

**National Geothermal Collaborative
Steering Committee**

Final Meeting Summary

July 15, 2004 – Issue Brief Discussion

Geysers Visitor Center
Middletown, CA

Present:

Jessica Alcorn, CERT
 Janine Clayton – US Forest Service
 Ted Clutter – Geothermal Resources Council
 Rich Estabrook – BLM - California
 Troy Gagliano – National Conference of State Legislatures
 Karl Gawell – Geothermal Energy Association
 Richard Grabowski – BLM – California
 Gordon Hansen, US BLM
 Roger Hill – Sandia National Laboratory, GeoPowering the West
 Marty Letourneau - – White House Task Force on Energy Project Streamlining

Bob Middleton – White House Task Force on Energy Project Streamlining
 Roy Mink – Department of Energy
 Marilyn Semro – Seattle City Light
 Charlene Wardlow - Calpine
Phone:
 Gordon Bloomquist – Washington State University
 Arlene Rocabado – Southern California Edison

Present for the NGC Future Discussion:

Jay Nathwani – Department of Energy
 Susan Norwood – Department of Energy
 Dan Schochet - Ormat

Decisions Made:

Number	Decision
1.	<i>NGC Looking Forward:</i> During this discussion there was general agreement that the NGC is a valuable effort. It was acknowledged that one of the unique and most important attributes of the effort is the diversity of the steering committee members. Looking forward, it was agreed that the NGC should refocus on the policy level and on action oriented efforts; focus on efforts that will produce changes and will encourage policy makers to act and advance geothermal development. The Issue Briefs were addressed along two fronts: first, they have taken more time and member effort than was originally projected, and secondly, while arduous, the effort will be of great value once the briefs are published and disseminated. Another value of the Issue Briefs is in the learning that took place during the development process.
2.	<i>NGC Operating Protocols:</i> The NGC will remove the following activities from the NGC Operating Protocols adopted August 15, 2002 (p. 1): <ol style="list-style-type: none"> 1. “Respond to inquiries about geothermal power.” (the NGC would refer people to appropriate people) 2. “Identify and disseminate information about efficient geothermal production technologies.” 3. “Develop solutions to mitigate market barriers and remove obstacles to sustained orderly development and accelerated procurement of geothermal power.” (this would be a good activity at the state level too).

<p>3.</p>	<p><i>Issue Briefs – Process: final date for adoption is August 4th.</i></p> <p>There was agreement that a great deal of work had been invested in these documents and that they took more time and effort than originally expected. Participants also agreed that overall the documents were markedly improved and that while arduous the effort was valuable for the learning during development, and will be of great value once the briefs are published.</p> <p>Rather than delve into the detailed negotiations just completed in round two, participants opted to modify the process in this manner:</p> <ol style="list-style-type: none"> 1. Steering Committee will identify key issues in each brief which would prevent members from accepting the document as a consensus product and offer a proposal that meets that effectively satisfies the related concerns. 2. Steering Committee members will submit any editorial recommendations to NCSL and RESOLVE by 12:00 MST, July 23, 2004. 3. RESOLVE would distribute the final version (comments integrated) of these documents for adoption via email by late in the day on July 23, 2004. <p>RESOLVE will then follow up individually with members to confirm consensus prior to Troy Gagliano’s departure on August 4, 2004.</p>
<p>4.</p>	<p><i>Issue Briefs – Changes:</i></p> <p>Changes and edits were accepted for the final review of nine issue briefs – a few key agreements/decisions include (see summary sections for more detailed changes):</p> <p>Overall Changes: the group agreed to the following universal changes in all the briefs:</p> <ul style="list-style-type: none"> -change “re-inject” to “inject” -remove “slightly” when referring to diminished pressure of the resource -change “between \$0.03 - \$0.05” to “\$0.05 or lower” -change “will” to “may” <ol style="list-style-type: none"> 1. Benefits and Challenges: The first page should be positive about geothermal; one benefit discussed - geothermal is not subjected to volatile markets 2. Common Questions: In Question 8, remove opinion statements and negative phrases. 3. Environmental: Federal and state governments first try to avoid environmental impacts, and then try to minimize before mitigating; environmental impacts are not always mitigated. 4. Direct Use: <i>No changes.</i> 5. Technology and Cost: Qualify the costs in the table as levelized for the State of California. 6. Economic Impacts: Royalties are not similar to severance taxes. 7. Location Brief: Use both figures and color publishing. 8. Policy Options: Add language about GeoPowering the West, long-range transmission planning that considers the location of geothermal resources, and financial programs like reinvesting royalties to promote geothermal development

	(Geothermal Resources Development Account); and recognize that in almost all cases FERC makes decisions about who pays and for what. In limited situations state policy makers regulate interconnection to the power grid 9. Siting: Change the verbs and the title to address a wider audience.
5.	Issue Briefs - Format for Publishing: In a folder/pull out format – each brief will be a separate document. The cover of the folder should include an introduction to the NGC, the purpose, how the information was compiled, sources of information, the consensus process and the list of Briefs.
6.	Jurisdiction and Authority Brief: The group considered whether there was a workable framework in the draft to refine into one brief. If the answer was separate it into two briefs, the proposal was to eliminate this subject. It was decided to reframe the paper and retain it in the suite of NGC Issue Briefs.
7.	Jurisdiction and Authority Brief: The document will remain as single brief, and not be split into two briefs on power and district heating. Issue Brief framework – 1) Jurisdiction (tabulation) 2) Resource (defining the resource, who and where) 3) Ownership (land status and leases – federal, non federal and tribal), and into the 4) Applications/Use (power generation – FERC, district heating systems- State and/or rural, and individual unregulated use
8.	Coordination Working Group – MOU Effort The group agreed to meet in Portland, Oregon, August 17th to review and improve the CA-MOU (internal analysis, including RESOLVE’s interviews), and to develop some key points/requests to present at a White House Task Force on Energy Project Streamlining (WHTF) deputies meeting.

