Micro-Reactor Workshop

June 18 & 19, 2019

Micro-Reactor Supply Chain Considerations & Needs

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Micro-Reactor Supply Chain Considerations and Needs

- **US Nuclear Industry Council (USNIC) Overview**
  - **Leading U.S. business consortium advocate for nuclear energy and promotion of the American supply chain globally.**
  - **Composed of nearly 90 companies, USNIC represents the "Who's Who" of the nuclear supply chain community, including key utility movers, technology developers, construction engineers, manufacturers and service providers.**
  - **USNIC encompasses eight working groups and select task forces including an Advanced Reactors Task Force; Advanced Manufacturing & Supply, Fuel Cycle and International Working Groups.**
  - **Key proponent for an all-of-the-above approach to advanced reactors including Gen 3+, Gen 4 (SMRs, Non-LWRs)**

Micro-Reactor Supply Chain Considerations and Needs

- **US Nuclear Industry Council (USNIC) – Manufacturing and Supply Chain Committee**
  - **Regional Ready4Nuclear Workshops**
  - **Supply chain gap analysis: non-light water reactors**
  - **Tracking and Support for Business and Funding Opportunities**
  - **National Labs – reactor development programs**
  - **Regional Nuclear Industry focused Business Development Initiatives**
  - **Integration of all these initiatives into a single tool to aid industry organizations in advancing the developer, supplier relationship**

Micro-Reactor Supply Chain Considerations and Needs

- **Economics**
  - **Market economics of the existing fleet needs to remain strong**
  - **Developers - cost from design to 1st plant is significant – must secure financing for the long haul**
  - **Suppliers have expertise, are innovative, and are in consistent search for new opportunities – investments in money, time and resources require some assurance of a return**

- **Technology**
  - **Developers must engage with key suppliers in the early stages of technology development**
    - ✓**Overcome barriers to develop relationships with suppliers**
    - ✓**Reduces time, money and risk**

Micro-Reactor Supply Chain Considerations and Needs

- **Technology, cont.**
  - **Designs must be manufacturable and licensable**
    - ✓**Manufacturing materials and technics can be as difficult as new reactor design developments**
    - ✓**Critical components – it may be advantages to involve a supply partner in the licensing process**
  - **Developers and manufactures must remain focused on the end result**

Micro-Reactor Supply Chain Considerations and Needs

- **Capability**
  - **Manufacturability**
    - ✓Advance manufacturing technics and methods
    - ✓Demonstration of materials and manufacturing methods
    - ✓Development of human capital
    - ✓Certifications – investment justification, cost and time for approvals
  - **Constructability**
    - ✓Developments in technology, methods are required
    - ✓Modular construction benefits are significant – overcome hurdles
  - **Certification**
    - ✓Component certification process is new

Micro-Reactor Supply Chain Considerations and Needs

- **Capacity**
  - **What will it take to convince the supply chain there is a real capacity need?**
    - ✓**Orders for critical prototype components – this phase is so critical as it not only proves technology developments, but enables completion of licensing and certification**
    - ✓**Fully licensed reactor designs**
    - ✓**The first production order for a advance reactor design (SMR, Advance Reactor, Micro-Reactor)**
    - ✓**Project announcements for additional reactors**
  - **The smaller the units, the faster the supply chain can react to capacity constraints**

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- **Safety**
  - **Inherently safe, but the industry can't have any new safety failures**
  - **New safety features will ensure that Nuclear remains the safest source of energy**

- **USNIC is developing a solution to assist in the integrations between developers and suppliers**
  - **Many developers either don't have, or are starting to add procurement resources to their organizations**
  - **Developers can spend large sums of money and time searching for suppliers to provide the capabilities they need**
  - **Suppliers may not be aware of a need a designers have, but are willing to help**

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Thank You