

UAMPS

Carbon Free Power Project

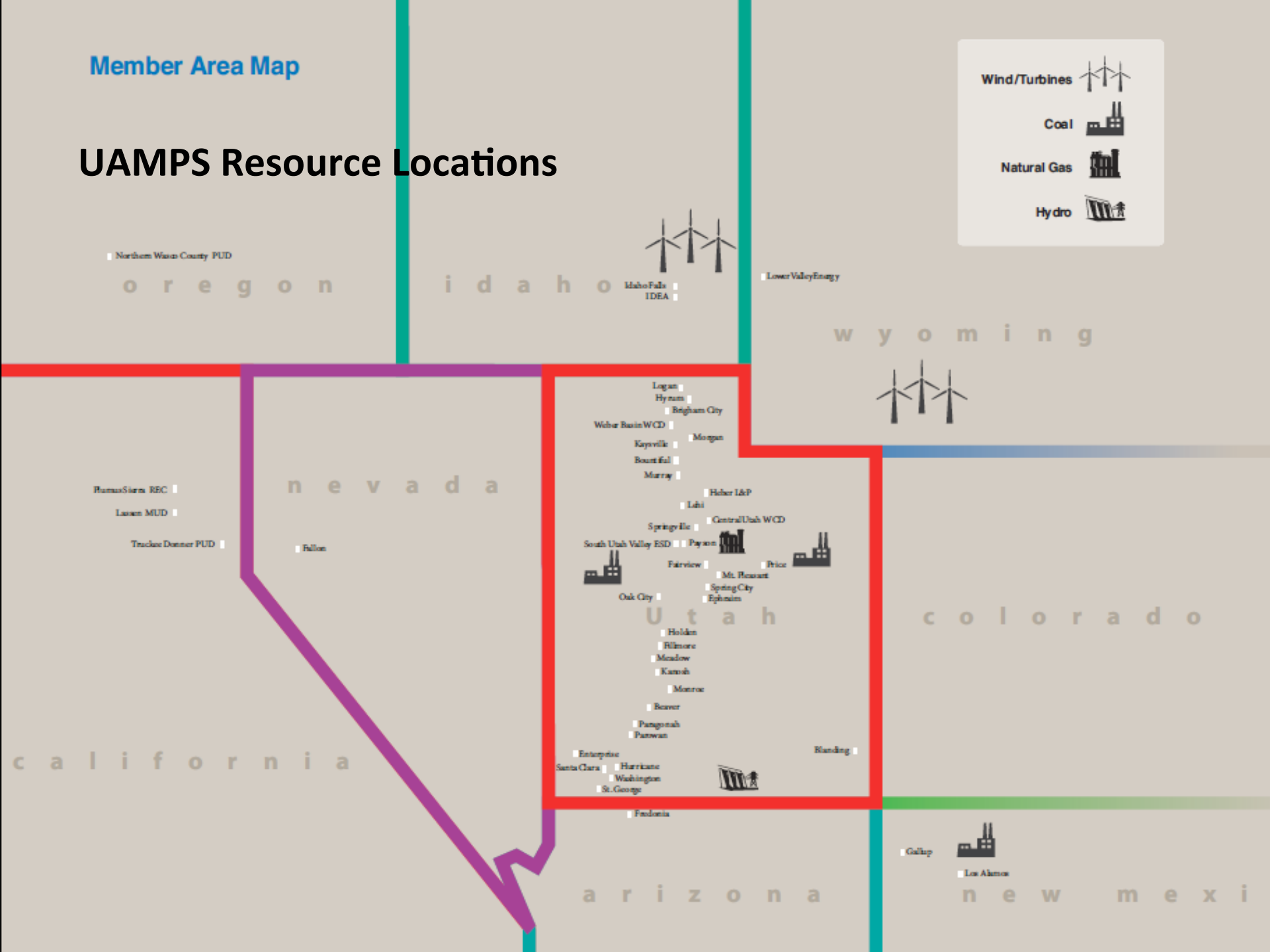
NRC Public Meeting

April 12, 2016

Member Area Map

UAMPS Resource Locations

- Wind/Turbines 
- Coal 
- Natural Gas 
- Hydro 



UAMPS' OBJECTIVES FOR PRE-COLA ENGAGEMENT WITH NRC

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

Identification of Project Team

- 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

- 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

- Site Use Permit
- Outreach Activities
- Site Selection Process

Project Overview: Goal and Technology