Actions:**Issue Briefs**

1. Roger Hill will provide language about Geo Powering the West for the Policy Options Brief in the next week
2. Karl Gawell will provide language on GRDA and other incentive programs for the Policy Options Brief in the next week
3. Marilynn Semro will provide a few sentences about transmission planning (SSG-WI and NTAC), for the Policy Option Brief in the next week.
4. Troy Gagliano will verify if Minnesota has a cost recovery program in the next week.
5. Steering Committee members will send editorial changes to RESOLVE and NCSL (jerikson@resolv.org and troy.gagliano@ncsl.org) by **12:00 MST, Friday, July 23, 2004.**
6. NCSL will integrate the editorial comments.
7. RESOLVE will send the revised documents to steering committee members for approval late in the day on July 23, 2004.
8. RESOLVE will call members to confirm consensus adoption.
9. **Documents will be adopted as final no later than August 4, 2004** due to Troy Gagliano’s departure from NCSL on August 6, 2004).

Coordination Working Group - MOU Effort

1. **August 17th, Portland, Oregon** - A meeting to review and improve the CA-MOU (an internal analysis, including RESOLVE’s interviews) and to develop some key points/requests, for the WHTF deputies meeting, where the deputies could be helpful.

- a. Gordon Hansen will contact Nancy Ketrenos to attend the meeting.
 - b. RESOLVE will contact Karen Schilling, BLM-ID, to attend the meeting.
 - c. Janine Clayton will send RESOLVE contact information for the following people to attend the meeting
 - i. Charlie Seth and Lynn Oliver – Inyo Forest
 - ii. Sean Haggerty and Leroy Mohorich – BLM-CA
 - iii. Newberry and Alice Doremus – Deschutes, Bend, Oregon
 - iv. Bob Fujimoto – USFS-OR
 2. Charlene Wardlow will translate the current flow chart into electronic form, as soon as possible.
 3. RESOLVE will contact Karl Gawell, Dennis Gilles and John Nielsento attend briefing and the WHTF's deputies meetings (the message is more powerful coming from outside the agencies).
 4. RESOLVE will verify when the WHTF's September Deputies meeting is and get on the agenda.
 5. RESOLVE, with steering committee help, will schedule other briefings when in DC – Tom Lonnie, Kathleen Clark, and Tom Thompson
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MEETING OBJECTIVES:

- To complete final review and adoption of the Issue Briefs as consensus documents and finalize the publication format/audience.
- To discuss the NGC moving forward, in the context of the DOE geothermal program.
- To discuss year three activities.

ISSUE BRIEFS

Concerns in this, the third and proposed final review stage, were focused on substantive changes - elements or words that significantly alter the meaning of the sentence and prevent members from accepting the document as a consensus product.

AGREEMENT: There was agreement that a great deal of work had been invested in these documents and that they took more time and effort than originally expected. Participants also agreed that overall the documents were markedly improved and that while arduous the effort was valuable for the learning during development, and will be of great value once the briefs are published. Rather than delve into the detailed negotiations just completed in round two, participants opted to modify the process in this manner:

1. Identify key issues in each brief which would prevent members from accepting the document as a consensus product and offer a proposal that meets that effectively satisfies the related concerns.
2. Steering Committee members will submit any editorial recommendations to NCSL for integration by 12:00 MST, July 23, 2004.
3. RESOLVE will distribute the final version of these documents via email late on July 23, 2004.
4. RESOLVE will then follow up individually with members to confirm consensus adoption. Documents will be adopted by **August 4, 2004**, due to Troy's departure on August 6, 2004.

Background

The objective of the Issue Briefs is to inform policy/decision-makers about geothermal resource (development potential), technologies and policies. The target audience for the Issue Briefs is state policy makers, public and private utilities and federal policy makers.

The first review focused on ensuring that data gaps were identified, that data was correct, and that the overall document structure was sound.

The second review drilled into greater detail on both data and editorial levels, ensuring that the issues raised in the first review were addressed in the most accurate manner possible.

The third/final review is focused on discerning that which would block steering committee members from adopting the document as a consensus document.

For a full account of the changes accepted, editorial and substantive, please refer to the revised documents (these will be circulated for final review on July 30, 2004).

The following is an outline of the key substantive discussions on each Brief, including agreements, editorial changes and the relevant marked up sections. Each description includes a copy of the section of the Brief discussed, including the subsequent changes:

- **bold** text was added,
- ~~strikeout~~ text was removed).
- *** Denotes decisions on editorial changes accepted by the group.

Overall Changes

- *** CHANGE re-inject to inject.
- *** REMOVE “slightly” when referring to diminished pressure of the resource.
- *** CHANGE “0.03-0.05 cents per kWh” to “below 0.05” or “0.05 or lower”.
- ***CHANGE “will to “may”.

