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Attachments: The Way Forward 060611 (public) FinalA2.pdf; FSC Charter 060811.docx

In the aftermath of the March nuclear accident in Japan, the leadership of the U.S. nuclear energy industry has developed a comprehensive plan to guide and coordinate industry efforts. Attached for your information is *The Way Forward: U.S. Industry Leadership in Response to the Fukushima Daiichi Nuclear Accidents.* This document provides a description of our strategic goals, guiding principles, key stakeholders, and the structure and governance for the effort, which includes the related activities of NEI, INPO, EPRI and the NSSS Owners Groups.

Also attached for your information is the charter of the industry's Fukushima Response Steering Committee, which developed *The Way Forward* document and will provide direction and oversight of industry implementation. The Steering Committee is chaired by Chip Pardee of Exelon and the membership includes senior executives and chief nuclear officers from the industry organizations and several utilities.

We look forward to interactions with the NRC as we apply the lessons learned from Fukushima to our plants. If you have any questions regarding the attached documents, please contact me.

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THE WAY FORWARD

U.S. Industry Leadership in Response to Events at the Fukushima Daiichi Nuclear Power Plant

NEI® NUCLEAR ENERGY INSTITUTE

INPO®

EPRI ELECTRIC POWER RESEARCH INSTITUTE

June 8, 2011

1. EXECUTIVE SUMMARY

The earthquake and tsunami in Japan on March 11, 2011 and subsequent nuclear accident at Tokyo Electric Power Co.'s Fukushima Daiichi nuclear power plant have resulted in worldwide attention toward nuclear energy safety. The leadership of the U.S. commercial nuclear industry is dedicated to gaining a deep understanding of the events at Fukushima Daiichi and to taking the necessary actions to improve safety and emergency preparedness at America's nuclear energy facilities.

The Electric Power Research Institute (EPRI), Institute of Nuclear Power Operations (INPO), and Nuclear Energy Institute (NEI), in conjunction with senior utility executives, have created a joint leadership model to integrate and coordinate the U.S. nuclear industry's response to events at the Fukushima Daiichi nuclear energy facility. This will ensure that lessons learned are identified and well understood, and that response actions are effectively coordinated and implemented throughout the industry. This must be accomplished while electric companies continue to ensure that the safe and reliable operation of commercial reactors is our highest priority. This effort will not diminish the independent roles of the industry support groups, such as the role of INPO to promote the highest levels of safety in U.S. commercial reactors, as actions are taken to fulfill their missions.

An important and integral aspect of the industry's response is the awareness and involvement of the industry's many stakeholders, including industry vendors, architect-engineering companies, industry owners' groups and national consensus nuclear standards organizations. This will ensure that the interests of each stakeholder group are considered, understood and communicated to the public and policymakers.

A comprehensive investigation of the events at Fukushima Daiichi will take considerable time. Yet, there is also a need to act in a deliberate and decisive manner. Recognizing this, America's nuclear energy industry is taking action based on a preliminary understanding of the events. The industry's response is structured to ensure that emergency response strategies are updated based on new information and insights learned during subsequent event reviews.

Separately, the U.S. Nuclear Regulatory Commission (NRC) is conducting an independent assessment and will consider actions to ensure that its regulations reflect lessons learned from the Fukushima events. The industry's response will ensure that the NRC and industry remain informed of each other's respective activities so that any new regulatory requirements are implemented in the most efficient and effective manner.

This strategic overview describes how the industry will approach this challenge and is intended to serve as a reference point for the future. It articulates strategic goals and key stakeholders for the industry's integrated response. In addition, this overview describes the respective roles and coordination of industry organizations in managing the discrete elements of a comprehensive U.S. industry response plan.

2. STRATEGIC GOALS

The primary objective is to improve nuclear safety by learning and applying the lessons from the Fukushima Daiichi nuclear accident. In response, the U.S. nuclear industry has established the following strategic goals to maintain, and where necessary, provide added defense in depth for critical safety functions, such as reactor core cooling, spent fuel storage pool cooling and containment integrity:

1. The nuclear workforce remains focused on safety and operational excellence at all plants, particularly in light of the increased work that the response to the Fukushima event will represent.

2. Timelines for emergency response capability to ensure continued core cooling, containment integrity and spent fuel storage pool cooling are synchronized to preclude fuel damage following station blackout.

3. The U.S. nuclear industry is capable of responding effectively to any significant event in the U.S. with the response being scalable to support an international event, as appropriate.

