

# UAMPS

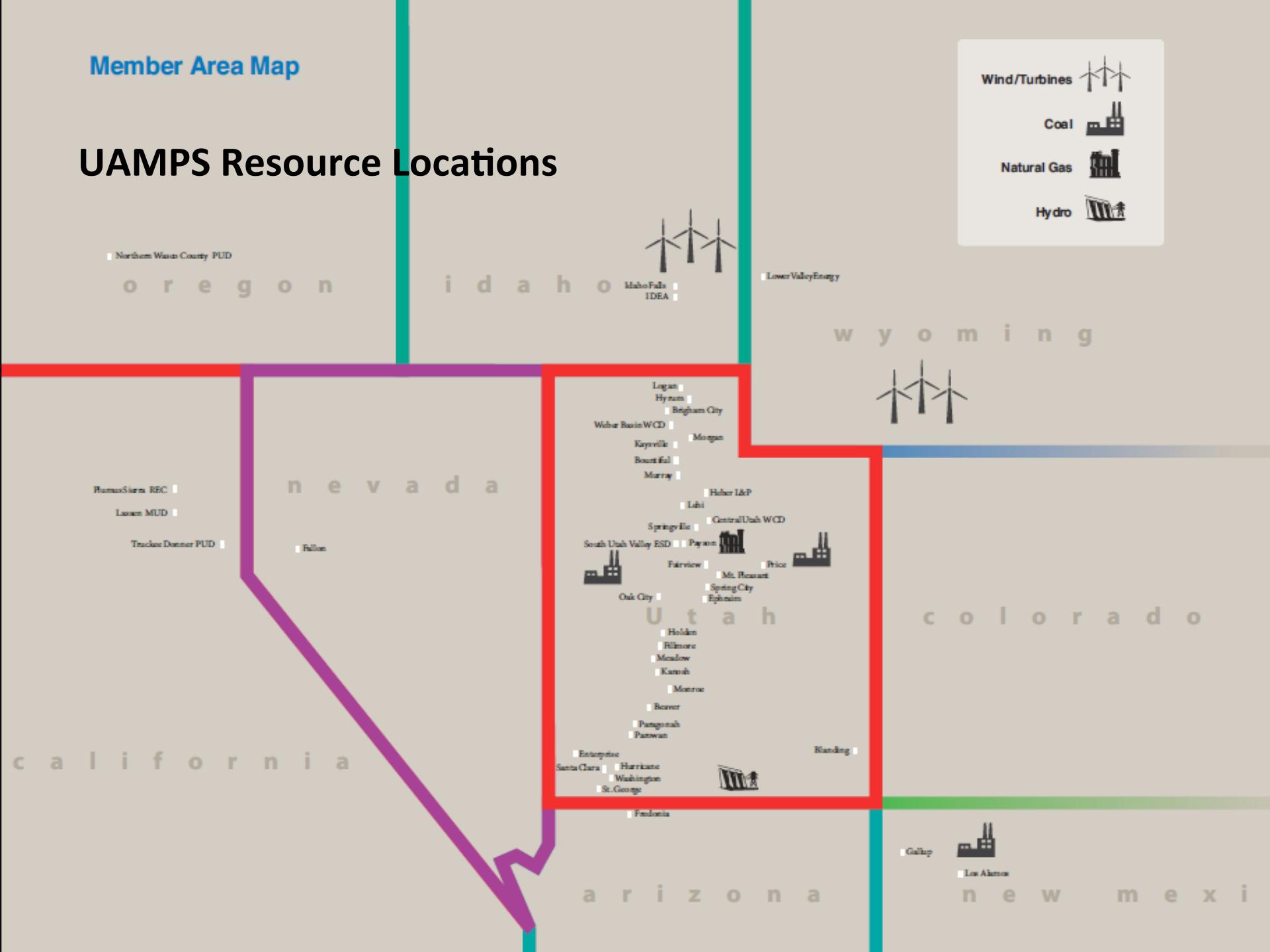
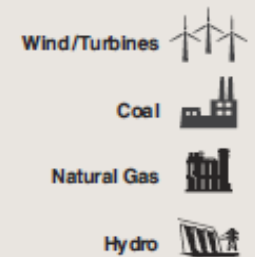
## Carbon Free Power Project