The following Issue Briefs were reviewed: page numbers for meeting summary included:

Brief	Refer to Meeting Summary Page:
➤ Benefits and Challenges	(pp. 6)
➤ Common Questions	(pp. 7)
➤ Environmental Impacts	(pp. 8)
➤ Direct Use	(pp. 9)
➤ Technology and cost	(pp. 9)
➤ Economic Development	(pp. 9)
➤ Location	(pp. 9)
➤ Policy Options	(pp. 10)
➤ Siting	(pp. 10)

Benefits and Challenges Brief

Reliable Power section – second paragraph – ***CHANGE people to California households.
***REMOVE some of the negative sentences in the paragraph to give the reader a positive view.

“Geothermal resources can provide power for many years. The Geysers geothermal field **for example**, which began commercial production in 1960 in Northern California, had the first domestic geothermal power plant. **Nearly half a century later**, ~~the steam pressure there has diminished slightly but all the major equipment has been overhauled, replaced and modernized and the 21 power plants operating there generate power for approximately one million people~~ **households in California**. ~~Using geothermal energy to generate electricity over extended periods may also require drilling new wells as the productivity of older ones diminishes from extended use of require maintenance that is not cost effective.~~ The key to successful **long-term sustainable** geothermal **production development** lies in **efficiently** managing the resource ~~and using it efficiently.~~ ~~Recent~~ Technological advances—such as water injection ~~pressure stabilization and,~~ **continue to be developed and** allow developers to maximize resources and minimize drilling. (p. 1)”

Figure 1. Natural Gas Price - the discussion focused on how to improve this figure. One suggestion was to show the most volatile part of the graph, to cut the graph in half (this is technically challenging due not being able to manipulate the image). Another suggestion was to include in the sentence on the graph the highs/ lows and average for the years 2000 and beyond.
***CHANGE the note under the graph to read:

“Note: **In contrast to natural gas, the fuel costs for a geothermal power plant are not dependent upon volatile markets.** Electricity price from geothermal power plants is predictable and stable over the life of the project. (p. 2)”

Diversity Mix section – more people relate to electricity prices than fuel prices. The issue is geothermal is not dependent on volatile markets because geothermal does not need to buy a commodity (fuel); geothermal’s costs are in operations. ***CHANGE fuel prices to electricity price.

“Renewable energy resources like geothermal can help states diversify the mix of fuels they rely on for power and protect customers from volatile electricity ~~fuel~~ prices. The **fuel costs for a geothermal power plant are not dependent upon volatile market** price of electricity from a geothermal power plant is predictable over many years because the fuel source is secured upfront. In contrast, the price of ~~fossil fuels, especially~~ natural gas is volatile and difficult to predict accurately (**See fig. one**). In addition, using domestic renewable resources can help states reduce the amount of fuel they import from nearby states or overseas. (p. 2)”

Direct Use section – there was concern that “twice the minimum wage” for direct use jobs would mean different things to different people. ***REMOVE the sentence “~~These jobs pay nearly twice the minimum wage.~~” (p. 4)

Summary Box text –**“Benefits”**

- “Geothermal power plants provide steady and predictable baseload power
- New geothermal power plants currently generate electricity for between \$0.05 per kWh and \$0.08 per kWh, which ~~can decline~~**decrease to between \$0.03 below \$0.05 per kWh** after the initial period **capital investment has been recovered**
- Direct use applications and power plants can generate tax revenue and royalty payments for **federal, state and local governments** and create construction, **operation, administrative** and maintenance jobs.
- Responsibly ~~maintained~~**managed geothermal** resources can provide power for decades.
- Geothermal power plants in the United States **are reliable**, operating about 98 percent of the time.
- Power plants are small, require no fuel purchase and are compatible with agricultural and other land uses.
- Geothermal plants produce a small amount of pollutant emissions compared to traditional fossil fuel power plants.”

“Challenges”

- ~~“Many of the best potential and most economically accessible~~ resources are located **in remote or rural areas, often on federal or state lands. Developing projects on federal or state lands can be a challenge.** The leasing process can be very cumbersome, especially when a proposed project might conflict with other land uses, **ESA, and** historical or cultural ~~significance~~ **resources.**
- Although costs have decreased in recent years, exploration and drilling for power production remain expensive.
- Using the best geothermal resources for electricity production ~~may will~~ require an expansion **or upgrade** of the transmission system.
- The success rate for discovering geothermal resources in new, untapped areas is approximately 20 percent. In areas where wells already are producing, the chance of locating more wells increases to about 80 percent.
- The productivity of geothermal wells ~~may will~~ decline over time.
- **ADD SENTENCE FROM EARLIER ON RESERVOIR MGMT. (p. 5)”**

Figure 3 – rewrite the last bullet to bring it in alignment with changes to the Environmental Brief and clarify that the numbers were a translation into SO2 numbers.

Common Questions Brief

Question 8, second bullet – the last sentence is an opinion and inaccurate; that compared to traditional energy sources geothermal energy remains more expensive because of a lack of support from public policies, financing and research. The last bullet is vague and repetitive. *****REMOVE** the last sentence in bullet two and three and restate the third bullet to be more positive.

