

**National Geothermal Collaborative
Steering Committee
Final Meeting Summary
January 22 - 23, 2004**

Southern California Edison International Offices, Washington, DC

In Attendance:

Gordon Bloomquist – Washington State University
 Janine Clayton – USDA Forest Service
 Paul Dunlevy – Bureau of Land Management
 Troy Gagliano – National Council of State Legislators
 Karl Gawell – Geothermal Energy Association
 Dennis Gilles – GEA, Calpine
 Mike McKinney – Southern California Edison
 Bob Middleton – White House Task Force on Energy
 Program Streamlining
 Susan Norwood – Department of Energy/Geopowering
 The West
 Marilyn Semro – Seattle City Lights

Alternates:

Matthew Brown – National Conference of State
 Legislatures
 David Laroche – White House Task Force on Energy
 Project Streamlining
 Arlene Rocabado – Southern California Edison

Guests:

Liz Battocletti – Bob Lawrence Associates
 Donna McCort – Southern California Edison
 Gordon Hansen – Bureau of Land Management
 Joel Renner – Idaho National Environmental Laboratory
 Don Falcone –

Decisions Made:

Number	Decision
1.	<p>Issue Briefs: Changes and edits to four documents – <i>briefly</i> (see summary sections for detailed changes):</p> <ol style="list-style-type: none"> 1. “Benefits of Geothermal Energy” - Organizations - Begin with a list of the following top six benefits: Economic Development, Reliability, Fuel Diversity, Environmental, Electricity at Stable Prices, and Direct Use 2. “Siting Geothermal Power Plants and Electricity Transmission Lines” – reorganizations and clarification of the nine guidelines, including merging and reordering 3. “Environmental Impacts of Geothermal Energy” - (<i>there was many editorial changes to each section</i>) <ol style="list-style-type: none"> a. Change the headings to clarify impacts: Air Quality Impacts, Water Quality and Quantity Impacts, etc. b. Add a sentence on pollutants, including NOX, SOX, CO, mercury, arsenic, boron c. Add a wildlife section or sentence. 4. “<i>Geothermal Energy Policy Options for States</i>” - Members felt the document should expand on the issue of federal agencies rejecting a permit based on a lack of information to make a decision.
2.	<p>NGC Value, continuation: The NGC creates valuable opportunities for parties to work together and should seek funding to continue.</p>
3.	<p>Year Three Work Plan: Issue areas the NGC will address:</p> <ol style="list-style-type: none"> 1. Forming an Interagency Group – to address communication and coordination, especially with regard to pending leases

	<p>2. Land Use Planning – including transmission and long term planning</p> <p>3. Papers: Debunking Myths; Case Studies outlining common issues faced by developers; and Comparative analysis of fuel technologies with specific focus on production and environmental impacts</p>
4.	All future NGC events will involve clear and consistent communication across all members of the steering committee.
5.	Steering Committee Membership: It is critical to have effective participation from each sector identified and to have them represent their interests on the steering committee. Where that is not possible, staff should (1) check in with the current members to determine whether there is a barrier to participation, and (2) either work to address that or seek alternate representation with concurrence of the standing member.
6.	Role of NGC: To achieve the shared goal of advancing geothermal heat and power in the US, it is critical to have communication and coordination among the various organizations. To the extent that member organizations on the steering committee share their activities and interests, the NGC can serve as a venue to serve the identified communication/coordination need.