NRC Public Meeting

April 12, 2016

## Member Area Map

# UAMPS Resource Locations



# UAMPS' OBJECTIVES FOR PRE-COLA ENGAGEMENT WITH NRC

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- Pre-application engagement
- Open and transparent approach
- UAMPS engage staff on various issues and receive NRC feedback

# Identification of Project Team

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- UAMPS as the Owner
- ENW as the Operator
- Consulting Team:
  - ENERCON
  - NEC (David Matthews)
  - Hogan Lovells
- NuScale OEM Technology Provider
- Fluor as EPC Contractor

# Agenda

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- Update on Carbon Free Power Project (Ted Rampton & Mason Baker, UAMPS)
- QA Approach (David Swank, Energy Northwest)
- Site Selection Activities (Tom Slavonic, ENERCON)
- SSHAC Planning Efforts (Bob Evans, ENERCON)
- Closing Remarks (Ted Rampton, UAMPS)

# UAMPS Overview of Project Developments

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- Site Use Permit
- Outreach Activities
- Site Selection Process

# Project Overview: Goal and Technology

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- UAMPS has identified the need for replacing existing baseload resources with a carbon free baseload nuclear resource
- CFPP would use NuScale technology (12 nuclear power modules with gross capacity of 50 MW each; 600 MWe gross capacity)

# Project Overview: Schedule

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- 2016-2017
  - Viability analysis
  - Formal Site Selection Study—ongoing
  - Engage NRC in pre-COLA activities
  - Site Characterization & Preparation of COLA
- 2018
  - Submit COLA – estimated end of Q1 2018



# Project Overview: Viability Analysis

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- Viability Analysis:
  - Land for Siting Project → DOE Site Use Permit
  - Water
  - Financial Feasibility
  - NRC engagement on licensing

# Project Overview: INL Site Use Permit

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- INL Site Use Permit executed February 17 between DOE and UAMPS
- Allows CFPP use of INL properties for site evaluation
- 99 year term
- Recognizes primacy of NRC licensing and regulatory authority

# Project Overview: Outreach Activities

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- UAMPS/DOE Site Use Permit announcement has created positive local support for CFPP
- UAMPS intends to conduct informational meetings in Idaho
- UAMPS' efforts are being coordinated with INL/DOE for stakeholder briefings/meetings
  - Shoshone-Bannock Tribal Business Council Briefing
    - Existing DOE agreements with Shoshone–Bannock community
      - Requires DOE Tribal Consultation Process regarding all activities located on the INL site
      - Protection of historic cultural properties
  - CFPP Site Use Permit requires tribal consultation process

# Project Overview: Outreach Activities

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- Other outreach activities in the near future:
  - **Idaho Governor's Office**
    - Office of Energy Resources
  - **Idaho Attorney General's Office**
    - Related mostly to water resources
  - **Idaho Department of Environmental Quality**
    - INL Oversight activities
  - **Local County Commissioners**
  - **Other local governments**
  - **Economic development organizations in the area**

# Overall UAMPS CFPP Project Schedule

2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
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Define Team Members  
and structure

Develop Business Model

Onboard Partners

**Project  
Development**  
*(see detail)*

Site Use Agreements

Site Selection

Reference  
Plant Design

Start Finalized  
Plant Design

Complete Final  
Plant Design

**Design &  
Engineering**

Draft DSRS

Submit DCA

NRC Issue DC

Final DSRS

Start COLA

Submit COLA

NRC Issue COL

**Licensing**

Site Characterization

Site Prep &  
Mobilization

1st Safety  
Concrete Pour

1st Fuel  
load

**Construction  
and  
Fabrication**

Order  
Modules

Start Module  
Fabrication

Install  
Module 1

Install  
Module 12

Start Operational  
Readiness Program

Operator Training  
Program Accreditation

Complete Operational  
Readiness Program

Module 1  
COD

Module 12  
COD

**Operations**

Preliminary  
For Discussion  
Purposes only

# **Carbon Free Power Project QA Approach**

# Quality Assurance Approach

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- Phased approach to CFPP QA Program
- Two phases
  - Phase 1 – QA Program for pre-application activities to support Combined License Application (COLA)
  - Phase 2 – QA Program for activities after submittal of COLA
- Both phases will meet 10 CFR 50, Appendix B
- Appropriate QA controls will be applied to the development of the license application