- *“Geothermal resources that are suitable for power generation **using existing technology are limited found in** to locations in most western states **and** Alaska and Hawaii. Resources that are practical for direct-use applications are more widespread, but also are located predominately in the west.”*

- *“Technology and public policy greatly influence the economics of geothermal energy. Locating geothermal resources is expensive and risky just as in oil and gas exploration. However the success rate of drilling for fossil fuels is more than 80 percent because many reserves are identified before drilling occurs. Geothermal exploration technology is not as successful; productive wells are discovered approximately only 20 percent of the time because the geology of geothermal systems is more complex. Geothermal energy also remains more expensive because public policies, financing and research historically have not supported geothermal energy development as they have traditional energy sources.”*
- *“Obtaining permits to lease land and build geothermal power plants can be a lengthy and tedious and cumbersome process that can hinder the development of and **increase the costs of developing** geothermal resources. State and federal laws vary both in how they define geothermal resources and how they determine who owns the rights to them. It can easily take years for a developer to obtain all the necessary permits for a project or to find that the proposal is denied. (p. 3)”*

Environmental Issues Brief

Introduction Paragraph - “always mitigate” – federal agencies do not *always* mitigate environmental impacts. First, they try to avoid and minimize and then mitigate environmental impacts, and sometimes they do nothing. ***USE the word minimize and remove mitigate.

“The economic and environmental attributes of geothermal power make it an attractive source of energy, but all forms of development affect the local environment and geothermal energy is no exception. There are a host of local, state and federal laws **intended to** ~~that~~ govern the use of geothermal energy and ~~mitigate any~~ **minimize** environmental impacts. This brief focuses on the effects that geothermal development can have on air quality, water resources and land use. (p. 1)”

Land Use Impacts Section - micro earthquakes – the Geysers’ neighbors have perceptible earthquakes. ***REMOVE the phrase that they are imperceptible to neighbors.

“Geothermal plants are typically compatible with agricultural, industrial and forested land uses and can easily be designed to blend in with surrounding areas. Geothermal power plants occupy very little land compared to other power plants, particularly coal and nuclear facilities that also require land for mining, transportation and storing fuels. When considering land use impacts for any type of power plant, it is important to also factor in infrastructure like roads and transmission lines. Just as with any form of development, using geothermal energy will have some impact on plants and animals. Since most geothermal resources are located in areas of seismic activity, there has been some concern that project-related production and injection activities can induce low magnitude earthquakes, or micro-earthquakes ~~that are usually imperceptible to nearby residents~~. Also, removing large amounts of fluids from the ground may result in some land subsidence. (p.2)”

Direct Use Brief

There were no comments of issues that would block consensus on this issue brief.

Technologies and Cost Brief

Cost, Price and Challenges section – table – the intent of the table was to reflect published comparative data. Some do not agree with the data but concede it does adequately reflect life time costs. ***RETITLE – Cost of New Electricity Production.

Cost, Price and Challenges section - notes – clarify the first note to let the reader know that the costs are levelized and for homes in California; energy costs can differ from state to state. ***ADD levelized and in California.

“Unlike traditional power plants that run on fuel that must be purchased over the life of the plant, geothermal power plants use a renewable resource that is not susceptible to price fluctuations. New geothermal plants currently are generating electricity for prices between \$0.05 to \$0.08 per kilowatt-hour (kWh). Geothermal plants that have operated for more than 10 years tend to generate power for prices below \$0.05 per kWh, because the capital costs are paid off. The price of geothermal energy is within the range of other electricity choices available today **when lifetime costs are considered** (see Table 1).

“Table 1. Cost of **New** Electricity Production (cents/kilowatt-hour)

“(Note) These figures are for comparison only and represent the **levelized** costs as of June 2003 **in California**. (p.3)”

Economic Development Brief

Royalty Payment section –

“Royalties are based on a percentage of a developer's profits or revenues that come from using geothermal resources on leased land. ~~These payments are similar to severance taxes that governments collect for leasing their land to private mining operations. This can~~ could generate significant revenue for **western** states ~~such as Idaho and Nevada,~~ where ~~most~~ **significant** of the geothermal resources lie under federal, **state or tribal** lands. By 1997, geothermal power plants had paid a total of nearly \$500 million to the federal government in royalties. In 1999 alone, Nevada received \$2 million from its share of federal royalties from approximately 235 MW of geothermal electric generating capacity that provides 5.5 percent of the state's power.

“Under the provisions of the Federal Geothermal Steam Act, in states where the federal government collects geothermal royalties, it gives back half of the total to the state in which the resource is located. States are free to determine what percentage of their share they give to the county. ~~Pending revisions to the Steam Act would restructure the formula so that the federal government's share would decrease to 25 percent, the state would keep its 50 percent share and counties would get a direct 25 percent share. In California, that would increase the county's share of royalties to 45 percent because the State already gives 20 percent of its share of royalties to the county.~~ (p. 2)”

Location Brief

Figure 2 – the icons are not distinguishable. Eventhough the icons are hard to read the map is useful and should remain in the brief. ***ADD a link for each map and use color printing.

Policy Options for States Brief

This is a good place to mention the GeoPowering the West State working groups.

ACTION: Roger Hill will provide a sentence or two to add to this brief.

Grants and Loans section - ***ADD a sentence about the Geothermal Resource Development Account (a portion of the royalties is redirected to expand and promote use of geothermal through enhancing geothermal programs at the state level.