4. Severe accident management guidelines, security response strategies (B.5.b), and external event response plans are effectively integrated to ensure nuclear energy facilities are capable of a symptom-based response to events that could impact multiple reactors at a single site.

5. Margins for protection from external events are sufficient based on the latest hazards analyses and historical data.

6. Spent fuel pool cooling and makeup functions are fully protective during periods of high heat load in the spent fuel pool and during extended station blackout conditions.

7. Primary containment protective strategies can effectively manage and mitigate post-accident conditions, including elevated pressure and hydrogen concentrations.

3. GUIDING PRINCIPLES

To achieve our strategic goals, the industry has established principles to guide the development of its response actions. These principles will be used to guide the resolution of issues and plant improvements and will ensure that a consistent expectation is established for incorporating lessons into the operations at each site. The strategic response actions will be designed to:

1. Ensure equipment and guidance, enhanced as appropriate, result in improvements in response effectiveness.

2. Address guidance, equipment and training to ensure long-term viability of safety improvements.

3. Develop response strategies that are performance-based, risk-informed and account for unique site characteristics.

4. Maintain a strong interface with federal regulators to ensure regulatory actions are consistent with safety significance and that compliance can be achieved in an efficient manner.

5. Coordinate with federal, state and local government and their emergency response organizations on industry actions to improve overall emergency response effectiveness.

6. Communicate aggressively the forthright approach the U.S. industry is taking to implement the lessons from the Fukushima Daiichi accident.

4. STAKEHOLDERS AND DESIRED OUTCOMES

The industry's strategic goals will be achieved by proactively engaging a variety of stakeholders.

General Public

The industry will ensure that the general public is well-informed of the collective approach in response to the Fukushima accidents. Special attention will be paid to engaging stakeholders (residents, elected officials and other stakeholders) immediately surrounding nuclear energy facilities to maintain confidence in their plant's continued safe operations and ability to protect public health and safety.

Employees

The industry will provide information to its employees to understand the operating experience from Fukushima as part of their training to execute their jobs with excellence and be advocates for nuclear safety.

Emergency Response Organizations

The industry will continue to communicate and cooperate with federal, state and local emergency response organizations and government entities to ensure that emergency response plans reflect the lessons learned from the Fukushima Strategic Response Plan. These organizations include, but are not limited to, state and local police; fire officials; health officials/paramedics; federal, state and local governments; and transportation companies. Interactions will be focused on increasing confidence in the industry's and local government emergency preparedness programs.

Industry

Utilities, industry vendors and owners groups, architect-engineers, manufacturers and companies and organizations involved in the nuclear fuel cycle, working as a collective worldwide industry, will continue to strive for operational excellence. These actions and goals will continue the ongoing contribution to the legacy of safe, reliable, environmentally responsible production of electricity at nuclear energy facilities. The industry will work with all interested parties to ensure the benefits of nuclear energy for future generations.

Regulators

The industry will maintain relationships with federal and state regulators to ensure the industry participates in the regulatory process and can effectively implement any regulatory changes.

Technical Partners

The industry will continue to collaborate with technical associations and organizations to ensure information is disseminated and understood by all interested parties so that the benefits and positions of nuclear energy are appreciated and support the industry's long-term objectives.

Policymakers and Opinion Leaders

The industry will proactively communicate lessons learned and industry actions such that policy and opinion leaders at the local, state and national level recognize the proactive, unwavering industry response to the Fukushima accident. The industry will continue to focus on improving confidence in the safety of U.S. nuclear energy facilities and assuring support for industry legislative proposals and programs that enhance safety.

International Community

The U.S. nuclear industry will interact with international nuclear energy companies and organizations to compile and assess recommendations and actions for applicability to U.S. facilities and to make the international industry aware of U.S. improvements.

5. LEADERSHIP MODEL OVERVIEW

The nuclear industry has successfully demonstrated the ability to identify and manage the response to various issues in a coordinated manner. Under normal circumstances, the structures are in place to successfully coordinate the response to significant issues among key industry groups. For the response to the Fukushima event, however, there is a need for a greater level of coordination with the number and complexity of potential issues that are identified by each of the key industry groups. As a result, we have developed a coordinating framework for the development and execution of actions in response to the lessons of the Fukushima event.

The leadership model is based on the following elements:

- **Organization** – clear division of responsibilities among the involved parties. An industry steering committee will provide strategic direction and oversight. Ownership for analysis and execution will be organized around the industry's seven building blocks based on the type of issue being addressed.

