Group's analysis.
  - c. The Council will specify the policy direction that its representatives will use in the Topic A Group's Steering Committee through the decisional process described in Section 5 below.
  - d. Developing the process for formulating policy input will be among the Council's early tasks.
4. Council leadership will be responsible for management decisions on staff and resources for the Council.
  - a. The Council's Executive Committee will be responsible for directing the expenditures of funds, including grant money received from the Department of Energy, consistent with policies determined by the Council.
  - b. The Council designates the National Association of Regulatory Utility Commissioners (NARUC) to bid for the DOE Funding Opportunity Announcement DE-FOA-0000068 on the Council's behalf and administer the grant as directed by the Council's leadership (including performing all necessary fiscal requirements).
5. The Council's decisional process will be designed to achieve consensus.
  - a. A voting process will accommodate states/provinces with large and small loads in the Interconnection (including states that are only partially within the interconnection), states with multiple regulators, and states with different forms of electric distribution regulatory schemes (retail markets).
  - b. A consensus result will constitute a Council position if it represents broad agreement across regions and jurisdictions.
  - c. The decisional process will identify a method for minority positions to be identified and communicated in any EISPC reports or official documents.
  - d. There may be separate voting mechanisms for policy and administrative duties to take into account the differences in the two duties.
6. Governance Structure
  - a. The Council may create permanent and ad-hoc working groups for each Topic subject matters as needed:
    - i. For identification of Energy Zones.

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<sup>5</sup> Regions shall be defined by the Council at a later date.



- ii. Proposal of studies on key issues related to reliable integration of variable renewables into the Eastern Interconnection, studies on availability of baseload renewables, and other low carbon resources, as well as any other studies as needed.
  - iii. To develop other inputs into Interconnection-level analysis.
  - iv. Economic and environmental impacts of alternative electricity supply futures and associated transmission requirements.
  - v. To develop other issues as needed.
- b. The Council may form a Liaison Committee to synthesize the Topic A Group’s materials.
7. Staffing
- a. The Council will hire a Director subject to grant funds being available. The Director will be responsible for general administrative duties as required by the Council. The Director should have administrative management training and experience, and have experience in electric resource planning as well as experience with federal or state planning or regulatory agencies.
  - b. At an appropriate time, the Director shall identify for hiring all other staff as required to meet the goals and objectives of the Council and, at a minimum, the staff should include an office assistant and a transmission engineer.
  - c. Additional staff as required may be a power supply engineer and an economist/financial analyst with experience in power resource planning.

**Criterion 3:  
Relevant Experience, Capabilities and Organization of the Project Team**

Throughout the Eastern Interconnection, a variety of state agencies have authority over electric infrastructure and customer programs that reduce the demand for energy. Given this diversity of decision-making, these state agencies (including Governors’ offices, commissions, and state energy offices) will take the leadership role in the DOE-funded study of the Eastern Interconnection. The states will work with the DOE, FERC, Regional Transmission Organizations (RTOs), utilities, stakeholders, other Interconnections, the National Electric Reliability Corporation, industry organizations such as EPRI, and other experts on a state-of-the-art study of the long-term resource requirements of the Eastern Interconnection. This comprehensive, cutting edge effort will produce indicative approaches for the Eastern Interconnection.

Multi-state benefits and coordination become more likely when the states proceed from a common perspective, developed as a result of these indicative, Interconnection-wide approaches, rather than state-level decisions reached in isolation from each other.<sup>6</sup> EISPC participants comprise the decision-makers who are at the center of the policy formulation that the FOA seeks to stimulate: the interface of state policy-making and interstate electricity system planning. As result of the states’ participation, there will be a direct link between the dialogue and coordination fostered by

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<sup>6</sup> Work towards common solutions with other states in the Eastern Interconnection does not, and cannot, reduce or enlarge any since state’s statutory or constitutional authority. It is understood that any study conducted jointly by the states will necessarily be “indicative” and general in nature. EISPC’s sponsorship of such a study cannot be construed as prejudging or preapproval of specific proposals on behalf of any state.

this process and the decisions that states must make. EISPC participants have developed principles (described in the merit review criterion discussion of the technical approach and project management, above) to guide the collaborative process. They will explore and develop consensus-based decision-making processes.

Many of the involved states already have records of success in designing and executing collaborative decision-making. Examples of sources of collaborative decision-making rules include those of the respective Regional State Committees of the RTOs and the Southern States Energy Board, the ground rules of the National Wind Coordinating Committee, the by-laws of the National Council on Electricity Policy, and other collaborative processes and mechanisms that bring together stakeholders from multiple areas of state government. In accordance with the language of this FOA and the needs of the state participants in EISPC, the process will be open to all regions and relevant technologies, and afford ample opportunity for participation by state governors, provincial ministers, their designees, and state or provincial utility regulatory officials.