Actions:

1. Issue Briefs – Reviewed

- “Geothermal Energy Policy Options for States”
 - a. Marilyn Semro and Arlene Rocabado will edit the Interconnections sentence dealing with cost
 - b. Dennis Gilles will provide a section on Property Tax
- “Environmental Impacts of Geothermal Energy”
 - a. Dennis Gilles will provide a chart showing a comparison between state of the art geothermal power plants and new coal/gas power plants
 - b. Karl Gawell will provide a chart showing water numbers – the size of the plants, gallons of water used per kilowatt hour produced
 - c. Karl Gawell and NCSL will provide additions to the Drilling section
 - d. Dennis Gilles will review the Waste Disposal Section

2. Issue Briefs - To Be Reviewed

- Individual reviewers will send recommended changes to RESOLVE January 30th
 - a. “Direct Use” – Gordon Bloomquist, Paul Dunlevy
 - b. “Economic Development” - Karl Gawell, Dennis Gilles (?), Jessica Alcorn
 - c. “Common Questions” - Liz Battocletti, Diana Bates
 - d. “Location” - Joel Renner, Janine Clayton
 - e. “Technology and Costs” - Joel, Renner, Diana Bates, Jack Piggott (?)
 - f. “Jurisdiction & Authority” (*Not Yet Completed, due February*) - Roger Hill
- RESOLVE will collate comments and send them to NCSL on February 2nd
- RESOLVE will send edited Briefs to the Steering Committee for final review February 10th
- Steering Committee will have a conference call to complete the consensus review of the remaining Issue Briefs on February 17th, 3:00 eastern, 1:00 mountain, 12:00 pacific

3. *Work Plan Work Group*

- RESOLVE will develop a draft year four work plan and disseminate it to the Work Plan Work Group
 - Work Group will convene for a conference call on February 5th, 11:00 eastern, 9:00 mountain, 8:00 pacific
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MEETING OBJECTIVES

1. Complete a consensus process on Issue Briefs
2. Develop a year three work plan

REPORT ON YEAR TWO ACTIVITIES

Kathleen Rutherford presented an overview of the activities from the Year Two work plan:

1. **Creating Geothermal Markets:** Evaluating Experience with State Renewables Portfolio Standards - Report and Executive Summary

Per the July 30, 2003 meeting: The RPS Executive Summary was completed and distributed to: legislators/legislative staff, energy legislative aides, committee chairs, vice chairs and members of energy or natural resource committees of the Western states (Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming), and NCSL's energy list serve (which included many of the previous listed folks), as well as organizations and associations identified by Steering Committee members (including APA, NHA, NARUC, NASEO, NASUCA, NREL, WGA, WIEB, and WRA/LWFR)

2. **Web site** – www.geocollaborative.org – was constructed and maintained. The website will serve as a central posting point for final consensus products, meeting summaries etc. as well as a place to announce upcoming events and provide links to member organizations/relevant sites.
3. **Utah workshop: Exploring Utah Geothermal Opportunities: Development and Financing**
The workshop was born out of a conversation between Gordon Bloomquist and Sara Wright, (Utah Clean Energy Alliance) at a GPW State Summit. This was the first live venue where the NGC's RPS report was disseminated. The state legislature in Utah had rejected RPS legislation in the previous session. Sara asked if there might be a role for the NGC to play in Utah with respect to sustained interest in RPS legislation. Partnering with Gordon as Chair of the Education Committee of the Geothermal Resources Council, and the Utah State Energy Office, the Collaborative helped to organize and facilitate this one day event. The day was seen as highly successful-with relatively short notice, nearly 50 participants attended. New information for many of those participants was shared about the geothermal resource, development and financing opportunities. Lots of good information from USDA about funding was shared, generating clear interest in geothermal development resource opportunities.

Discussion:

Originally, the workshop in Utah was scheduled to be at either the start or finish of a NGC Steering Committee meeting- to optimize by design participation/engagement of Collaborative members in shaping the Utah event. Due to a convergence of unique scheduling challenges/conflicts, the steering

committee meeting was moved from Salt Lake City to Washington DC. This decision and the logistics management for both the Steering Committee meeting and the Utah event transpired largely over the course of the holidays. So while members of the NGC were glad to hear of the success of the event, discussion went to a lack of proper communication across the collaborative on NGC activities. Specifically, while the GRC/NGC were equally billed for this event, other member organizations of the collaborative were not sufficiently informed of the way in which this event was shaped up, and consequently there were some missed opportunities/unintended consequences identified.