ACTION: Karl Gawell will send a sentence or two on the California program that reinvests geothermal funds back into geothermal development (GRDA)

Royalty Payments section – royalty payments are not similar to severance taxes. There is not a desire to completely waive or eliminate royalties, only create flexibility, such as delay payments to incentivize geothermal development (GRDA could be included here as well). ***REMOVE the second sentence. ***CHANGE “profits” to revenue.

Interconnection Requirements – there was a lot how to phrase this section. It was important to let readers know that power plants need to connect to the grid and that there are costs associated with building those connections. In almost all cases FERC establishes who pays and for what and in limited situations, state policymakers also regulate interconnection to the power grid.

“Geothermal developers must connect their power plants to the existing network of power transmission lines to get their product to market. There are some costs involved in making this interconnection for which either the utility that owns the transmission lines or the geothermal developer must pay. **In most cases** the Federal Energy Regulatory Commission decides who pays for what ~~in almost all cases~~. In some limited situations, state policymakers also regulate interconnection to the power grid. (p. 4)”

Transmission section – ***ADD language about the need for long-range state planning that considers/factors for where the geothermal resources are and about state options and ways to facilitate financing and construction (what other states are doing, such as Minnesota’s program to recover costs).

ACTION: Karl Gawell and Marilyn Semero will provide a few sentences on SSG-WI and NTAC.

ACTION: Troy Gagliano will verify if Minnesota has a cost recovery program.

Siting Brief

It is important to remember that the audience for these Issue Briefs is state and federal policy makers, utilities, developers and interested people. ***CHANGE the verbs to speak to a broader audience. There are multiple entities responsible for implementing the suggested guidelines. Questions were raised about how and by whom each guideline could be implemented (developing some of the guidelines, like one stop shopping, have been underway for a long time). Even though there are many responsible entities the Brief offers the reader a place to look when thinking about siting issues; the value lies in its common sense conclusion/suggestions. ***RETITLE to reflect the larger audience, example – elements of successful siting practices.

Guideline 10 –

“Allow for an appeals process **which is coherent and timely**.

State permitting laws and regulations almost always lay out an appeals process. Parties who disagree with the siting authority’s decision can appeal to the courts, or in some cases, to the public utility commission itself. The appeals process is important in many states because it provides a clear and transparent way for all parties to understand who makes decisions. It can help avoid a situation in which aggrieved parties challenge a decision for extended periods of time through multiple forums. ~~For example, the U.S. Department of Interior and U.S. Department of Agriculture have different processes for making the same decision. The State of California allows for appeals directly to the State Supreme Court. An efficient, coordinated appeals process is important at both the state and federal levels.”~~

Issue Brief Next Steps:**ACTIONS:**

1. **July 23, 2004, Friday, 12:00 MST** - Steering Committee members will send editorial changes, to RESOLVE and NCSL (jerikson@resolv.org and troy.gagliano@ncsl.org).
2. Karl Gawell, Roger Hill and Marilynn Semro will also send language to RESOLVE and NCSL by 12:00 MST, July 23rd.
3. NCSL will integrate the editorial comments.
4. RESOLVE will send the changed documents late in the day on July 23rd.
5. RESOLVE will contact members to confirm consensus adoption and document concurrence between July 30th and August 3rd.
6. Adoption of the Issue Briefs will be no later than **August 4, 2004**.

Format for Publishing the Issue Briefs

Options were presented to the group – a glossy cover book, similar to the RPS report; a book cover that include text about the NGC, the compilation process, source data, the consensus process and a table of contents; or a folder with individually printed Issue Briefs that can be pulled out or certain ones included.

AGREEMENT: Folder/pull out or loose leaf format. Print the introduction to the NGC, the purpose of the Issue Briefs, information on how they were crafted; source data, the consensus process and a table of all the briefs (if possible include a business card holder).

YEAR THREE UPDATES

Program Coordination– BLM translated the 1986 California MOU between BLM and USFS into an electronic version; Kathleen Rutherford and Jody Erikson attended the BLM Fluids conference and interviewed several BLM representatives about the MOU (Rich Estabrook, BLM-CA; Rich Grabowski, BLM-CA; Leroy Mohorich, BLM-CA; Bob Henricks, BLM-UT; and Kermit Whiterbee, BLM-DC). The general impression was that people were not familiar with the CA-MOU.

Land Use situation Assessment – RESOLVE has completed well over half of the 32 stakeholder interviews (stakeholders were recommended by the working group). From those interviews, other stakeholders to interview were recommended. There are approximately 15 interviews remaining.

The interviews have been very interesting and informative. Kathleen plans to complete the interviews in the next month and draft the situation assessment in September

Outreach Materials – the working group decided to hold on contracting the myths paper until after the analysis of the public comments documented in environmental and permitting review documents is completed. The hope is to get a better understanding of what myths exists in the minds of the public and then reassess the value of a myths paper. In June, the working group developed and distributed an RfQ, and in July, awarded a contract to MHA Environmental (of San Mateo, CA), including Laurie McClenahan, Robert Tucker and Jill Haslip. The working group and MHA Environmental will meet on July 28th to refine the scope of work and budget. The first draft for review by the NGC steering committee is expected in October/November.

NGC - LOOKING FORWARD

The Steering Committee discussed the mission of the NGC, in the context of the whole Department of Energy's geothermal outreach program and its recent peer review (to be released later this month). The group focused on where the NGC can use its unique strengths to make an impact on the geothermal industry; where the NGC goes from here.