As noted above, the EISPC staff will be an independent unit initially within the National Regulatory Research Institute, NARUC's research affiliate. Support for this effort for contracts and grants-management capacity will come from NARUC. Based in Washington, D.C., NARUC has served state regulators since 1889 as their national association.

The affected states in the Eastern Interconnection are interested in developing a process to collectively serve the needs of consumers and meet state, regional and federal policy goals. Most states have provided letters of commitment, attached to this proposal. Finally, EISPC participants will be able to meet the programmatic results and accountability objectives of the American Recovery and Reinvestment Act of 2009 because of their joint decision to use NARUC as the applicant vehicle. NARUC is a multi-decade partner of the Department of Energy's through cooperative agreements and grants, and is well versed in the specifics of ARRA grant-management, compliance and reporting.

## **Project Management Plan**

### **A. Executive Summary**

This project plan describes the mechanisms to be employed in the implementation of Topic B activities described in DE-FOA-0000068. To accomplish the policy-maker coordination and facilitated interstate dialogue envisioned by the FOA, the applicants propose the creation of a new collaborative, the EISPC, comprising state regulators, governors' advisors, and other key government representatives, including their Canadian counterparts. This collaborative's activities will be supported by a professional staff. Over four years, the EISPC will propose studies, manage interaction between the Topic A and Topic B efforts, and create structures to ensure that interconnection-wide analyses are informed by policy priorities.

This proposal envisions that the EISPC staff will initially be a unit within the National Regulatory Research Institute (NRRI), a research-focused affiliate of NARUC. Founded in 1976 by

the National Association of Regulatory Utility Commissioners (NARUC), NRRI is now an independent, Section 501(c)(3) corporation. Its endeavors reflect dual demands: supporting commission policy-making while satisfying the highest standards of academic integrity and impartiality.

In the initial months, support for EISPC will be provided by NRRI's Executive Director, Scott Hempling, Esq. Mr. Hempling will work with the Executive Committee of EISPC to hire its staff, including a Director, and potentially an economist, a power systems engineer, and administrative support. The EISPC Director, once hired, will act to provide assistance to enable the day-to-day operations, provide analytical and other expertise to inform and improve EISPC participant decision-making, especially as it relates to the interaction with the Topic A Group. She or he will facilitate the development of the Executive Committee functions and engage EISPC participants in the work plan. EISPC views the proposed four-year funding period as but the first phase in a long-term role. The four years of funding will support EISPC's initial formation and operations, after which it is hoped that the group will be a self-sustaining effort, continuously guiding Eastern Interconnection-wide transmission planning analyses.

## **B. Risk Management**

As described above, the collaboration will be comprised of an Executive Committee supported by a director and other staff who will serve as the nucleus of the EISPC's professional staff. While the DOE funding will last four years, the states hope that this will be an on-going collaborative effort with continual refinements over time. To assure that this process endures, the states will be expecting the successful bidder for Topic A to offer similar commitments.

The Topic A effort should be complimentary to this collaborative, and the states have several milestones for interaction and plan close coordination with the Topic A Group. Because of the on-going and dynamic nature of policy and technology related to this endeavor, it is imperative that the planning studies be robust and resilient so that they can adjust to changing circumstances. Changing circumstances may result from, among other things, changes to transmission and generation infrastructure, demand-side innovations (i.e., demand response and energy efficiency), customer responsiveness and preferences, load growth, environmental requirements, renewable portfolio standards, technological developments, construction costs, siting availability and fuel costs. Updates to the assumptions, inputs, models and associated studies and scenarios will be necessary. As such, full treatment of scenario analysis and risk evaluation of key, critical assumptions will be necessary to create a robust planning regime.

To ensure that analyses continuously reflects the latest techniques, facts and preferences, states will work with their jurisdictional utilities, Regional Transmission Organizations, and others to improve load forecasts processes and consistency of underlying assumptions, data quality, as well as verification of the capabilities of supply and demand resources. States will also work with the utilities in formulating assumptions, developing meaningful scenarios, and making sure that the supply and demand resources used in the study are consistent with the utility plans. By using an impartial staff whose mission is to serve all EISPC members, the dynamic nature of the topics at hand can be accommodated and decision-making processes modified during updates as necessary.