- 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

- 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

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

Project Overview: INL Site Use Permit

- 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

- 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

- 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

- 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

- 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

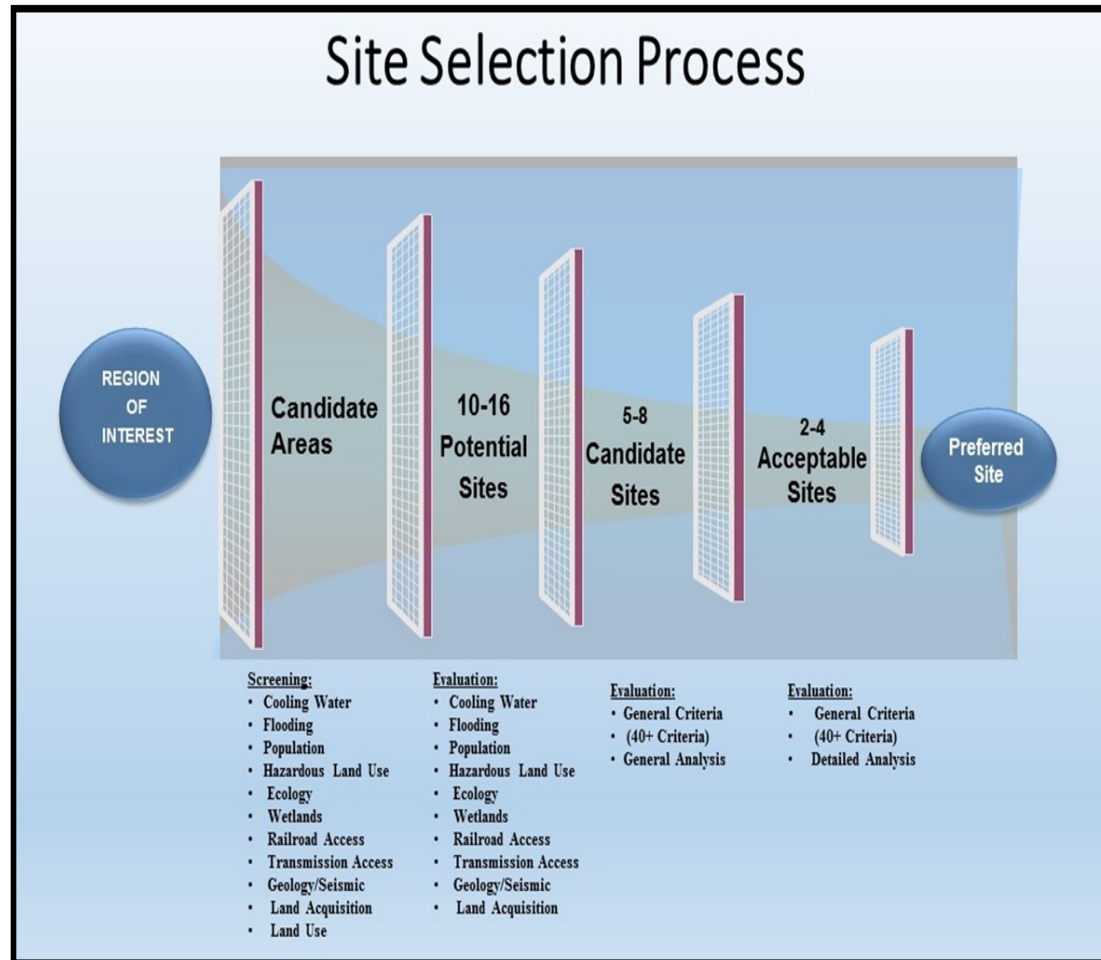
UAMPS CFPP