Agreement: All future events billed as NGC must involve clear and consistent communication across all members of the steering committee.

STEERING COMMITTEE REPRESENTATION

Kathleen introduced a new Environmental Representative, John Nielson, with the Western Resource Advocates (formerly the Land and Water Fund of the Rockies). John will be taking the first chair on the Steering Committee, and he will continue to work with Rich Ferguson, CEERT, as an alternate.

Discussion:

Concerns expressed about membership went to the issue of engagement/participation. It was observed that there are some key stakeholders that, while they have chairs at the table, have not participated as expected/hoped for.

Agreement: It was concluded that it is critical to have effective participation from each sector identified and to represent their interests on the steering committee. Where that is not possible, staff should (1) check in with the current members to determine whether there is a barrier to participation, and (2) either work to address that or seek alternate representation with concurrence of the standing member.

ISSUE BRIEFS

A first review on Issue Briefs #1-4* was completed. Please see Appendix A for detailed changes. The remaining five were scheduled for first review over a conference call.

Background:

At the May 2003 NGC meeting, Steering Committee members brainstormed and agreed to develop Issue Briefs on nine topics areas. The National Conference of State Legislatures (NCSL) offered their expertise to draft the Issue Briefs. The agreed on objective, audience, topics and consensus process:

Objective: To inform policy/decision-makers about geothermal resource (development potential), technologies and policies.

Audience: the target audience could include state policy makers, public and private utilities and federal policy makers.

Topics:

1. *Benefits of Geothermal Energy**
2. *Geothermal Energy Policy Options for States**

3. *Siting Geothermal Power Plants and Electricity Transmission Lines**
4. *Environmental Impacts of Geothermal Energy**
5. *Direct Use Economic Development*
6. *Common Questions*
7. *Resource Location*
8. *Technology and Costs*
9. *Jurisdiction & Authority (not yet drafted)*

Consensus Process:

1. *Identify those areas/issues in the report that are critical to preserve and protect*
2. *Identify those areas/issues that would block a participant from consensus*
3. *Negotiate one full issue set, in order to experience a complete negotiation – future negotiations will be via conference call over an agreed upon a timeline*

Discussion on the Issue Briefs

Benefits of Geothermal Energy

Members felt the document rightly emphasized that geothermal energy comes from tapping the HEAT of the earth, not the water or steam. Also valuable was the reference to the value of geothermal's reliability and availability

The discussion of elements to change centered on organization, consistency, language choices, and the inclusion of direct use, the ability to meet state RPS, comparative information, and fuel diversity.

Geothermal Energy Policy Options for States

Discussion of changes centered on the documents organization, clarifications, and language changes. Members felt the document should expand on the issue of federal agencies rejecting a permit based on a lack of information to make a decision.

Siting Geothermal Power Plants and Electricity Transmission Lines

Discussion began with identification of that which was important to preserve/protect - establishing that the resource is fixed and inclusion of transmission issues. Discussion on changes focused on: audience (federal or state permitting agencies); the nine siting guidelines, inclusion of a formal MOU process to remove duplication, and language changes.

Environmental Impacts of Geothermal Energy

Discussion began by highlighting the valuable elements, such as the representation of all major environmental impacts, the up-front comparison to traditional power plants, the attempt to differentiate different geothermal uses, the organization, and the introductory paragraph.

Extensive discussion on language changes and clarification followed.

Day Two – January 23, 2003

STEERING COMMITTEE FUCTION/UPDATES

Transition Announcements

In the coming year there will be several transitions. Paul Dunlevy, BLM-Director of the Geothermal Program, is retiring the end of February 2004. Paul has contributed extensively to the NGC both on the Steering Committee, the Impediments Work Group (especially on the Impediments Findings Document). He championed the NGC effort within DOI and was a conduit of information between the two organizations. Gordon Hansen, BLM, will be the Interim Director and the BLM representative on the Steering Committee. Gordon has been involved with the energy office for the past two years, with experience in budgets and planning. Gordon is committed to supporting the NGC and contributing to the activities and work to be completed. When the new permanent Geothermal Director is hired, they will decide the appropriate BLM representation.

