

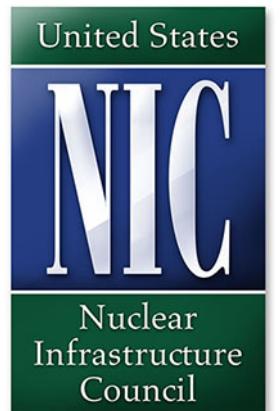
# US Nuclear Infrastructure Council Overview

## DOE AMM Workshop

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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

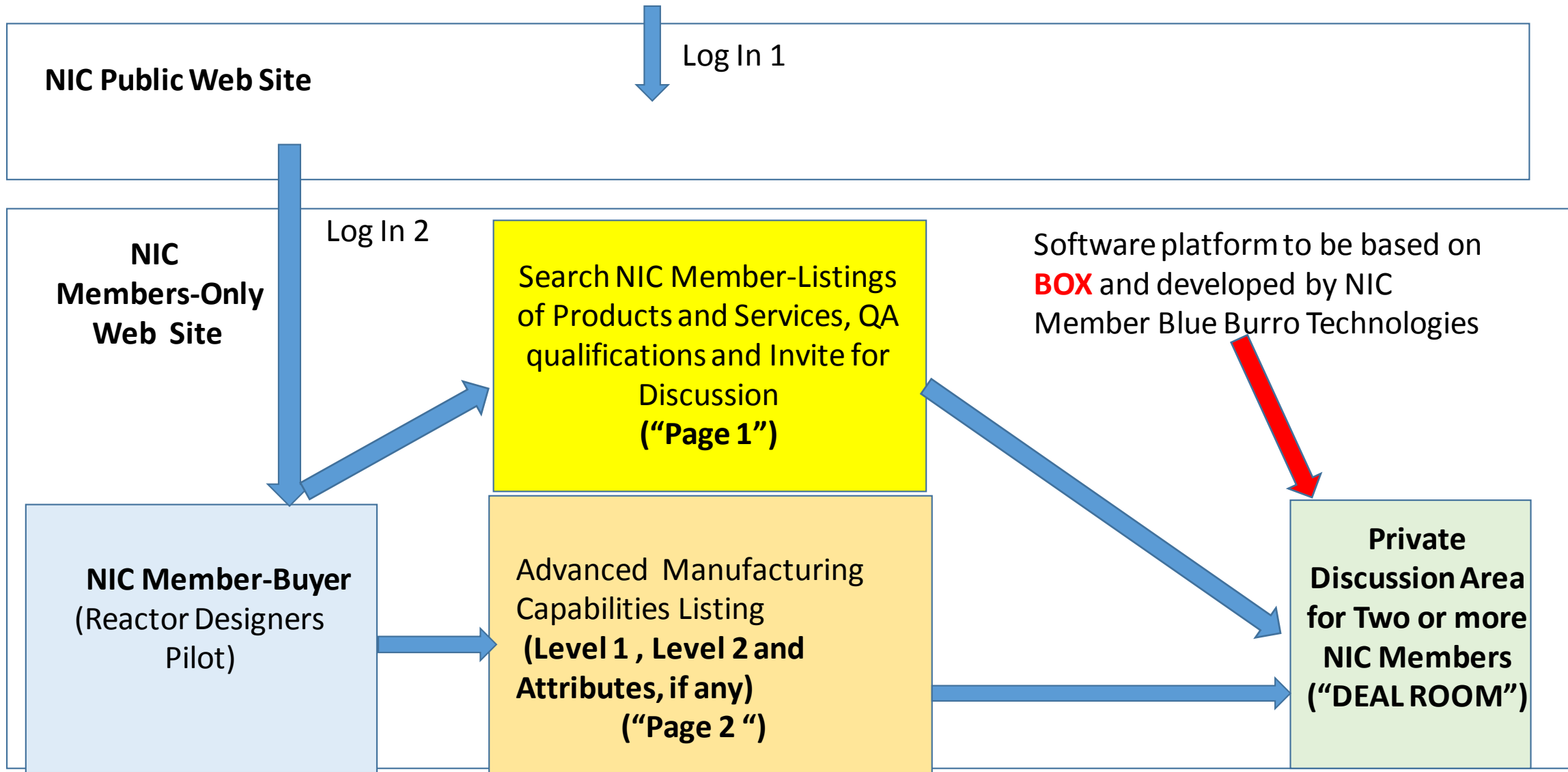
- Via Supply Chain Mapping
  - Compile lists of supplier capabilities
  - Align equipment model components and capabilities to suppliers
  - Assess demand and capacity
  - Get new suppliers started on “The Journey”
  - Support Members to assess consortia opportunities
- Via Advanced Manufacturing Development