# Quality Assurance Approach

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- Certain COLA development activities must be conducted under QA Program
- Vendor conducting COLA development activities has 10 CFR 50, Appendix B QA Program
- UAMPS will retain responsibility for 10 CFR 50, Appendix B QA Program
  - UAMPS developing appropriate policies and procedures to oversee vendors
  - Contracting documents require specific work to be conducted under a 10 CFR 50 Appendix B QA Program
  - Audits of vendor programs
  - Review of NUPIC audits
  - Work will not be accepted by UAMPS until it implements its own QA Program



# UAMPS CFPP

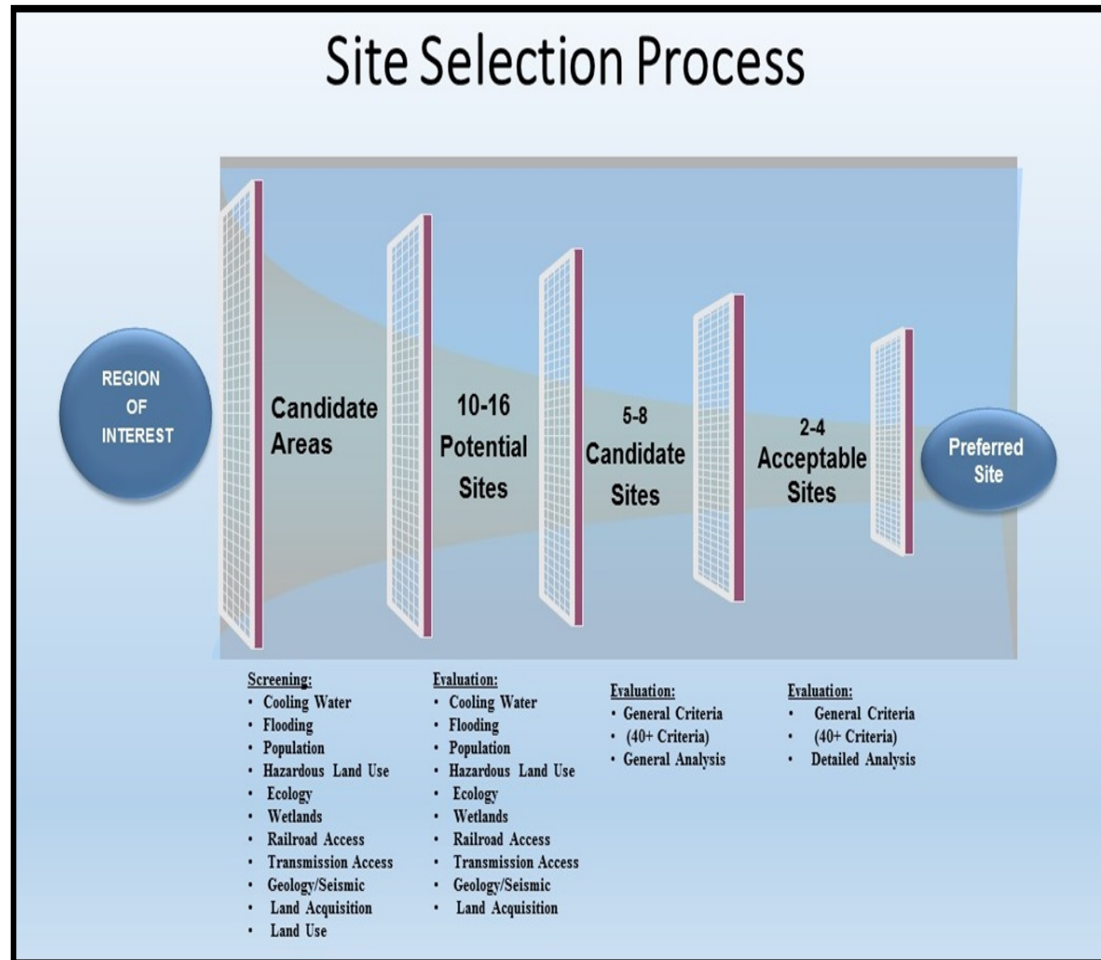
## Siting Study Overview & Status

# Objective & Methodology

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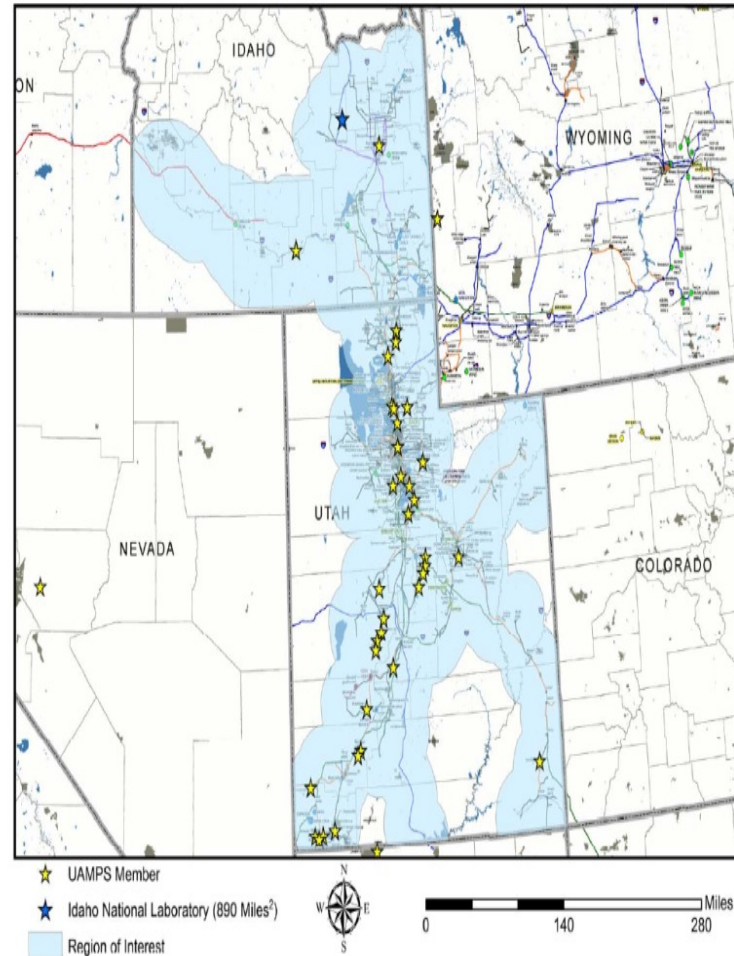
- Objective of the Siting Study is to identify a nuclear power plant site that:
  - 1) meets UAMPS' needs,
  - 2) satisfies applicable Nuclear Regulatory Commission (NRC) site suitability requirements, and
  - 3) is consistent with National Environmental Policy Act (NEPA) requirements regarding the consideration of alternative sites.
- Methodology follows NUREG-1555 and EPRI Siting Guide