- **Event Response Process** – each industry organization (*see chart on page 9*) is responsible for identifying issues, plant and process improvements, and regulatory reviews of the Fukushima events. Issue descriptions, including action plans and recommendations, will be developed to implement improvements. The steering committee will approve the actions and designate an industry organization and building block to lead and implement the action to resolution.

- **Issue Action Plans** – action plans with schedules and resource management tools will be developed and executed for each issue within its assigned building block.

- **Strategic Response Plan** – all issues assigned to the seven building blocks constitute the nuclear industry's response. The action plans will be summarized by building block to form the strategic response plan.

- **Execution Oversight and Status Tracking** – each industry organization and its building block(s) will regularly report the status of all issues to the steering committee.

Building Blocks

The leadership model is organized around seven areas called building blocks. Building blocks are temporary organizations created to develop and execute action plans for issues assigned to them by the steering committee. Building blocks led by an individual assigned by the industry organization will consist of assigned managers and designated personnel from the industry organizations, utilities, and suppliers. Building block oversight is provided by the steering committee, lead industry organization, and the assigned steering committee sponsor.

The seven building blocks along with the lead organization(s) and focus are identified below:

1. **Maintain Focus on Excellence in Existing Plant Performance (INPO):** focus on continued performance improvement of U.S. reactors.

2. **Develop and Issue Lessons Learned from the Fukushima Events (INPO):** focus on comprehensive analysis of the Fukushima event and that lessons learned are applied to the U.S. nuclear industry and shared with the World Association of Nuclear Operators (WANO).

3. **Improve the Effectiveness of U.S. Industry Response Capability to Global Nuclear Events (INPO/NEI):** focus on identified lessons learned from the U.S. industry response to the Fukushima event, allowing for more effective integrated response to future events.

4. **Develop and Implement a Strategic Communications Plan (NEI):** focus on managing the industry's strategic communications and outreach campaigns to recover policymaker and public support for nuclear energy.

5. **Develop and Implement the Industry's Regulatory Response (NEI):** focus on managing the industry's regulatory interactions and resolution of applicable industry regulatory issues from the incident.

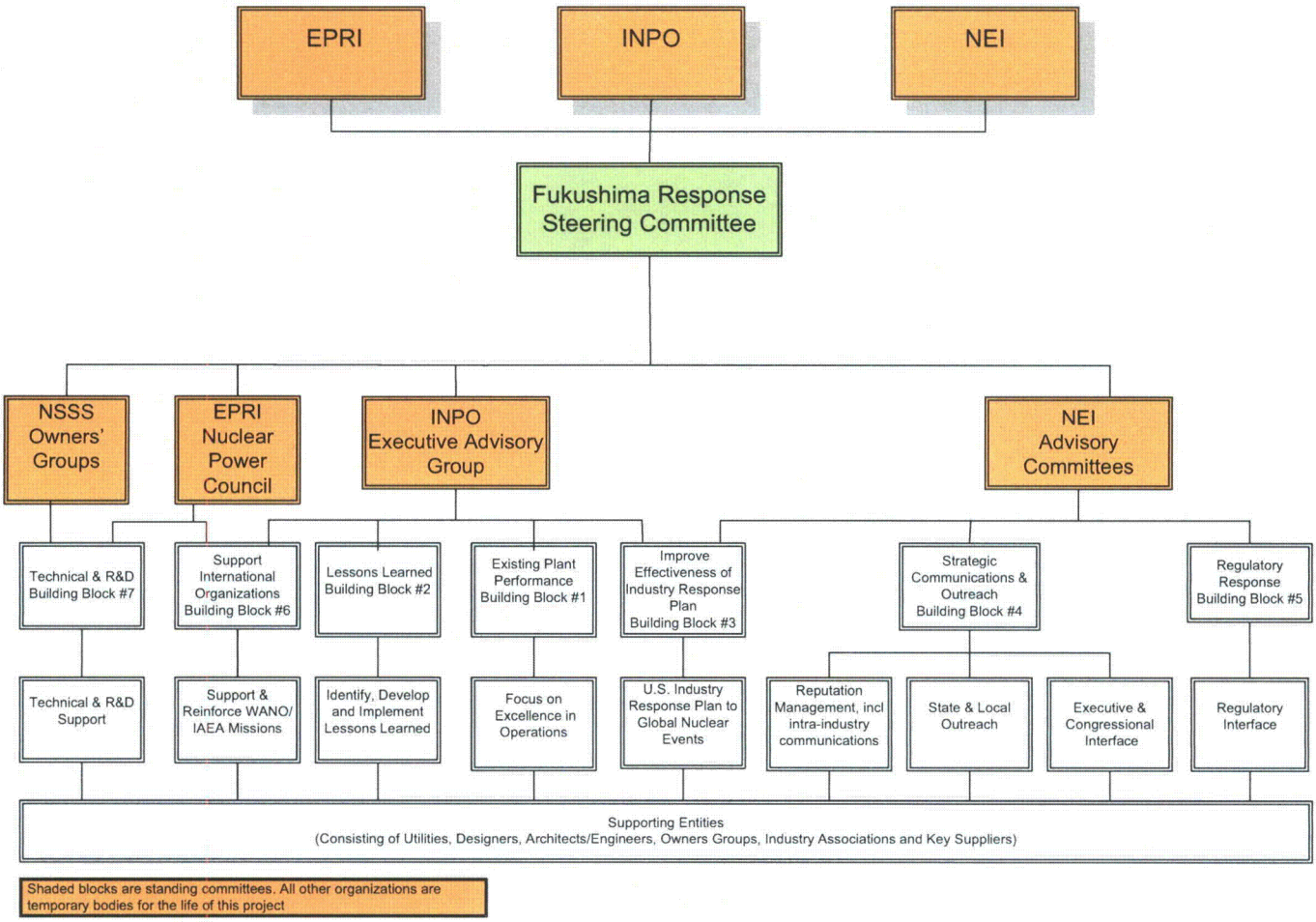
6. **Participate and Coordinate with International Organizations (INPO/EPRI):** focus on ensuring the results from international investigations are captured and effectively used to inform actions with the other building blocks.