Susan Norwood, DOE-GeoPowering the West National Coordinator, accepted a six-month detail in Baghdad, Iraq. Susan has been an enthusiastic supporter of the NGC from its inception. She has worked with RESOLVE throughout the past two years to build and support the activities of the NGC. Susan plans to return to her DOE duties and the NGC in six months. In her absence Roger Hill, GPW-Technical Director, and Joel Renner, Idaho National Engineering and Environmental Laboratory, will provide DOE/GPW representation and technical expertise.

Geothermal Organizations and the Role of the NGC

Issues:

Underpinning much of this conversation were two tiers of structural concerns. First, there is an overarching tension relating to competition for a limited pool of DOE funds by most of the Steering Committee member organizations. Second, in the larger geothermal community there is questioning as to how the various organizations execute their missions, and whether there is unnecessary duplication among the various geothermal-related organizations seeking to advance development and use of the resource.

Discussion:

Members discussed the various geothermal organizations, describing their roles, including the NGC. There was agreement that there is an abundance of work to be done to advance geothermal heat and power development. Further, it was observed that while the existing geothermal organizations each hold a distinct focus and role, overlap sometimes occurs in the actions needed to achieve each individual purpose (e.g., education can be a precursor to many other activities, including lobbying and/or policy exploration dialogues).

Agreement: It is critical, for the shared goal of advancing geothermal heat and power in the US, for communication and coordination among the various organizations. To the extent that member organizations on the steering committee share their activities and interests, the NGC can serve as a venue to facilitate communication needs.
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The group clearly delineated the NGC's role as both unique and valuable. What is unique is that the NGC provides an opportunity for diverse organizations (government agencies, industry, utilities, academia, state legislatures, tribes, and environmentalists), to jointly define problems and create potential solution paths using consensus. It is the consensus process that adds value to the overall geothermal community.

Consider as the NGC Moves Forward

- As the NGC moves forward with different activities, it is important to:
 - o Communicate with Steering Committee members about activities
 - o Ensure NGC activities are advancing the interests of all the members
 - o Review the Operating Protocols and DOE grant

- Not try to be a quick response organization
- Creating an agency coordination committee. There is a need to formally convene such a group; BLM fully supports this as an NGC activity. The group would work towards one-stop-shopping, definition of roles, flow chart, motivate the leasing program and would not require consensus of a larger group.
- Increasing the visibility of geothermal; this can be done though attending meetings/conferences and the disseminating the NGC products produced
- Participating in the WGA meeting April 14th & 15th. The WGA is formulating the agenda and NGC should work to be on a panel or speak; possibly focused on the RPS report

YEAR THREE WORK PLAN

2004 Activities for Member Organizations

Member organizations were asked to share their plans for the next twelve months in order to ensure efforts are not being duplicated, and that where possible, to achieve synergy between programs to leverage change opportunities. See Appendix B for details.

Continuation of the NGC

NGC's funding comes from a DOE three year cooperative grant to RESOLVE. 2004 is final year of the grant. It was therefore necessary to establish whether or not the group saw value in seeking funding to continue these efforts beyond the third year. There was brief discussion of the value of the NGC and how it fits into the geothermal arena. DOE voiced their interest in and commitment to funding this collaborative effort, as long as the group stood behind this.

Agreement: The NGC creates unique and valuable opportunities for parties to work together. Stakeholders support the effort extending beyond the original three year contract.

Issue Areas/Directions to tackle in the Coming Year

There was a brainstorming session in which members were asked to identify important issues or activities for the NGC to build a work plan around. The objective was to give the Work Plan Committee enough information to formulate a draft work plan. That work plan will be submitted with recommendations to the Steering Committee at the March conference call meeting. Below is a brief summary of the three principal directions explored.