As needed, the EISPC members will create working committees to address specific topics. The EISPC staff will answer to the membership of the EISPC directly and in particular to its Executive Committee. This dynamic structure will ensure that the collaborative continuously adjusts to manage uncertainty and dynamic change in technology, policy, and resource issues affecting the success of the project.

The states that comprise the Eastern Interconnection have varied interests, resources, agendas and priorities. They also have a variety of regulatory, cost recovery processes and the like. As such, it is imperative that the EISPC staff be objective, geographically impartial, and focused on serving the interests of this collaboration over those of any of its specific members. In order to manage interactions between the members, an EISPC Governance Committee has already met and developed a series of governance principles, described in the Merit Review Criterion #2 section, above. In addition, the diversity between states and even within state entities may have historically hindered certainty in policy. The EISPC membership of state utility regulators, governors' office representatives and other energy policy-makers encompasses the correct representatives to consider these important issues and to work with utilities, the public, and the Topic A Group. EISPC's membership and structure is specifically designed to provide for reliable and consistent policy input from the states.

### **C. Milestones**

#### **Year 1 Milestones**

- Staff hiring & establishment of organization.
- Kickoff national meeting.
- At least six additional large meetings, involving all policy-makers as detailed on the attached Gantt chart and Topic Areas 1-3.
- Additional web-based and teleconference meetings as necessary.
- Development of initial key elements for the reference case to be given to Topic A Group, including:
  - Identification and quantification of the initial assumptions, data, studies, analyses, and other modeling issues.
  - Obtaining an assessment from Topic A Group of the current transmission system, including existing constraints, and offer suggestions for analysis.
  - Definition and cataloging of current demand side programs (i.e., demand response, price response, and energy efficiency programs) and the treatment of these programs.
  - Identification and quantification of existing and potential Distributed Generation resources.
  - Determination of initial assumptions regarding environmental regulations.
  - Identification and cataloging of existing and potential environmental exclusionary zones.
  - Identification and quantification of “renewable” or “alternative” resources and “renewable energy credits” in a way that will ensure consistent treatment in studies.
- Begin reviewing the Reference Case results provided by the Topic A Group. Begin to develop iterative changes to the Reference Case assumptions.
- Participation in Topic A Group's activities, e.g. a small group of EISPC representatives travelling to the Topic A Group's Steering Committee meetings.
- Development of future scenarios to be given to Topic A Group, including the following:

- Assessment of key forecasts, data, assumptions and analysis for inclusion in the future scenarios; and
- Evaluation of the ramifications for transmission development and other resource development as a result of the various future scenarios.

### **Year 2 Milestones**

- At least four large national meetings involving all policy-makers.
- Additional web-based and teleconference meetings as necessary.
- Finalization of changes to the inputs and assumptions for the Reference Case and Future Scenario Modeling.
- Participation in Topic A Group activities, e.g. a small group of EISPC representatives travelling to the Topic A Group's Steering Committee meetings.
- Conduct studies that may include:
  - Study of potential new Renewable/Alternative Energy Zones and possible reconfiguration of existing REZs.
  - Identification of state-by-state potential for renewable or alternative energy (e.g., wind, solar, biomass, landfill, hydro, etc.) as well as imports from Canada.
  - Study of potential locations for other low and no-carbon generating resources, including natural gas, hydro-electric, nuclear (including upgrades at existing facilities), coal resources (including CCS) and oil.
  - Study of demand-side potential for each state.
  - Reassessment of environmental requirements.
  - Study of distributed generation potential in each state.
  - Assessment of the state-by-state potential for storage and waste-to-energy facilities.
  - Assessment of wholesale and retail market structures, regulatory policy, and the implications for future transmission, generation, demand-side resources, and advanced technologies.

Some of these may ultimately be delivered in Year 3.

### **Year 3 Milestones**

- At least three large national meetings involving all policy-makers.
- Additional web-based and teleconference meetings as necessary.
- Continued scenario development and evaluation
  - Reassess key data, forecasts, assumptions (including environmental), and analysis for inclusion into scenarios
  - Evaluation of the ramifications for transmission and other resources as a result of the various scenarios.
- Refinement of the reference case and evaluation of the results.
- Participation in Topic A Group activities e.g. a small group of EISPC representatives travelling to the Topic A Group's Steering Committee meetings.
- Work on whitepapers that may include (but are not limited to):
  - Renewable Energy Credits;
  - Power Purchase Agreements for renewable or alternative energy;
  - Market structure;
  - Advanced technologies (e.g., transmission, Smart Grid, electric vehicles);

- State, regional and federal policy;
- Natural gas pricing in relation to a variety of future scenarios; and
- Additional topics and refinements to existing whitepapers as deemed necessary.