Siting Study Overview & Status

Objective & Methodology

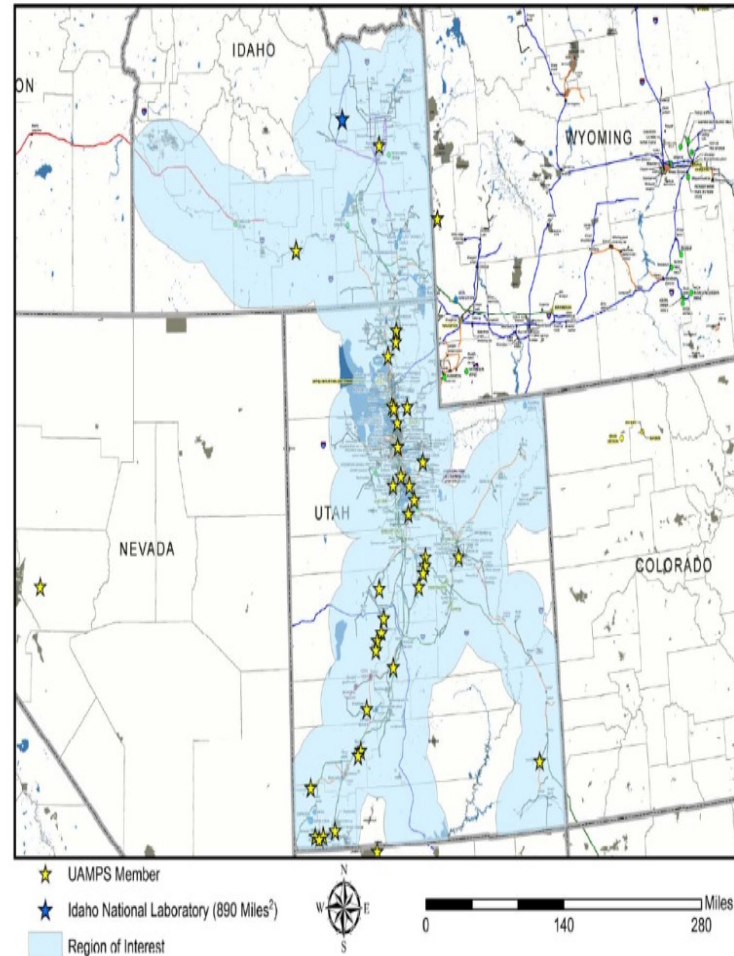
- Objective of the Siting Study is to identify a nuclear power plant site that:
 - 1) meets UAMPS' needs,
 - 2) satisfies applicable Nuclear Regulatory Commission (NRC) site suitability requirements, and
 - 3) is consistent with National Environmental Policy Act (NEPA) requirements regarding the consideration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

Process Overview



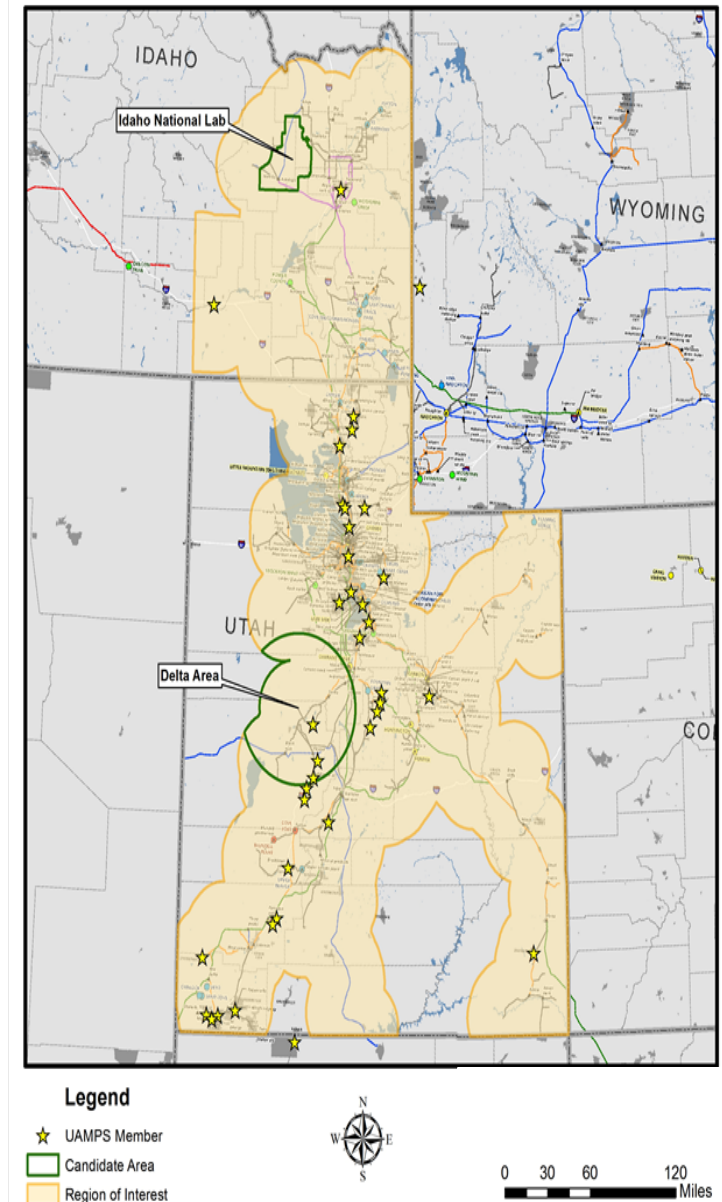
Region of Interest (ROI)