# Process Overview



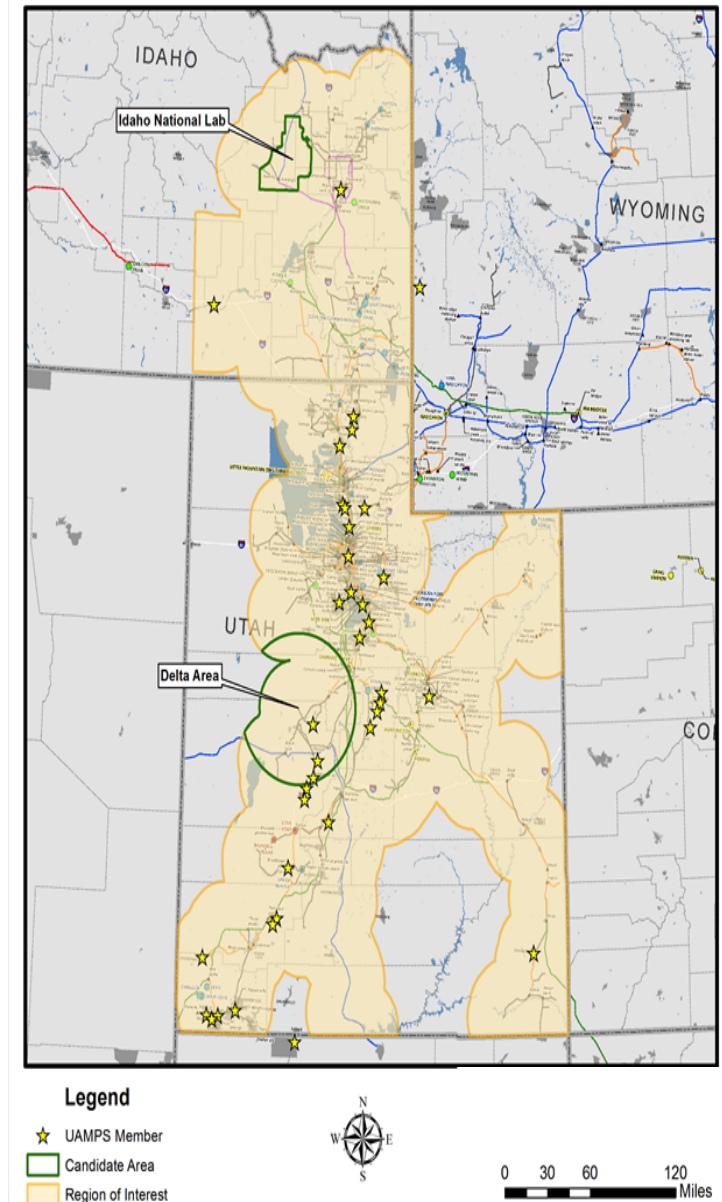
# Region of Interest (ROI)

- Consistent with UAMPS' needs
- ROI is located within 25 miles of the PacifiCorp Transmission Network in Idaho and Utah
- ROI encompasses the majority of UAMPS members and load centers



# Candidate Areas

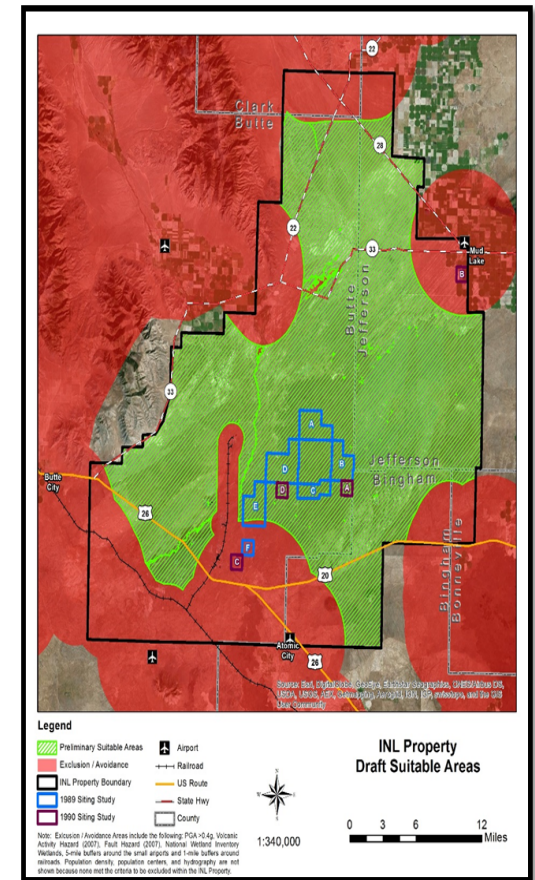
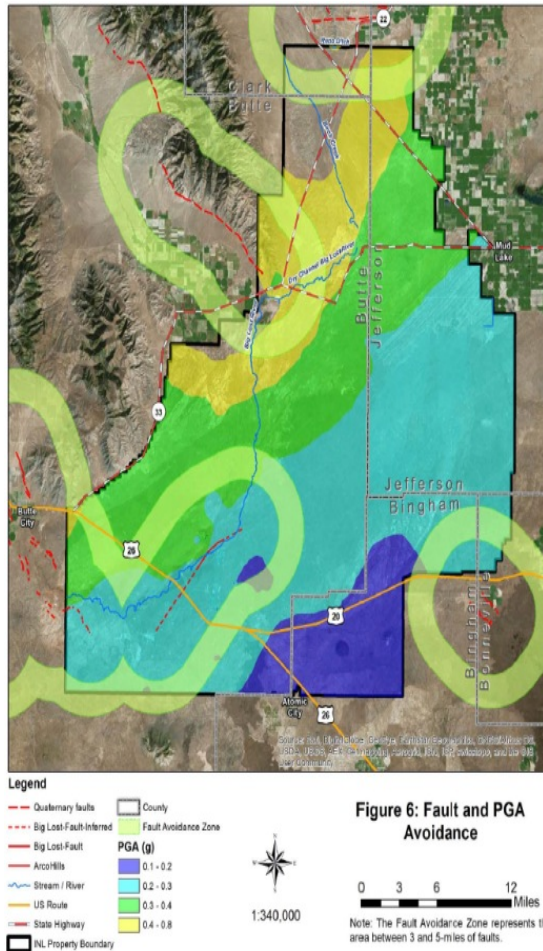
- Two candidate areas: the Idaho National Laboratory (INL) and the Delta area.
- Rationale for selection of INL:
  1. Readily available land and resources;
  2. Existing Infrastructure;
  3. Is a secure site;
  4. Additional benefit of DOE support of the project;
  5. Knowledge base of workforce to support the plant.
- Rationale for selection of the Delta Area:
  1. UAMPS members have an interest in developing this area for a power project;
  2. Development would provide economic benefits to the area;
  3. Access to PacifiCorp Transmission Network.