AGREEMENT: During this discussion there was general agreement that the NGC is a valuable effort. It was acknowledged that one of the unique and most important attributes of the effort is the diversity of the steering committee members. Looking forward, it was agreed that the NGC should refocus on the policy level and on action oriented efforts; focus on efforts that will produce changes and will encourage policy makers to act and advance geothermal development. The Issue Briefs were addressed along two fronts: first, they have taken more time and member effort than was originally projected, and secondly, while arduous, the effort will be of great value once the briefs are published and disseminated. Another value of the Issue Briefs is in the learning that took place during the development process.

The following are some of the issues and actions to focus on, possible opportunities to utilize, concerns, questions and suggestions:

Issue Focus

- Those issues that need to be handled on a national level with a sharply focused group.
- Transmission. Currently there are a few groups working on this – WHTF is working on linear right of ways, the WGA is working on transmission issues and NAUC is looking at the process for siting transmission lines.
- Siting.
- Tribal/Section106 – the lack of resources and understanding; both sides need to state the problems and work for a solution (not just a federal problem); need to find creative solutions.
- Navy lands.
- Policy on public lands.
- Pre-lease NEPA, how to fund environmental impact statements. Geothermal is a high, unfunded agency priority for both USFS and BLM. People need to know this is a problem and information needs to come from outside the government
- System integration. Currently the White House Task Force has an effort for.... And NARUC has a protocols group.

General Action Focus

- Work with policy makers and be results oriented.
- Work on solving the issues, discover who needs to take what actions; problem solving.
- Focus on higher level policy issues - the Issue Briefs were a valuable maturation process for the NGC, now they can be used at the national policy level to develop policy; the NGC is at the jumping off stage.
- Use the power of the NGC's diverse steering committee (industry, government, utilities, and other organizations) to convene and facilitate problem solving at the federal agencies level.
- Use the power of the NGC's external, non-agency voice when talking with policy makers by having steering committee members present (including industry and others); use the power of one voice, with diverse viewpoints
- Use the work completed to date and resources from DOE to impact change (develop recommendations).
- Establish a few specific, measurable, achievable goals.
- Identify four-five suggestions/recommendation to alleviate impediments and share them with federal decision makers.
- Focus on end products, end users and how to help them, what they would find useful.
- Focus on agency/tribe collaboration in Nevada. This builds on RESOLVE's strengths of mediation and convening.
- Ensure the national level maintains interactions with states (*this was an identified need from the peer review*). State working groups are action oriented, and would welcome the NGC's ability to convene the right people.
- Use the Issue Briefs as outreach for briefings. Another value of the Issue Briefs is in the learning that took place during the development process.
- Engage Department of Interior, Department of Agriculture, and the renewable ombudsman
- Pull together a topic focused group of decision makers (example, federal land issues) to produce results. The outcome would be that decision makers take action. The NGC could use RESOLVE's convening experience to pull this together.
- Collaborate with the Washington and California's geothermal collaboratives.
- Help with better utilization of the existing power transmission system

Assets of the NGC

- Convening.
- Facilitation/mediation.
- Diversity of the steering committee - federal agencies, utilities, tribes, industry, and other organizations (environmental and governance).
- Development of the Issues Briefs helped to clear up misunderstandings and provides a product the NGC can use to market.

Issues/Concerns

- Need to differentiate the NGC from the state level work and state working groups.
- BLM and USFS coordination – currently, high level people in each agency are working on improving coordination.
- The original purpose of the NGC was to bring different perspectives together to resolve issues. DOE led the effort to allow others to participate more freely.

- NGC started to put pressure on the agencies to work together then became externally focused (mimicking NWCC) and more of an organization. The group waffled between action, outreach and other efforts.
- Although duplication is a concern, there will be duplication in any type of effort, including the geothermal program.
- There needs to be a clear plan and action items to achieve the goal.
- The NGC and other organizations should not be in competition – currently, the NGC is not in competition because they sell nothing and does not have “members” outside the steering committee.
- Concerned about losing the institutional knowledge that was gained over the past two years through developing the Issue Briefs if major changes are made to the steering committee membership. If changes are made, it would be important to retain a subset of the current group.
- Need to address utilities and tribes and this will not be done by writing reports.
- Be careful to not tell states what to do, remind them where geothermal fits
- Concerned about how to interface with other geothermal organizations.

Opportunities, Direct Action Focus

- Facilitate a better understanding by the tribes of the Section 106 process; when and where in the process they need to act (the steps). There is a lack of understand by tribes of the section 106 process, the steps and where they comment.
- Utilize the renewable ombudsman - Brenda Aird.
- Utilize steering committee members as a resource to create opportunities, (e.g. the White House Task Force offered to bring together selected representative for the NGC to brief them on the four to five of the most useful things decision makers could do to help alleviate impediments to geothermal development; access to Deputies Meeting)
- Meet with high level decision makers. RESOLVE can set up the meetings, and it is important and more influential for NGC members to represent themselves

Questions

A number of questions were raised about NGC membership structure and member attributes (e.g. should the NGC include EPA (air quality unit, environmental justice unit, EIS review unit), CEQ, State, DOD, and the level of flexibility regarding changes)

Suggestions

- Change name to National Geothermal Policy Collaborative

AGREEMENT: Change the NGC Operating Protocols (p. 1) to remove three NGC activities:

1. “Respond to inquiries about geothermal power.” (the NGC would refer people to appropriate people) and
2. “Identify and disseminate information about efficient geothermal production technologies.”
3. “Develop solutions to mitigate market barriers and remove obstacles to sustained orderly development and accelerated procurement of geothermal power.” (this would be a good activity at the state level).