- 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



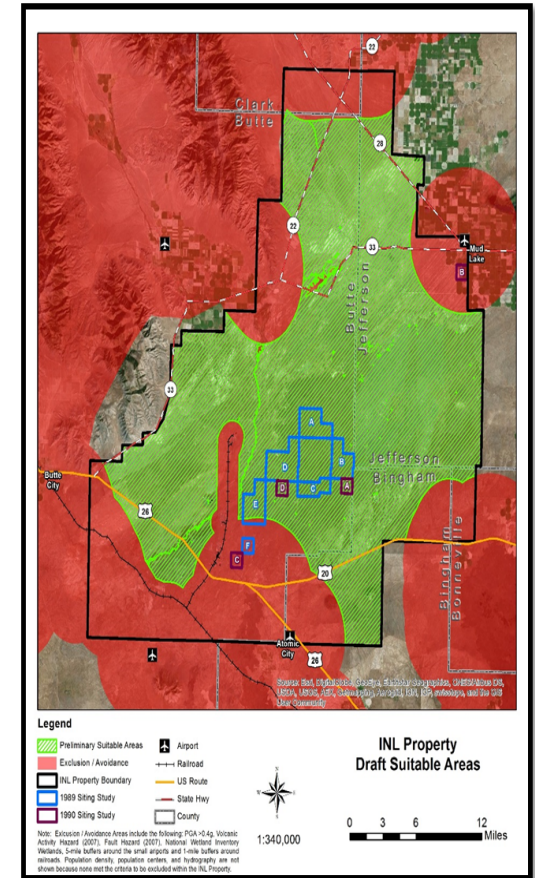
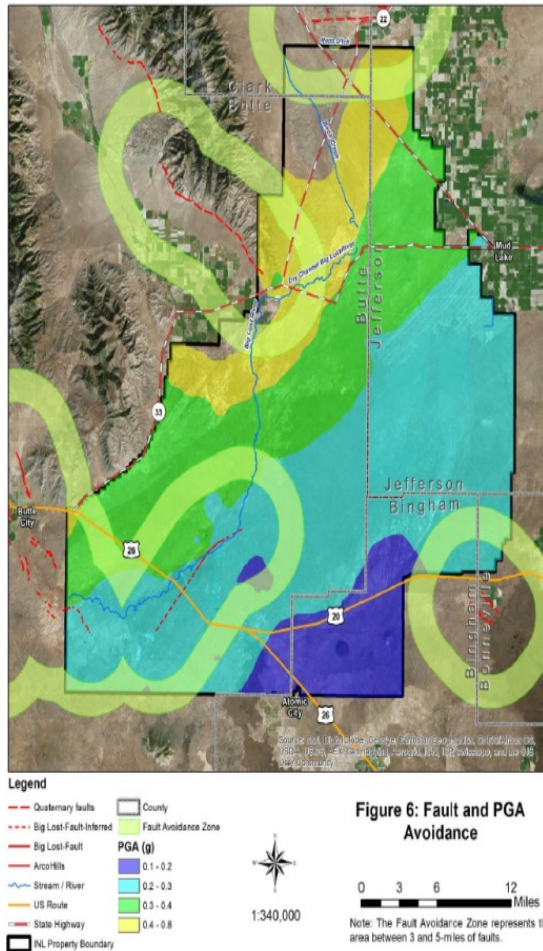
Candidate Areas