# Identification of Potential Sites

- 19 Potential Sites identified from within the Candidate Areas
- Exclusionary and avoidance criteria utilized to guide identification of Potential Sites
- Considered SMR plant parameters, siting criteria, applicable NRC and NEPA requirements for identification and evaluation of sites, and INL input;
- 15 Potential Sites contained within INL
- 4 Potential Sites contained within Delta Area



# Evaluation of Sites

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## Potential Sites

- 19 Potential Sites evaluated using Screening Criteria
- 9 Candidate Sites were selected to move forward
  - 7 from within INL and 2 from within Delta Area

## Candidate Sites

- 9 Candidate Sites evaluated using the General Site Criteria
- 4 Acceptable Sites were selected to move forward (all within INL)

## Acceptable Sites

- 4 Acceptable Sites evaluated using additional/refined criteria
- Independent evaluation performed by INL/DOE
- Field review of the 4 sites was performed
- Preferred Site will be selected based on the additional evaluations

# Status

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- INL/DOE Reviewing Proposed Acceptable Sites
- UAMPS Reviewing Proposed Acceptable Sites
- Siting Study Report Scheduled for Completion – May 2016



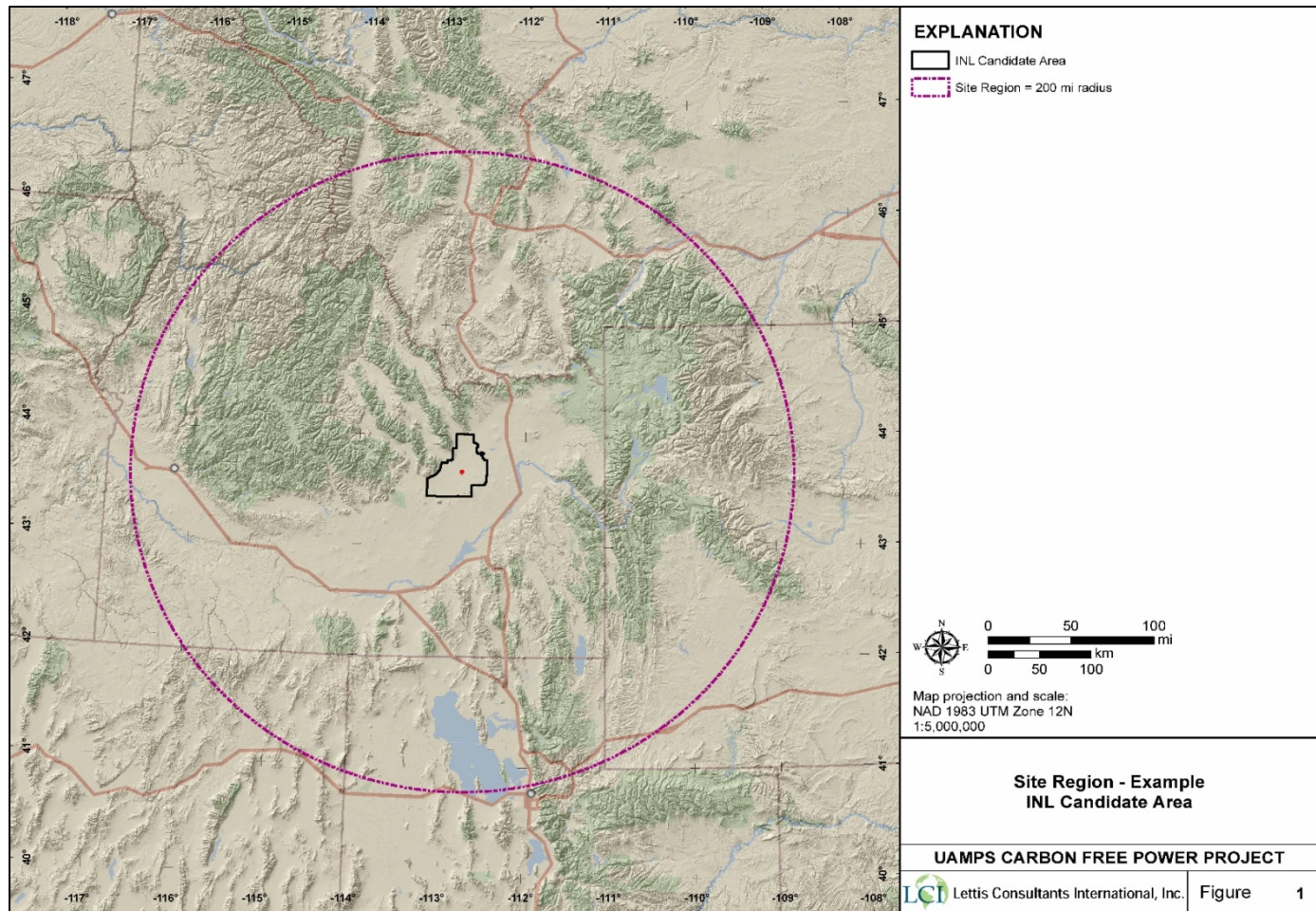
# Overview of Senior Seismic Hazard Analysis Committee Level 3 PSHA

# Seismic Hazard Evaluation Approach

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- Evaluation will be conducted in accordance with RG 1.208, “A Performance-Based Approach to Define The Site-Specific Earthquake Ground Motion” using guidance from
  - NUREG/CR-6327, “Recommendations for Probabilistic Seismic Hazard Analysis: Guidance on Uncertainty and Use of Experts”
  - NUREG-2117, “Practical Implementation Guidelines for SSHAC Level 3 and 4 Hazard Studies”
- Quality Assurance: ground motion calculations will be performed using verified and validated computer codes with a 10 CFR 50, Appendix B QA Program