Day Two: July 16, 2004 Year Three MOU Discussion

Present:

Janine Clayton – US Forest Service
 Troy Gagliano – National Conference of State
 Legislatures
 Gordon Hansen - US BLM
 Roger Hill – Sandia National Laboratory,
 GeoPowering the West
 Marty Letourneau – White House Task Force on
 Energy Project Streamlining
 Bob Middleton – White House Task Force on Energy
 Project Streamlining

Marilyn Semro – Seattle City Light
 Charlene Wardlow – Calpine
 John White – Center for Energy Efficiency and
 Renewables

Phone:

Arlene Rocabado – Southern California Edison
 Jay Nathwani – Department of Energy
 Roy Mink – Department of Energy

MEMBER ORGANIZATION UPCOMING ACTIVITIES

Seattle City Light is working on Seattle's integrated resource plan, Grid West group's effort on risk/reward, integrating 2100 mWh of wind and the green power program.

White House Task Force on Energy Project Streamlining's executive order is to develop coordination efforts where there is an expectation for increased energy issues. Currently, they are working on linear right-of-way (transmission) issues, this effort has a draft MOU that is in the signing phase.

GeoPowering the West is expanding their efforts into other states and working with NREL, INEEL, SNL. They are developing broad based partnerships with GEA, GRC, Bob Lawrence, WAPA, NCSL and GEO. They recently completed a peer review of the DOE geothermal program's outreach effort

US Forest Service - Janine Clayton is the energy minerals lead in California and also the national lead, due to the fact that most geothermal resources on Forest Service land is in California. USFS is working on revising the California BLM/USFS MOU.

Calpine is conducting environmental compliance and permitting, working on Glass Mountain and new projects in Geysers; working on a response to Heartland Institute's article that cited an opposing view on Medicine Lake development; the PTC; the California sacred sites bill; helping with community relations; and ensuring the use of green tags in other states including geothermal in their RPS (even if they do not have geothermal resources). Charlene Wardlow is taking on more government regulatory affairs from Dennis Gilles.

Bureau of Land Management is working on the leasing back logs (Nevada has recently leased a lot of geothermal); resource management plans to allow for geothermal; categorical exclusions (IBLA judged they are not under mining); revising BLM forms and ultimately translating them for web access (including lease applications and APDs; and working on the challenges with tracking leases/status. The program has a new group manager, Tim Spisack, and DOI has recently instituted a Renewables Ombudsman, Brenda Aird.

Center for Energy Efficiency and Renewable Technologies – (John White is the environmental alternate for John Nielsen, Western Resource Advocates) CEERT has been working on incentive payments; a collaboration of renewable energy operators/developers and the private sector; utility procurements; the federal PTC; regional green tags and trades throughout the west (using REGIS, a tracking verification system), in collaboration with the WGA; and working with municipal utilities to respond the community and create RPS like standards (LA DWP, has a 20% RPS by 2020). John announced an Event to celebrate renewables history, September 14th, in Sacramento, California.

National Council of State Legislatures is completing the third year of a three year contract with DOE. They are completing the information collection phase for a primer for state legislators on who has jurisdiction over district energy systems, in order to identify barriers in state laws and develop possible solutions.

Southern California Edison is monitoring legislation and coordinating local government affairs.

JURISDICTION and AUTHORITY BRIEF

AGREEMENT: The group considered whether there was a workable framework in the draft to refine into one brief. If the answer was to separate it into two briefs, the proposal was to eliminate this subject. It was decided to reframe the paper and retain it in the suite of NGC Issue Briefs.

AGREEMENT: The document will remain a single brief, not split it into two briefs on power and district heat.

Overall Comments

The group felt it was important to include this brief in the overall suite of Issue Briefs.

- Clearly lay out jurisdiction and avoid barriers
- Missing some federal, tribal and DOD issues
- Need to mention the geothermal steam act
- Add all the appropriate federal agencies

The group also discussed and agreed on a framework for the brief.

AGREEMENT: Brief framework –

- 1) Jurisdiction (tabulation)
- 2) Resource (defining the resource, who and where)
- 3) Ownership (land status and leases – federal, non federal and tribal), and into the
- 4) Applications/Use (power generation – FERC, district heating systems- State and/or rural, and individual unregulated use

Opening section

The group discussed that jurisdiction is not simple; it is not just federal, and federally it is not just BLM and USFS there are numerous federal and non federal entities with jurisdiction, therefore jurisdiction is determined on a case by case basis. Jurisdiction of States was discussed – they have a permitting and coordination role but not jurisdiction role except where they have primacy for a federal program or a state review on nonfederal lands. States have more input on transmission line siting. ***RETITLE the Brief: “~~Federal and State~~ Jurisdiction over Geothermal Energy”.

***MOVE the second paragraph in front and REMOVE the phrase “regulatory barriers”.
 ***MOVE sentences from the Federal Jurisdiction to the beginning.

“The Geothermal Steam Act provides for jurisdiction over most of these resources to DOI, which is then delegated to BLM. Surface management agencies provide access leases and pre-lease activities- these can be BLM, DOD, USFWS, BIA, Bureau of Reclamation. GSA as amended has exempted some lands such as Wilderness Lands, Greater Yellowstone.”