Some of these whitepapers may ultimately be delivered in Year 2 and Year 4.

**Year 4 Milestones**

- At least two large national meetings involving all policy-makers.
- Additional web-based and teleconference meetings as necessary.
- Completion of remaining white papers and refinements to white papers as deemed appropriate.
- Refinement of scenarios and evaluation of results.
- Refinement of the reference case and evaluation of results.
- Evaluation of next steps for future analysis, improved data, and improved planning processes.
- Completion of analysis of wholesale and retail market policy review.
- Participation in Topic A Group activities, e.g. a small group of EISPC representatives travelling to the Topic A Group’s Steering Committee meetings.
- Review of results of planning efforts conducted by the Topic A Group.
- Attempt to reach consensus on the evaluation of Topic A Group results.
- Preparation and issuance of results.

**D. Funding and Costing Profile:**

Project Federal Funding Profile

**NARUC and Subcontractor Costs**

	<b>NARUC Direct</b>	<b>NARUC Indirect</b>	<b>NARUC total</b>	<b>Subcontractor total</b>	<b>Total</b>
Year 1	\$1,470,558	\$ 477,928.36	\$ 1,948,486	\$1,212,728	\$ 3,161,214
Year 2	\$ 774,547	\$ 658,024	\$ 1,432,572	\$2,953,626	\$ 4,386,198
Year 3	\$ 958,933	\$ 701,956	\$ 1,660,890	\$3,014,708	\$ 4,675,597
Year 4	\$ 907,245	\$ 390,436	\$ 1,297,681	\$1,259,712	\$ 2,557,393
				<b>TOTAL</b>	<b>\$ 14,780,402</b>

More detail is available in Attachment B, the Project Budget Justification, and the SF424A budget file for this application.

**Project Costing Profile**

<b>Year</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>
<b>October</b>	\$263,434	\$365,516	\$389,633	\$213,116
<b>November</b>	\$263,434	\$365,516	\$389,633	\$213,116
<b>December</b>	\$263,434	\$365,516	\$389,633	\$213,116
<b>January</b>	\$263,434	\$365,516	\$389,633	\$213,116
<b>February</b>	\$263,434	\$365,516	\$389,633	\$213,116
<b>March</b>	\$263,434	\$365,516	\$389,633	\$213,116
<b>April</b>	\$263,434	\$365,516	\$389,633	\$213,116
<b>May</b>	\$263,434	\$365,516	\$389,633	\$213,116
<b>June</b>	\$263,434	\$365,516	\$389,633	\$213,116
<b>July</b>	\$263,434	\$365,516	\$389,633	\$213,116
<b>August</b>	\$263,434	\$365,516	\$389,633	\$213,116
<b>September</b>	\$263,434	\$365,516	\$389,633	\$213,116
<b>Total</b>	\$3,161,214	\$4,386,198	\$4,675,597	\$2,557,393

**E. Project Timeline:**

<b>Task/Year</b>	<b>2009-2010</b>	<b>2010-2011</b>	<b>2011 - 2012</b>	<b>2012-2013</b>
Task 1: Organizational Development	X			
Task 2: Developing Modeling Inputs	X			
Task 3: Feedback on Inputs	X	X		
Task 4: Conduct Studies	X	X	X	X
Task 5: Prepare Whitepapers	X	X	X	X
Task 6: Revisions			X	
Task 7: Results Evaluation			X	X
Task 8: Coordination with Topic A Group	X	X	X	X

For greater detail please see the Project Timeline Gantt chart included within this application. The Gantt chart provides a timeline for the project broken down by task and subtask.

**F. Success Criteria at Decision Points:**

NARUC and NRRI will each provide oversight and input to different aspects of success in this endeavor. NRRI’s oversight will be by its Executive Director to ensure that the staff is responsive to EISPIC’s needs. NARUC will ensure that all grant functions and accountability are

undertaken. In EISPC's reporting to the funder, NARUC and NRRI will assist EISPC by jointly assessing and reporting at key decision points whether success criteria are being met. These shall include:

- Are coordination events on schedule and proceeding?
- Are key participants involved?
- Are consensus milestones being reached?
- Are deliverables being provided in a timely and complete manner?
- Are the Topic A Group outcomes being affected?

At key decision points, reporting to the funder will indicate the degree to which these success criteria are being met. This will also require an assessment of upcoming milestones, any perceived issues in meeting them, and actions being taken in order to overcome any obstacles to success.

