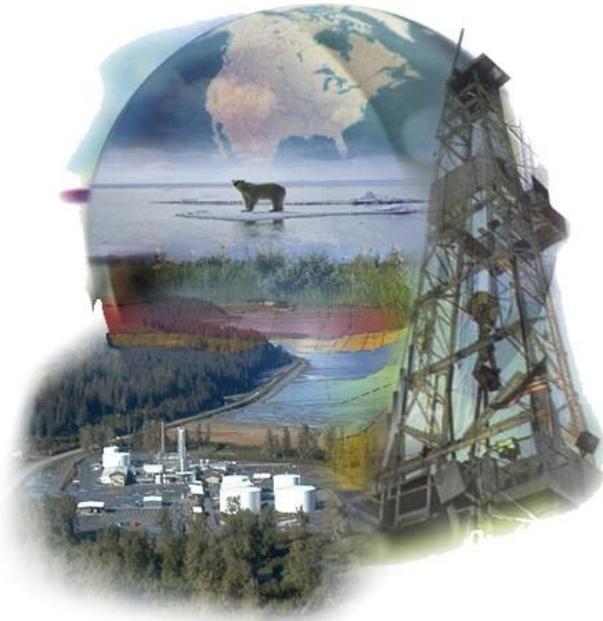


Internet-Based, GIS Catalog of Non-Traditional Sources of Cooling Water for Use at America's Coal-Fired Power Plants

Project Number: DE-NT0005957



David Alleman
ALL Consulting

NETL Project Kick-off Meeting
October 28, 2008

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Project Facts

Project Number: DE-NT0005957

Funding:

DOE: \$ 451,385

Cost Share: \$ 177,250

Total Cost: \$ 628,635

Period of Performance: 36 Months

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Project Performers

Recipient :

ALL Consulting

Principal Investigator: Dan Arthur, President

Primary Partner:

Ground Water Protection Council (GWPC)

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Arthur Langhus Layne, LLC.

dba ALL Consulting

Energy, Engineering and Environmental Consultants

HubZone Certified Small Business

Headquartered in Tulsa, OK

Offices in MT, NM, TX, MO, and LA

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Extensive Experience in :

- **Oil and Gas Private Industry Work and Research with NETL**
 - Beneficial Use of Produced Water
 - Water Management
 - Underground Injection Control
 - Coal Bed Methane
 - Shale Gas
 - Environmental
 - CO₂ EOR
 - Environmental Planning/Permitting
- **NEPA/Environmental Reviews**
 - Bureau of Land Management
 - Forest Service
 - Corps of Engineers

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Ground Water Protection Council (GWPC)

- National association of state ground water and underground injection control agencies whose mission is to promote the protection and conservation of ground water resources for all beneficial uses
- Provides a forum for stakeholder communication and research in order to improve governments' role in the protection and conservation of ground water
- Membership includes more than 35 state water agencies, oil and gas associations, coal associations, public utility associations, etc.
- Working closely with NETL and EPA on CO₂ injection issues

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Need for the NETL Program

- Water is a Looming National Crisis
 - “Water is the oil of the 21st Century”
 - “Water, unlike oil, has no substitute”
 - “Water consumption is doubling every 20 years”
 - “Water is not discretionary”
- New research can resolve environmental concerns, create new water resources, and promote energy development

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Project Goals

- Allow reduced/minimized high quality freshwater withdrawals by identifying non-traditional sources of water.
- Ensure that operators are aware of their options and allow them to assess the availability of these waters to supplement or replace their water supply on a short-term or long-term basis.

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Project Summary

- Identify Location and Water Needs of CFPP in the Lower 48 – Both Current and Planned
- Identify Location, Quality and Volume of Non-Traditional Sources of Water
 - Oil and Gas Produced Water
 - Mine Pool Water
 - Lower Quality Ground Water
 - Other Industrial Sources
 - Other?
- Create an Inter-net Based GIS Catalog of Non-Traditional Sources of Cooling Water

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Project Overview

- **Budget Period I – Data Collection**
- **Budget Period II – System Development**
- **Budget Period III – Beta Test, Launch, Operate**

- Technology Transfer Will Occur Throughout the Life of the Project
- ALL and GWPC Plan to Continue Hosting the Site After Project Completion
- Guided by a Project Advisory Council

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Project Advisory Council (PAC)

- GWPC Members
 - State Water Agency Representatives
 - Industry Association Representatives
- USGS Representatives
- Others as Identified

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Synergies

- Energy Water Nexus
- NETL's Oil and Gas Program
- Conventional Oil and Gas
- Unconventional Oil and Gas
 - CBNG
 - CO₂ EOR
 - Gas Shale
- Other National Lab Water Efforts, e.g., SNL, LANL
- CO₂ Sequestration Program

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