# 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”

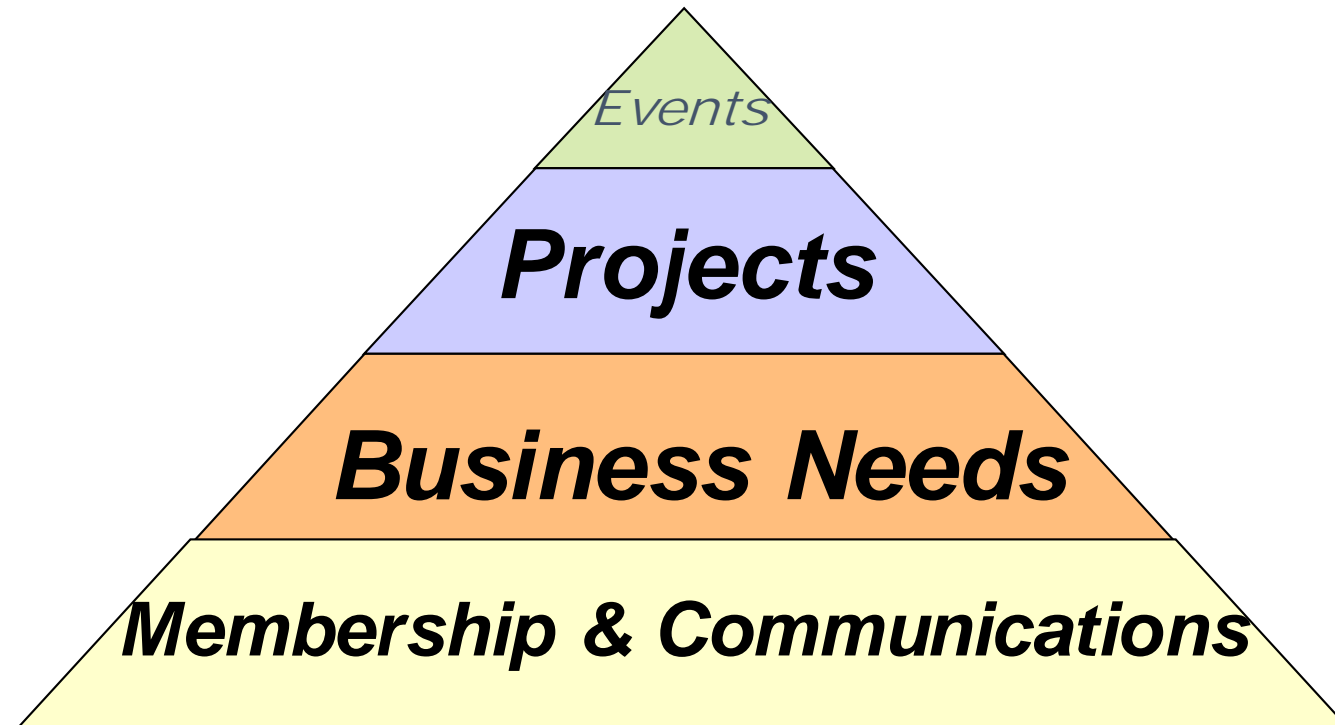


Rev 2 1-31-16	2016	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17
<b>Meetings</b>															
Strategic Plan		Strategic Plan	Tactical Plan												December 05
NIC Meetings				February 02		April 19		June 7-8			September 20				December 06
M&SC Working Group Meetings				February 03		April 20		June 09			September 21				December 07
M&SC Policy White Paper				Draft	Issue									Update	
M&SC Communications Streaming (One item/10 days)			issue beginning 2/1/16												
Supply Chain Mini-Summit after Nuc Energy Insider Conference												(TBD)	(TBD)		
<b>Projects</b>		Set schedules		Set schedules											
Set Up members-Only Web Area at http://www.usnic.org										Modify Web site	Post Reports and White Papers	Develop advertizing/commu		Post Reports and White Papers	Post Reports and White Papers
Complete SMR Mapping Phase I (NIC/ANS) Vince Gilbert		Expand Model Data Base													
SMR Mapping Phase II (NIC/ANS) Vince Gilbert															
	Phase IIA- DAT	Update DAT													
	Phase IIB - EBT	Hold until 2017													
Advanced Manufacturing Vision				3-Feb											
Collaborative Tools for Projects		Phase I and BOX													
Advanced Manufacturing Vision					Phase II	20-Apr									
						Phase III		9-Jun		Phase IV					
		Phase IV									21-Sep				
												Conduct Next Steps Assessment		7-Dec	
		(NIC has DRAFT FINAL NEI Guide)													
<b>SMR In-Factory ITAAC (US DOE) -ON HOLD</b>															
<b>Member Activities</b>															
<b>Industry Workshops</b>															
Advanced Reactor Summit				Summit II February 9-11, Oak Ridge, TN											
Waste Management Symposium 2016					March 6-10 Phoenix										
Nuclear Energy Insider/NIC SMR/AR Workshop						April 14-15 Atlanta									