- 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

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

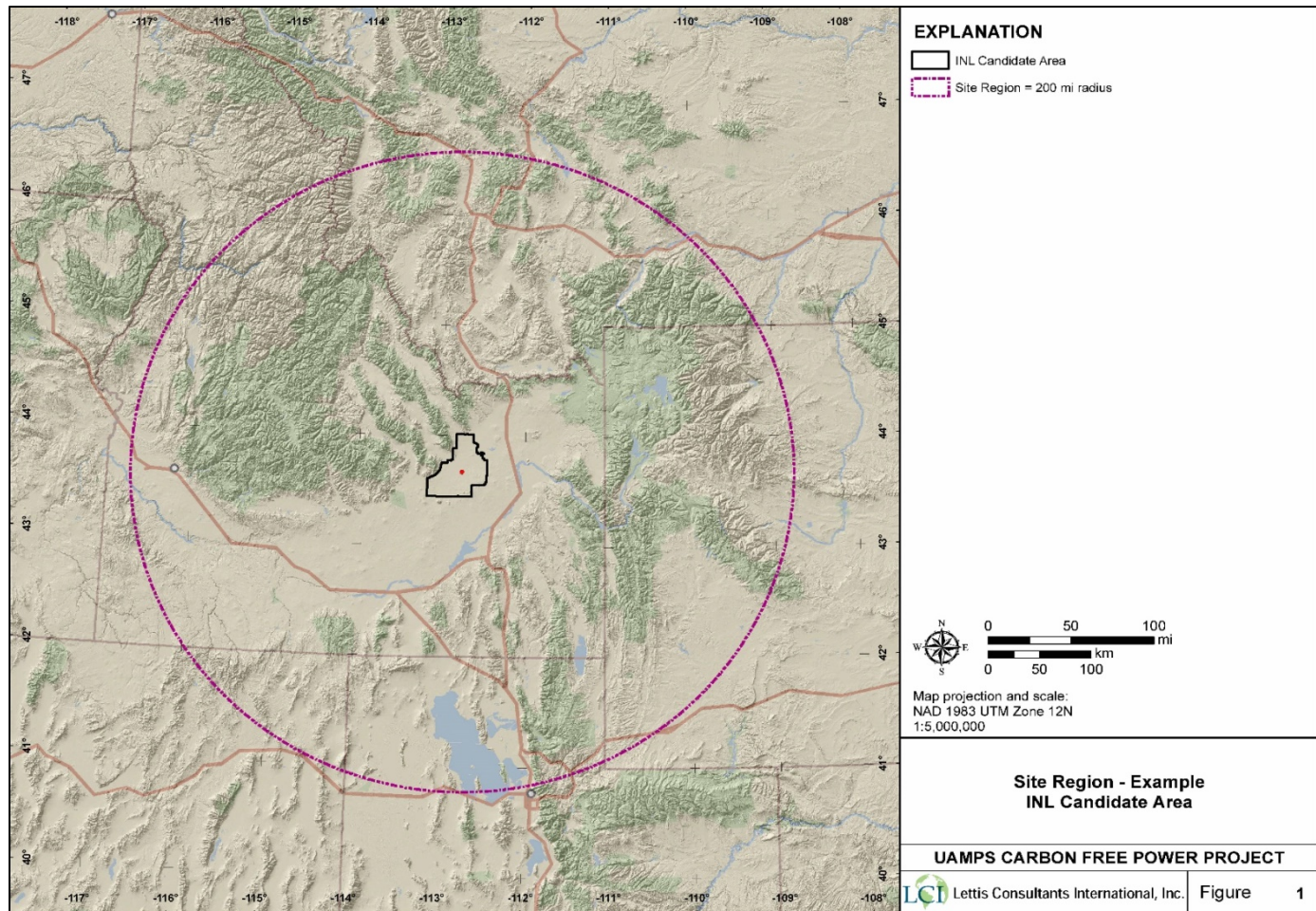
- INL/DOE Reviewing Proposed Acceptable Sites
- UAMPS Reviewing Proposed Acceptable Sites
- Siting Study Report Scheduled for Completion – May 2016