### **Relevance and Outcomes/Impacts:**

As discussed in the Project Management Plan, the outcomes of the Topic B program will facilitate the success of the Eastern Interconnection-wide planning processes described under Topic A. Moreover, Interconnection-wide collaboration on the policies underpinning the deployment of regionally beneficial infrastructure is unexplored territory. Federal support for this effort will be invaluable, as states plot the best coordinated (or at least regionally informed) strategies for broader grid modernization. The initiative will also allow the regulators in the Eastern Interconnection to gather state-specific data that will assist not only in the interconnection-wide study, but also in their own state decisions relating to renewable and/or alternative energy and no- and low- carbon sources.

In addition to facilitating the success of the Topic A Group's Interconnection-wide study, EISPC has the potential to reveal common interests among stakeholders. Further, if the effort contributes to an environment where needed resources – including customer response – find a timely and cost-effective place in the power system, the reduction in risk will benefit both investors and customers. Risk reduction in electric markets can, in turn, have multiple benefits: reduction in the financial risk arising from more stringent environmental regulations, reduction in generation reserve requirements, and more economic utilization of resources over the entire Eastern Interconnection.

### **Roles of Participants:**

Initially, EISPC's activities will move forward through three primary actors: the participants from the states of the Eastern Interconnection, the professional staff initially at NRRI (who will provide the EISPC participants in the states the tools and institutional support to move towards consensus), and the staff of NARUC (who will provide the link to the DOE and ensure that all activities take place within the appropriate confines of the funding vehicle and the ARRA).

EISPC participants have already convened several times. They include regulators, governors' representatives, energy offices, and other state agency stakeholders from most of the 41 states in the Eastern Interconnection, representing every region, market-type, and resource base. Led by Commissioner Lauren Azar of Wisconsin (President of the Organization of MISO States) and Chairman Doug Nazarian of Maryland (President of the Organization of PJM States), this group also has strong support from commissions in the Northeast, Mid-Atlantic, Mid-west, and Southeast, as



well as participation from key players such as the Southern States Energy Board, the National Association of State Energy Officials and the National Governors Association. Moving forward, efforts will continue to engage Canadian representatives as ex-officio participants in EISPC's activities.

Initially, NRRI's Executive Director will serve to support this collaboration as it engages in Task 1, organizational development, and hires a staff made up of a Director with strong facilitation and substantive background, administrative support staff, and possibly an economist and power systems engineer.

NARUC's Grants & Research Department will be the vehicle for administering and managing ARRA funding, reporting, and grants compliance. NARUC's Director of Grants & research has been intimately involved in developing programs that will be funded by ARRA money and is familiar with the reporting, accountability, and other requirements posed by ARRA. NARUC is a multi-decade partner of the Department of Energy, working through cooperative agreements and grants and other mechanisms, and is well versed in the specifics of ARRA grant-management, compliance and reporting.

**Multiple Principal Investigators:**

Although NARUC will be acting as single principal investigator (PI), via the EISPC Director initially at NRRI, EISPC participants themselves will develop more detailed governance structures which will determine the approach used to manage:

- process for making decisions on scientific/technical direction,
- publications,
- intellectual property issues,
- communication plans,
- procedures for resolving conflicts, and
- PIs' roles and administrative, technical, and scientific responsibilities for the project.

A Governance Committee has already met and agreed to a set of principles upon which these more detailed structures depend. The members' governance principles are included in the Merit Review Criterion Discussion, Criterion 2, Technical Approach & Project Management, of this proposal.

**Facilities And Other Resources:**

The collaborative will initially use the sites and facilities of the NRRI, the state agencies of the EISPC member states within the Eastern Interconnection, and the Washington, DC offices of NARUC for its staff. In addition, other consultants that are used via subcontract shall be responsible for using their own facilities.

**Equipment:**

Any equipment acquired for the project will constitute office equipment required in out years,

such as computers and printers. No additional equipment is envisioned for near-term NARUC and NRRI use or for EISPC participant use or use by consultants hired to facilitate the operation of the collaborative.

**Bibliography And References, If Applicable:**

N/A.

# **Statement Of Project Objectives**

## **The Eastern Interconnection States' Planning Council**

### **A. OBJECTIVES**

At its origins a century ago, the electric industry comprised hundreds of disconnected local distribution companies. It has evolved into a combination of regional markets, regional transmission organizations, competitive and noncompetitive models, and any number of players, ranging from vertically integrated companies to distribution-only companies, from local utilities to a 12-state holding company system. What does not exist is interconnection-wide coordination and planning in the Eastern Interconnection.