ACI-NIC Advanced Nuclear Manufacturing and Supply Chain					TBD										
US Dept of Commerce 810 Workshop		TBD													
ANS Utility Working Conference										August 14-17 Amelia Island					
Decision Makers Forum													Nov 1-3 Wash, DC		
NRC/DOE Non-LWR Licensing Workshop								TBD Rockville, MD							
ANS Winter Meeting													November 6-10 Las Vegas, NV		
Nuc Energy Insider/NIC Multi-topic Conferences												O&M TBD			
<b>NIC Regional Training Workshops</b>															
Supplier NQA Success Path (AMMI-invited)															
Reactor Technologies Overview Workshop															
Nuclear Safety Culture (Vijay Nilekani-OBEI Inc)		Ready for pilot													
Reverse Engineering (Roy Shepperd-EIO-program input invited)					Develop										
Web Apps/Collaboration Tools Overview (Chris Martoglio-Blue Burro)						Develop									
Collaborative Tools for Projects (Chris Martoglio-Blue Burro)									Pilot						
<b>Supply Chain Mapping Portfolio (Vince Gilbert)</b>															
					NuScale	Westinghouse	(X-Energy)	(NGNP)	(TerraPower)	(Terrestrial Energy)					
<b>Regional Energy Supply Chain Networks (to be developed)</b>		Draft Priority													
Charlotte (Carolina Cluster)		7													
Idaho/Washington (CAES/Bannock Development)		3													
Minnesota plus 4 (AMMI) Minneapolis		1	in progress												
Missouri plus 4 (MO Economic Development) St. Louis		2													
Ohio/Western PA/West Virginia (EIO) Cleveland		5													
Tennessee/Alabama (ETNUA Corridor) Oak Ridge		4													
Texas/Oklahoma		8													
South Carolina (NuHub) Columbia, SC		6													
Virginia /MD/DE Eastern PA (VA Nuclear Commission) Richmond, VA		7													
Florida/GA (TBD) Atlanta, GA		9													
<b>Site Visits</b>		Schedule Sites													
	TBD														