7. **Provide Technical Support and R&D Coordination (EPRI/NSSS Owners' Groups):** focus on existing technical solutions and research and development activities and deliverables necessary to address recommended actions of this plan.

Each building block will be supported by nuclear and, in specific instances, non-nuclear industry organizations and companies, where specific technical, operational or other expertise is required.

6. LEADERSHIP RESPONSE ORGANIZATION AND BUILDING BLOCKS

The leadership model structure involves many industry participants and is outlined below:



Fukushima Response Steering Committee Charter

The U.S. nuclear industry has formed a Fukushima Response Steering Committee to coordinate the industry's overall response to the accident at Japan's Fukushima Daiichi nuclear plant. The steering committee is comprised of the chairpersons of the principal advisory groups to the industry associations (EPRI, INPO and NEI), a representative cross section of chief nuclear officers and executives from EPRI, INPO and NEI.

Members

- Chip Pardee, Chief Operating Officer, Exelon Generation Company, NEI NSIAC Chair, Fukushima Response Steering Committee Chairman
- Randy Edington, Executive Vice President and Chief Nuclear Officer, Arizona Public Service Company, INPO EAG Chair
- Maria Korsnick, Chief Nuclear Officer and Chief Operating Officer, Constellation Energy Nuclear Group, EPRI NPC Chair
- John Herron, President, Chief Executive Officer and Chief Nuclear Officer, Entergy Nuclear
- Ed Halpin, President and Chief Executive Officer, STP Nuclear Operating Company
- Dave Heacock, President and Chief Nuclear Officer, Dominion Nuclear
- Dennis Koehl, Vice President and Chief Nuclear Officer, Xcel Energy
- Mike Pacilio, Chief Nuclear Officer, Exelon Corporation
- Bill Webster, Senior Vice President, Industry Evaluations, INPO
- Rick Purcell, Senior Vice President, Industry Performance Improvement, INPO
- Neil Wilmshurst, Vice President and Chief Nuclear Officer, EPRI
- Tony Pietrangelo, Senior Vice President and Chief Nuclear Officer, NEI

The steering committee is chartered to:

1. Develop a strategic plan that articulates the strategic goals, structure and process for defining the industry's overall response to Fukushima;

2. Ensure that identified issues are appropriately coordinated between industry organizations and that lead and supporting roles are established; and

3. Monitor the status of action plans on key issues to ensure priorities and schedules are consistent with the strategic plan and that the overall impact on operating plants is balanced and appropriate to the industry's prime focus, excellence in safe operations.

Notes:

1. The development and management of actions plans for identified issues will be implemented under the purview and governance of the lead industry organization.

2. The formation of this steering committee shall in no way diminish the independent roles of the industry support groups as they take the actions necessary to fulfill their missions.

3. The steering committee chairman will assess the continued need for the steering committee at the conclusion of 2011, and every six months thereafter. A report will be made to the leadership of INPO, EPRI and NEI.