There now is interest in interconnection-wide planning due to new market, technology, policy, and environmental drivers. Because the Eastern Interconnection's affected states have a variety of resources, interests, market types, and infrastructures, this project uses a collaborative approach to facilitate coordination and consensus-building around interconnection-wide transmission planning. The release of \$60 million to support interconnection-wide planning creates an opportunity that previously existed only in concept: an Interconnection-wide sharing of assumptions, data, scenarios and modeling efforts, with the potential for coordinated activities that avoid duplication, make more economic use of existing infrastructure, avoid unnecessary infrastructure, and target new infrastructure for those purposes that will make the most improvements.

The state government participants engaged in this proposal are committed to developing an active discussion among decision-makers, informed by objectivity, trust, open-mindedness and, where facts support it, decisiveness.

### **B. SCOPE OF WORK**

This project will create and operate a new collaboration among state and provincial representatives, including utility regulatory commissions and Governors' offices, to facilitate dialogue and collaboration among the states and provinces in the Eastern Interconnection and thus enable them to develop more consistent and coordinated input and guidance for the regional and interconnection-level analyses and planning that will be done under Topic A. This collaborative, EISPC, seeks support for its first four years of effort, after which it is hoped that EISPC will become self-sustaining.

EISPC will be supported by a professional staff, which will be an independent and cohesive unit initially within the National Regulatory Research Institute but directly accountable to EISPC. EISPC will also obtain support from the National Association of Regulatory Utility Commissioners.

### **C. TASKS TO BE PERFORMED**

The tasks that will be taken on to accomplish the scope of work are described in detail below. The collaboration proposed will engage in eight major tasks over four budget periods to address topic areas identified in DE-FOA-0000068:

1. Develop the new organization (including implementing the EISPC participants' decision-making processes and protocols, establishing and acting on staffing needs, budget requirements, institutional arrangements to ensure expert and infrastructural support of the new staff, and methods to ensure the accountability of the staff).
2. Take all reasonable actions to reach consensus on an initial set of modeling inputs and future scenarios.
3. Take all reasonable actions to reach consensus on feedback to the Topic A Group's initial modeling results for the resource expansion plans and production cost modeling.
4. Conduct studies, which will facilitate further refinement to the modeling.
5. Prepare whitepapers to assist both in refinements to the modeling and to add context to EISPC's evaluation of the final results.
6. Attempt to reach consensus on revisions to the modeling inputs and future scenarios for iterative modeling runs.
7. Attempt to reach consensus on the evaluation of the final Topic A Group's results.
8. Participate in Topic A Group activities.

Each task is considered in detail below.

1. Organizational Development (September 2009 – October 2010):
  - A. Form an Executive Committee
  - B. Develop an organizational structure
  - C. Begin job search and hire an EISPC Director and set up of office space initially within the NRRI offices.
  - D. Begin search for and potentially hire Administrative Assistant, Power Systems Engineer, and an Economist.
  - E. Identify key stakeholders that need to be involved in the collaborative effort, develop a detailed work plan, assessment of issues such as the ability to obtain and protect confidential information required to conduct the studies.
2. Reach consensus on modeling inputs and future scenarios (March 2010 – August 2010)
  - A. Define the "Planning Horizon" (e.g., 10, 15, 20, 30, 50 years) to be used in the preparation of the various scenarios.
  - B. Define the parameters for the "Reference Case." By way of examples:
    - Define the Reference Case. Should this be considered as the "Business as Usual Case?"
    - Define at what point in the planning process a resource should be included in the Reference Case as opposed to a future case.
    - Define how pending legislation or rulemakings will be addressed in the Reference Case.
    - Define current renewable or alternative energy zones.
  - C. For the Reference Case and Scenario Analysis, compile the energy and demand forecasts to be used by the Topic A Group. This should include an evaluation of the forecasts for credibility and consistency as well as the various forecasting methodologies.

- D. Assess fuel escalation rates, forecasted increases in fixed costs associated with construction of new facilities, forecasted maintenance costs, forecasted rates of inflation and capital costs, etc.
  - E. Catalogue current demand side resources (i.e., demand response, price response, and energy efficiency programs) and distributed generation resources and their effect on energy and demand forecasts and the attendant affects on production costing and resource planning.
  - F. Make an initial recommendation concerning environmental costs (e.g., NO<sub>x</sub>, SO<sub>x</sub>, mercury, carbon, and water) in the Topic A Group's initial analysis. Cataloging existing and potential environmental exclusionary zones should be done in this phase.
  - G. Define "renewable" and/or "alternative" resources to ensure consistent treatment in the studies. EISPC will then compile Renewable Resource Standards for each state and attempt to achieve a consensus in the treatment of "Renewable Energy Credits" in the conduct of the studies.
  - H. Attempt to reach a consensus in the treatment of retirements of resources (e.g., due to more stringent environmental rules, age, condition) in the Reference Case.
3. Reach consensus on feedback to the Topic A Group's initial modeling results for the resource expansion plans, production cost modeling and the results. (September 2010 - November 2011)

This will include:

After receiving preliminary results from the Topic A Group on both the reference case and future scenarios, refine inputs and assumptions as necessary and present to the Topic A Group.

