NEAC
International Subcommittee Report

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Externalities of Nuclear Power

Important International Considerations

- **Safety – because of the potential impact that severe accidents can have globally**
- **Energy security – particularly in countries with little domestic energy resources**
- **Reduction of green house gases – impact on global warming, severe weather, and flooding of coastal areas**
- **Proliferation – particularly as it relates to the construction of sensitive nuclear fuel cycle facilities**

Externalities are Primarily Geopolitical Considerations

- **Potential impacts are long term, considering the total "lifetime" of a commercial nuclear power plant**
- **The geopolitical situation today will not be the same in future decades and certainly not a century from now**
- **U.S. government processes must acknowledge the new realities of the global industry where there are many international suppliers of nuclear power plants and fuel cycle services**
- **U.S. government nuclear strategy must be one of engagement in the international marketplace, and build on the strengths that the U.S. still retains at our national laboratories, universities, NRC, and major suppliers**

DOE NE Charge to the NEAC International Subcommittee

- **Review the full scope of NE-6 international activities in order to evaluate:**
  - **How to most effectively use limited program resources in engaging international agreements in a prioritized and synergistic manner**
  - **Multilateral and regional approaches to advancing commercially based comprehensive fuel services**
  - **How to most effectively support U.S. nuclear exports and overall U.S. international nuclear commercial leadership as part of the "Team USA" approach**

Recommendations by the NEAC International Subcommittee #1

- **Proactively project U.S. nuclear energy leadership through enhanced nuclear technology education, safety and safeguards training, collaborative R&D, and regulatory collaboration and training; key elements of this are recommendation are:**
  - **Be initiated early, e.g., when nuclear power program intentions are being discussed**
  - **Be funded through a collaborative effort by government and non-government sources**
  - **Be geared to building the infrastructure needed to have a safe, secure, and effective nuclear power program**

Recommendations by the NEAC International Subcommittee #1 (cont'd)

- **DOE should issue a Request for Proposal (RFP) to:**
  - **Select an entity that can collect the training and education capabilities and offerings that already exist among the nuclear industry and organize the information into a comprehensive and coordinated program**
  - **Task the selected entity to develop a model project to offer this program to new entrant/newcomer nuclear countries**
  - **Task the selected entity to develop a fund raising process (e.g., similar to the Fulbright approach), identify potential funding sources, and solicit funding to provide a sustainable program**
  - **Find or establish an independent company or organization that would deliver this program to new entrant countries**

Recommendations by the NEAC
International Subcommittee #2

- **Give greater confidence to new nuclear power entrants as well as established nuclear power countries in the once-through fuel cycle by promoting dry spent fuel storage as an interim step to be followed by direct geological disposal**
- **Continue ongoing efforts on Comprehensive Fuel Services programs, especially those suggested by the "Blue Ribbon Commission on America's Nuclear Future" as part of a comprehensive nuclear waste management approach**

Recommendations by the NEAC International Subcommittee #2 (cont'd)

- **The initiative should have the following elements:**
  - **Involve new entrant countries in ongoing R&D on the long-term storage of dry spent fuel**
  - **Work with international partners, particularly those who have accepted the once-through fuel cycle to gain broader agreement on this approach as the preferred solution for spent nuclear fuel until geological repositories are available**
  - **Provide training on the regulatory requirements for dry fuel storage so that the solid basis for such regulations is understood and validated**
  - **Continue working within the existing International Framework for Nuclear Energy Cooperation (INFNEC) on a multinational approach for storage and/or disposal of spent nuclear fuel while continuing to investigate other approaches that might have long-term benefits**

Recommendations by the NEAC International Subcommittee #3

- **Work with the Department of Commerce to rethink their approach for formal and "informal" advocacy for U.S. nuclear power companies when new opportunities arise**
- **This is particularly important when multiple U.S. companies are involved in a new opportunity – currently this leads to "vanilla" advocacy, which is not helpful**
- **Better understanding of the full spectrum of opportunities needs to be obtained so that a broader range of U.S. companies (e.g., both multi-national and smaller consulting companies) can get advocacy support**

Recommendations by the NEAC International Subcommittee #3 (cont'd)

- **Suggested improvements under this recommendation are:**
  - **Have greater coordination between U.S. government agencies when companies are showing interest in an opportunity so that there are no unnecessary barriers**
  - **Insert nuclear expertise in U.S. advocacy centers so that the situation is better understood and the specific advocacy can be tailored to provide the maximum support**
  - **Support the continued role of the White House Director of Nuclear Energy Policy in the Office of International Economics at NSC – it has been very helpful in coordinating the "Team USA" approach**

Recommendations by the NEAC International Subcommittee #4

- **The importance of a strong, knowledgeable, and independent nuclear regulatory body has been a constant and well-articulated theme over the past few years since the Fukushima reactor accident**
- **Since the nuclear industry is global and events anywhere influence programs all over the world, it is vital that the U.S continue to support this type of regulatory body in emergent nuclear power countries**
- **Since the U.S. NRC is generally regarded as the "gold standard", it is appropriate that it helps set the standard worldwide**
- **DOE should work within existing mechanisms or help develop new mechanisms in cooperation with the NRC to accomplish this goal**

Recommendations by the NEAC International Subcommittee #4 (cont'd)

- **The following elements should be considered in this initiative:**
  - **Encourage the NRC to continue to support various nuclear training to less advanced nuclear programs**
  - **Proactively look for opportunities to provide a context and venue for greater engagement of the NRC with these new regulators**
  - **Broaden or open up more internship positions in the NRC to "newcomer" countries**
  - **In collaboration with the NRC, consider the scope and delivery model of the current NRC International Regulatory Development Partnership (IRDP) to look for ways that it might be expanded and more universally embraced**

Recommendations by the NEAC
International Subcommittee #5

- **Financing support from the U.S. Export-Import Bank (ExIm) for new international nuclear projects is a critical factor in the success of U.S. companies; key elements are:**
  - **Continue to support the long-term reauthorization of the ExIm Bank as a vital element in U.S. exports**
  - **Promote flexibility in the ExIm Bank to allow U.S. financing to better match that of other countries by requesting the ExIm Bank to evaluate its procedures/policies to be more competitive with other foreign Export Credit Agencies (ECAs) that are less restrictive**