# UAMPS CFPP – Site Region



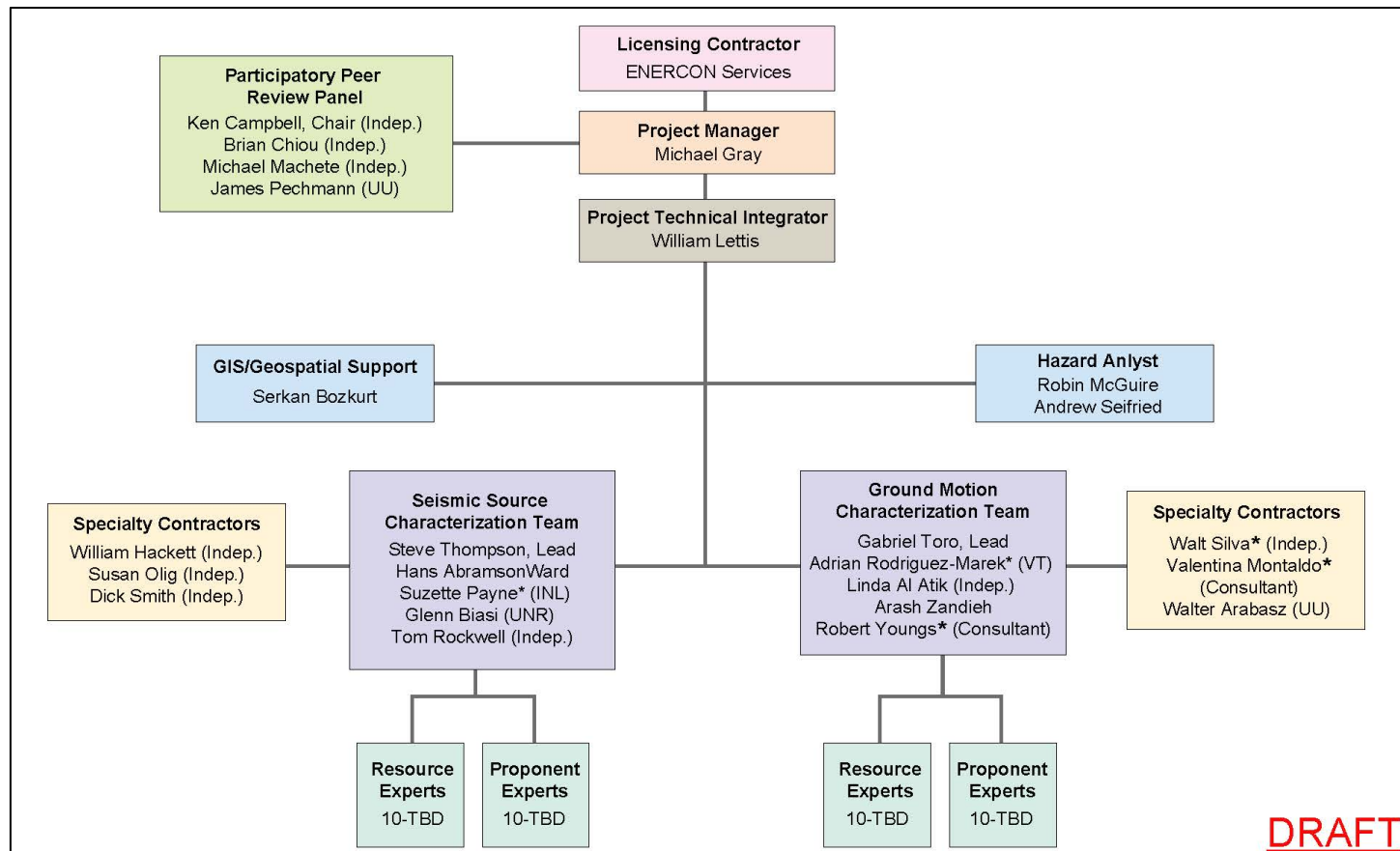
# Process

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- UAMPS recognizes the importance of a transparent SSHAC Level 3 study
- NRC will be invited to observe all SSHAC workshops
- Schedule for SSHAC Level 3 project is not fully defined at this point in time
- UAMPS will provide NRC with schedule and location of workshops as soon as practical

# UAMPS CFPP SSHAC Level 3 Team

**UAMPS CFPP team includes expert personnel with extensive experience  
conducting seismic hazard studies**



DRAFT

# Summary

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- UAMPS CFPP COL vibratory ground motion analyses will be based on SSHAC Level 3 PSHA and will satisfy requirements of 10 CFR 100.23, Geologic and Seismic Siting Criteria
- UAMPS is committed to a transparent process designed to include NRC staff participation
- UAMPS will communicate to NRC regarding planned SSHAC Level 3 workshops

# Closing Remarks

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- UAMPS has:
  - Assembled well qualified Project Team
  - Successfully completed Site Use Permit
  - Begun Initial Engagement with Local Stakeholders
  - Progressed on Site Selection activities
  - Planned SSHAC work
- UAMPS continues to move forward with pre-COLA activities and looks forward to further engagement with NRC
- Next NRC pre-COLA engagement public meeting to scheduled in the near future