1. Interagency Group –
 - Convene agency representatives – agencies don't have representatives assigned; Forest Service, Geo-Fest, RESOLVE could attend the meeting and offer a short course to build interest and capacity
 - Geothermal 101 and capacity building to create equal foundations for representatives
 - Create ownership in problem in the agency by attending their meetings (don't just send a document)
 - Direct the effort at those who need to do something/change (target those groups where we can create change); focus on those areas where there is going to be development - don't want to gear up geothermal knowledge/processes and then have it go no where

- Include Leasing backlog - how do you effectively move geothermal development forward in the North West
 - Dialog about issues in the North West
 - American Indian issues – identify and explore issues related to sacred sites and spiritual values, including involvement, mitigation, credibility
2. Land Use Planning – where is the resource/where might industry build (NGC’s role lending clarity)...Growth Management Act is mandated to do land use planning and transmission planning (no one comes out until a development is desired)
- Transmission – although the issue is not specific to geothermal it is important to geothermal development... NGC could do some case studies and offer up suggestions to land use planning issues (Edison’s effort to include transmission planning in counties). Start by defining it - assessment of industry and utilities, solicit examples, analyze specific problems, such as the disconnects: 1) the gap between the grid and source; and 2) communication (locations),
3. Papers
- Debunking Myths (5-10 pages)...Siting issues/Plant issues – identify issues and how they are resolved or refuted – cleanness, odor, earth quakes, wet vs. dry cooling...Common Concerns about Siting Geothermal in your Community – Report, bigger than a brief...NIMBY issues
 - Case Study – demonstrating common issues...Medicine lake, Pyramid lake, Newbury crater, Skip Valles Caldera, it is too risky
 - Comparative analysis (5-10 pages): comparative environmental analysis and production for all fuels...here’s how geothermal compares...audience – environmentalist, regulators, states

Issues Not to Address

- Utah Event follow-up on RPS – due to a number of factors, included questioning the value added on the RPS front, the group agreed not to further pursue RPS work in the state
- Negative press about geothermal around the Valles Caldera case – the group agreed to not pursue this because of the legal suit and the risk involved in the case

NEXT STEPS

Upcoming Activities

- Tribal Workshops – the Impediments Work Group decided to work with CERT on their regional Indian energy conferences in Albuquerque, Northern California, and New Mexico. *This is a continuation from year two work plan. Dates TBD.*
- Impediments Document – there are a few missing sections - plant issues: visual impact, opposition to the structure of the plan, and noise.

Schedule

- **February 17th, 3:00 eastern 1:00 mountain, 12:00 pacific - NGC Conference call**
- **February 5th, 11:00 eastern, 9:00 mountain, 8:00 pacific - Work Plan Committee** – conference call; members: Gordon Bloomquist, Janine Clayton, Paul Dunlevy, Karl Gawell, Dennis Gilles, Gordon Hansen, Roger Hill, Mike McKinney
- **January 30th – Individual Issue Brief reviews sent to RESOLVE**
 - o “Direct use”: Gordon Bloomquist, Paul Dunlevy
 - o “Economic Development”: Karl Gawell, Dennis Gilles (?), Jessica Alcorn
 - o “Common Questions”: Liz
 - o Battocletti, Diana Bates – 202-454-5261 research@geo-energy.org
 - o “Location”: Joel Renner, Janine Clayton

- “Technology and Costs”: Joel, Renner, Diana Bates, Jack Piggott (?)
Not Yet Completed
- “Jurisdiction & Authority”: Roger Hill, Due February
- **February 2nd, 12:00 eastern, 10:00 Mountain, 9:00 pacific - Impediments Work Group call**
- **June 2004 - NGC Face-to-Face meeting**, potentially at the Geysers