Overview of Senior Seismic Hazard Analysis Committee Level 3 PSHA

Seismic Hazard Evaluation Approach

- 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



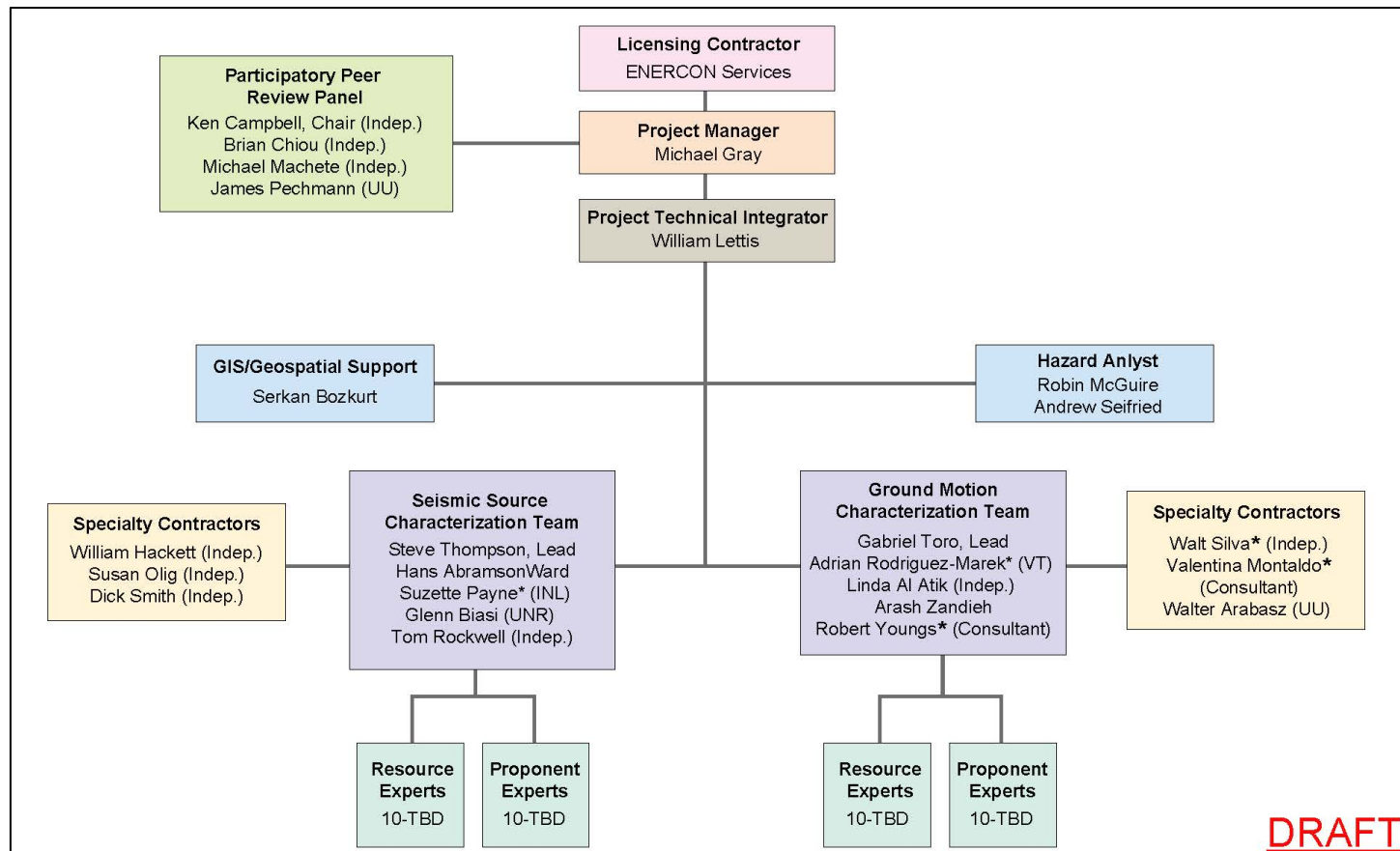
Process

- 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

Organization Chart - Draft

UAMPS CFPP SSHAC Level 3 Team

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



Summary

- 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

- 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