4. Conduct studies to facilitate further refinement of the modeling inputs and future scenarios (September 2010 - December 2012 - staged according to need)

The following is an indicative list of the types of studies that may be performed. The policy-makers that make up EISPC will determine which specific studies will be performed as the process moves forward. The list of potential studies includes:

- A. An opportunity for states to reevaluate or reconfigure Renewable Energy Zones.
- B. Identification of state-by-state potential for renewable or alternative energy (e.g., wind, solar, biomass, landfill, hydro and etc) as well as imports from Canada.
- C. Assessment of the location of new nuclear facilities and uprating existing nuclear resources.
- D. Assessment of coal potential including carbon capture and storage.

- E. Identification of state-by-state potential for demand-side resources. This would include: price responsive demand, peak demand management (including customer-owned energy storage), and energy efficiency.
  - F. Identification of state-by-state potential for distributed generation.
  - G. Assessment of the state-by-state potential for storage and waste-to-energy facilities.
  - H. Assessment of state-by-state potential for rapid-startup fossil back-up generation.
  - I. Assessment of gas and other fuel price issues.
  - J. Other issues as identified by EISPC.
5. Prepare whitepapers to assist in both the modeling inputs and future scenarios, and in our final evaluation of the results of the alternative futures. (September 2010 - June 2012 – staged according to need)

The following is an indicative list of the types of whitepapers that may be prepared. The policy-makers that make up EISPC will determine which specific whitepapers will be developed as the process moves forward. The list of potential whitepapers includes:

- A. **Renewable/Alternative Energy White Paper:** Among other things, this Paper will attempt to estimate the potential Renewable Energy Values that will be used in the formulation of scenarios and the effect on resource selection.
- B. **Market Structures Whitepaper:** Identify relevant market structures on a state and regional basis (particularly in the economic context) for new resource development. This whitepaper may also describe transmission planning processes and responsibilities used within each market context and evaluate the potential impact on market development of an interconnection-wide planning and development.
- C. **Power Purchase Agreements for Renewables Whitepaper –** investigate the financial implications for regulated utilities due to substantial purchases of power from renewable or alternative energy sources.
- D. **State, Regional and Federal Policy Whitepaper:** prepare a whitepaper that would catalog the existing state, regional and federal policies that may impact transmission planning and development.
- E. **Smart Grid Whitepaper:** identify the potential smart grid and the development of one or more scenarios.
- F. **PHEV Whitepaper:** Describe the future potential for Plug-In Hybrid Electric Vehicles and one or more scenarios.

- G. Consideration of Economic Uncertainties / Risk and the potential impact on resource expansion plans, as well as state statutes / rules that may ameliorate or increase uncertainties such as CWIP/AFUDC, recovery of costs associated with emerging technologies such as nuclear and clean coal, and state-specific economic incentives or disincentives.
- H. Consideration of other Incentives and Disincentives for Resource Development. This would include “traditional” generation technologies, distributed generation, transmission, renewable or alternative energy, DSM, energy storage, Smart Grid, and etc.

6. Attempt to reach consensus on revisions to the modeling inputs and future scenarios.  
(January 2011 – end)

Once EISPC receives initial feedback from the Topic A Group, revisions will be made based on changes in legislation, the economy, technology, and external factors. Since this is an iterative process, these refinements will be key to ensuring updated studies.

7. Attempt to reach consensus on or final evaluation of the results of the alternative futures  
(January 2012 – end)

In making every effort to achieve consensus, the EISPC participants will consider all the white papers and studies developed as part of this process in order to inform the evaluation of alternatives, including:

- A. Reliability and economic implications of various resource portfolio scenarios. This would include the potential for reduced reserve margins, reducing congestion and losses resulting from potential new transmission, upgrades of existing facilities, and enhancements of the underlying transmission systems.
- B. Economic Development related to manufacturing, construction and post construction.

The EISPC participants will create a written report summarizing this final analysis.

