US Nuclear Infrastructure Council Overview

DOE AMM Workshop
October 18, 2016

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Objectives

• Highlight Role of the US Nuclear Infrastructure Council
• Manufacturing and Supply Chain Working Group

Overview

• Describe NIC Advanced Manufacturing Initiative
• Look to the Future of Nuclear
U.S. Nuclear Infrastructure Council (NIC)

- Washington, DC based organization at 1317 F Street Suite 350, NW
- Leading U.S. **business consortium** and advocate for new nuclear and engagement of the American supply chain globally.
- Composed of about 84 companies representing the “Who’s Who” of the nuclear supply chain community. Membership is increasing...
- Member of the U.S. Department of Commerce’s Civil Nuclear Trade Advisory Council (2013-14) and the U.S. Industry Delegation to the IAEA since 2013.
- Encompasses five Working Groups and select task forces including a DOE Environmental Management Task Force, Manufacturing and Supply Chain Working Group and Advanced Reactor Licensing Task Force.
- Founded in 2008, NIC is a successor organization to the United States Transport Council, which was organized in 2002.
NIC Functions and Focus [http://www.usnic.org]

• Nuclear Policy and Communications
• Infrastructure Development
• Supplier Support and Supply Chain Development
• Flexible Working Group structures to support specific needs
  – SMRs
  – Advanced Reactors
  – Manufacturing & Supply Chain
  – Environmental Management
  – Fuel Cycle Back-End
  – Policy Outreach

• Types of members
  – Reactor Designers
  – AE Firms
  – Suppliers
  – Utilities
  – Law Firms
  – Alliances
  – Universities
  – Non-Governmental Organizations
  – SMEs (Senior Fellows)
Manufacturing and Supply Chain Working Group

• Co-Chairs:
  • David Garcia, Jr. – President – American Mergers and Manufacturing International (HQ: Minnesota)
  • Chris Martoglio – COO /Founder – Blue Burro Technologies (HQ: Indiana/California)

• NIC Project work began in 2014
• Full slate of activities in 2016
• M&SC List = 55 and Project Team = 14
Capabilities of the NIC M&SC Working Group

- Identify generic business issues to be resolved for mutual benefit of the Members
- Implement projects and create reports in areas of interest
- Create Supply Chain Mapping of Small Modular Reactor and Advanced Reactor Designs
- Identify Lessons Learned
- Conduct Nuclear Benchmarking
- Support development of consensus standards
- Support development of workshops
- Support development of Regional Supply Chain Networks
Member Services: Supply Chain Development

• Via Supply Chain Mapping
  • Compile lists of supplier capabilities
  • Align equipment model components and capabilities to suppliers
  • Assess demand and capacity
  • Get new suppliers started on “The Journey”
  • Support Members to assess consortia opportunities

• Via Advanced Manufacturing Development
Advanced Manufacturing Capabilities – General Categories - Level 1

- Additive Manufacturing
- Casting
- Concrete Materials and Rebar Innovations
- Design for Manufacturing
- Forging and Forming
- Hot Isostatic Press
- Machining Technologies
- Materials Composites
- Metal Forming Technologies
- Metrology and Inspection
- Modular Fabrication
- Surface Modification and Cladding Processes
- Visualization
- Welding and Joining
- Other
NIC Advanced Manufacturing Capabilities
Private Discussion Tool Pilot “Deal Room”

NIC Public Web Site

Log In 1

NIC Members-Only Web Site

Log In 2

Search NIC Member-Listings of Products and Services, QA qualifications and Invite for Discussion (“Page 1”)

Advanced Manufacturing Capabilities Listing (Level 1, Level 2 and Attributes, if any) (“Page 2 “)

Private Discussion Area for Two or more NIC Members (“DEAL ROOM”)

Software platform to be based on BOX and developed by NIC Member Blue Burro Technologies
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Supply Chain Mini-Summit after Nuc Energy Insider Conference

Projects

| Set Up members-Only Web Area at http://www.usnic.org |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
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SMR in-Facility ITAAC (US DOE) - ON HOLD

Member Activities

| Industry Workshops |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
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Waste Management Symposium 2016

| Nuclear Energy Insider/NIC SMR AR Workshop |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
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ACI-NIC Advanced Nuclear Manufacturing and Supply Chain

| US Dept of Commerce BID Workshop |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
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NRC/DOE - Non-LWR Licensing Workshop

| ANS Winter Meeting |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
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NRC/DOE Winter Meeting

| NRC Regional Training Workshops |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
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Nuclear Safety Culture (Vijay Nimbkar-OBEI Inc) Ready for pilot

Reverse Engineering (Roy Shepard) -ID0-program input invited

Web Apps/Collaboration Tools Overview (Chris Martello-Blue Burro) Collaborative Tools for Projects (Chris Martello-Blue Burro)

Supply Chain Mapping Portfolio (Vince Gilbert)

Regional Energy Supply Chain Networks (to be developed)

| Draft Priority |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
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2016

Site Visits

| Schedule Sites |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
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Membership and Business Needs Drives the Organization
The Future of Nuclear & New Nuclear Capacity

• A High percentage of existing nuclear plants have renewed their operating licenses for another 20 years
• NRC now studying feasibility of further extensions “Beyond 60”
• One reactor began initial operation in June 2016: Watts Bar Unit 2 in Tennessee
• Four new nuclear reactors are actively under construction:
  • Vogtle Units 3 and 4 in Georgia
  • Virgil C. Summer Units 2 and 3 in South Carolina
• Worldwide there are a total of 63 nuclear units in construction in 16 countries with a total capacity of 61.8 GW
• Some Small Modular Reactors are planning to begin generation about 2023
• One HTGR Design is planning to begin generation is 2023
• Other Advanced Reactors may begin generation about 2030-2035
• SMRs and ARs are for domestic use and export to approved countries 2030+
Creating the Political Will for SMRs – ARs

**MARKET POTENTIAL FOR NUCLEAR MANUFACTURING AND SERVICES**

**Scope**

Collect nuclear market information for companies considering investments:

- Market size
- Buyers and sellers
- Gaps in the supply market
- Potential market scenarios;
- Sources for capital including listing of government agencies, private investment companies, and potential partnering opportunities
- Establish Regional Supply Networks near future building sites.
NIC Members at this workshop

• BWXT
• GE-Hitachi
• NuScale
• Texas A&M
• Westinghouse
How You Can Help...

Join the US Nuclear Infrastructure Council
- Lets Make it Happen!
- Please contact me for Member Information

Questions?

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