# 2016

# US Nuclear Infrastructure Council

## Summary

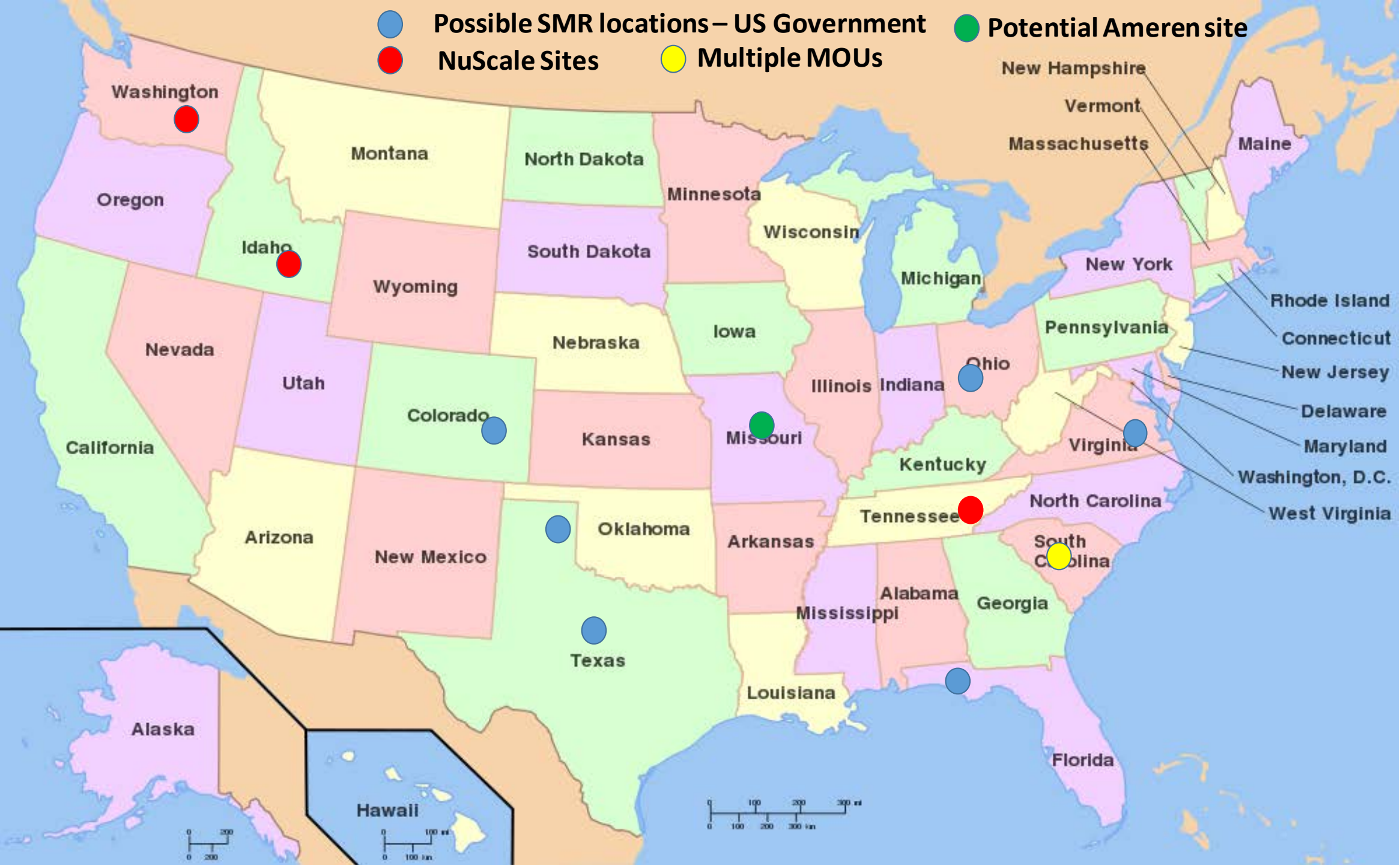


**Membership and Business Needs Drives the Organization**

# 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+

- Possible SMR locations – US Government
- Potential Ameren site
- NuScale Sites
- Multiple MOUs



# 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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