- 8. Participate in Topic A Group Activities. (Beginning-End)
  - A. Representatives from the Council will participate in the Topic A Group’s Steering Committee.
  - B. EISPC’s in-house transmission planner will oversee all of the Topic A Group’s modeling and planning efforts.
  - C. Participate in Topic A Group’s Stakeholder Process.
  - D. Coordinate with Topic A Group for the rollout of the results.

## **D. DELIVERABLES**

- 1. Organizational Development (September 2009 – January 2010):
  - Job descriptions for key EISPC staff
  - Detailed work plan
  - Confidential information agreement

2. Attempt to reach consensus on modeling inputs and future scenarios (March 2010 – August 2010)
  - Meeting materials (agendas, participants, etc.)
  - Initial set of inputs for Reference Case and future scenarios.
3. Attempt to reach consensus on feedback to the Topic A Group’s initial modeling results for the resource expansion plans and production cost modeling. (September 2010 – November 2010)
  - Feedback report to Topic A Group on refinements to the initial reference case results.
  - Feedback report to Topic A Group on refinements to the initial future scenario results.
4. Conduct studies to facilitate further refinement of the modeling inputs and future scenarios (June 2010 - December 2012)
  - Written reports for each study. See listing on the Gantt Chart.
5. Prepare whitepapers to assist in both the modeling inputs and future scenarios, and in our final evaluation of the results of the alternative futures. (September 2010 - June 2012)
  - Written whitepapers. See listing on the Gantt Chart.
6. Move toward consensus on revisions to the modeling inputs and future scenarios. (January 2011 – end)
  - Meeting materials (agendas, participants, outputs, etc.)
  - Feedback reports submitted to the Topic A Group to refine inputs and assumptions for modeling.
7. Move toward consensus on/ final evaluation of the results of the alternative futures (January 2012 – end)
  - Meeting materials (agendas, participants, outputs, etc.)
  - Written report summarizing the final analysis.
8. Participate in Topic A Group Activities. (Beginning to end)
  - Meeting materials for Topic A Group’s Steering Committee. (agendas, participants, outputs, etc.)
  - Meeting materials for Topic A Group’s Stakeholder Process (agendas, participants, outputs, etc.)
  - Press releases for the rollout of the results.

## **E. CONCLUSION**

The states believe the Eastern Interconnection States’ Planning Council will capitalize on the best practices of existing and emerging efforts and extend new benefits and insights across the entire Eastern Interconnection. This type of effort demonstrates the best structure to produce a result that we hope will bring substantial benefits to the nation. And, with the key Eastern Interconnect representatives involved in developing modeling inputs and future scenarios relying on the



experience of all the other planning processes, this collaboration will produce information needed for success in meeting our state, regional and national energy goals.

Regardless of the outcome, the importance of the dialogue itself cannot be overstated. As states have not previously collaborated on an Eastern Interconnection-wide basis, this process will serve to identify areas of agreement and potential solutions to conflict. In addition, the studies developed will be useful not only to the broader regional and national goals, but vitally useful to states as we pursue the best outcomes for ratepayer citizens in our own states. The participants of this collaborative eagerly await the opportunity.

## Summary of Required Forms/Files

Your application must include the following documents:

<b>Name of Document</b>	<b>Format</b>	<b>File Name</b>	<b>STATUS</b>
Application for Federal Assistance – SF424	Form	N/A	Not started (1/4 day)
Project/Performance Site Location(s)	Form	N/A	Not Started (1/4 day)
Other Attachments Form: Attach the following files to this form:	Form	N/A	
Project Narrative File (page limit 35 pages)	PDF	Project.pdf*	Drafted
Project Management Plan	PDF	Pmp.pdf	Drafted
Project Summary/Abstract File	PDF	Summary.pdf	Drafted
Resume File	PDF	Bio.pdf	Collecting resumes
SF 424A File - Budget Information for Non-Construction Programs	Excel	SF424A.xls	Not started
Budget Justification File	PDF	Budget.pdf	Begun, needs 3-4 more days at least
Subaward Budget File(s)	Excel	See Instructions	Not started
Budget for FFRDC Contractor, if applicable	PDF	See Instructions	Not needed
Commitment Letters	PDF	Commit.pdf	Being collected
SF-LLL Disclosure of Lobbying Activities, if applicable.	Form	N/A	N/A

\* Applicants must identify the topic and interconnection for which they are applying in the file name and in the project Narrative. For example an applicant proposing under Topic B work for the Eastern Interconnection should label the Project Narrative file “Project\_B\_Eastern.pdf.” Each application must a unique title.