~~“There are a number of regulatory barriers that currently~~ **jurisdictional issues that limit/constrain** ~~hinder the more widespread use of geothermal energy. For policymakers interested in encouraging geothermal energy~~ It is important that laws clearly define what is and is not a geothermal resource and whether the resource is subject to state **and/or** federal regulation. Also, it is important that laws clarify who owns geothermal resources and clearly outline the terms for leasing land where geothermal development might occur.”

“Most geothermal resources which have electrical generation potential occur on Federal land. The Geothermal Steam Act provides for jurisdiction over most of these resources to DOI, which is then delegated to BLM. Surface management agencies provide access leases and pre-lease activities- these can be BLM, DOD, USFWS, BIA, Bureau of Reclamation. GSA as amended has exempted some lands such as Wilderness Lands, Greater Yellowstone.”

Common Regulatory...section

This section was requested by steering committee members and give context. ***RETITLE this section “Resource and Ownership” and REMOVE the word “barriers”.

Determining Ownership section

This is the first step for a developer. This should be stressed in the document.

~~“Prospective one~~ **Prospective** ~~developers identifies a prospective geothermal resource, they must first~~ determine who owns both the resource and the land above it. Many times, the landowner owns the rights to both; however, sometimes the geothermal rights are severed from the surface ownership. In this case, the developer must negotiate with both owners before occupying the surface and drilling the underlying resource. The federal government claims ownership of geothermal resources wherever it holds the mineral estate. The states have taken different approaches to determining ownership depending on how the geothermal resource is characterized. In **Washington**, geothermal rights belong to the surface owner, and in **Wyoming**, where geothermal is characterized as water, geothermal resources are considered a public resource ~~and are available through appropriation.”~~

Leasing section

The discussion focused on removing the section because it is redundant and retaining the section because leasing it a part of the whole. ***RETAIN the section.

“Leasing is a common mechanism for providing access to the resource. Leases are either competitive (awarded to the highest bidder), or noncompetitive (obtained for a simple filing fee). ~~Most leases on federal or state land provide for a noncompetitive~~

~~primary term that varies from five years to ten years which can often be extended as long as work is in progress.”~~

Federal Jurisdiction section

The group focused on clarifying split estate and what happens with a KGRA in common language. They clarified that there are other federal agencies, beyond USFS and BLM, that have jurisdiction. ***LIST all federal agencies or use the general term “federal agencies”.

“Land ownership and jurisdiction can be complicated when the surface and mineral owner are not the same, commonly known as ~~sometimes a situation known as a~~ “split estate” exists where ~~the BLM a federal agency manages the land but an individual or a company~~ owns the rights to the minerals, and a different entity owns the surface rights. In this case a developer would have to get permission not only from the federal government, but also from the owner of the ~~surface mineral rights~~ to get access to the geothermal resource

“It is critical for developers to determine the status of land they are interested in exploring because federal agencies manage lands differently according to their designations. For example, “withdrawn” areas are places that the federal government has set aside and where development is prohibited. ~~Alternately, A site deemed to be within~~ a “known geothermal resource areas” (KGRA) **determines whether the BLM issues a competitive or non-competitive lease** ~~are lands where proven geothermal resources exist that the federal government has not explicitly designated as off limits for development.~~ Land status is indicated in county records and in public land records that federal agencies ~~Forest Service and BLM~~ maintain.”

The group ended the discussion of the document at this section.

THE YEAR THREE COORDINATION EFFORT

The group discussed the BLM/FS MOU work (current and future activities/opportunities and issues) and the need for a geothermal champion at the federal level to foster follow-through.

The intent of the BLM/FS MOU is to look at the bigger picture and to get people interested and working on geothermal. The BLM/FS MOU could be used to get inside agencies and build capacity. The BLM/FS MOU would be a starting place to show the need for funding (possibly for a geothermal SWAT team). In thinking about a national BLM/FS MOU there is a concern that it would be too simple, because of the challenge of getting commitment on timelines. Another issues is that currently, no one knows about the existing BLM/FS MOU in California (including the California BLM folks). It would be good to include/talk with experts on leasing, such as Bob Wright (previously with Phillips).

NEPA Issues – It is important to include a NEPA component in these discussions. NEPA completion is one of the barriers, specifically the need for funds to complete the NEPA work (any funds should be focused on those sites where development is possible and not just someone hoping to sell the lease). A good example is Salton Sea. A suggestion was made for geothermal to model linear right-of-way in having the developer pay for NEPA work (it would narrow those interested to only those who would intend to develop). It is important to remember that if the project is on federal

lands the NEPA contractor or lead has to be a federal agency (they can hire and contract a consultant). Rich Hoops, BLM-NV would be a good person to contact with regards to loosening the geothermal back log.

Panel Session Opportunity – This would be a one day workshop with three different panels.

1. Federal land management agency representatives who have just completed leases, how they did it, what they learned, what advice they have for those next poised to do leasing;
2. Consultants who have completed lease-related work, how they did it, what they learned, and what their best thinking is on best policy elements/formulation
3. A discussion panel to explore possible solutions to those challenges identified.

Originally, this panel was to be coupled with the GRC conference, but due to expensive hotel rates and several geothermal meetings that week, the panel session will be some time in late September/early October. A suggestion was made to hold the panel session at the BLM training center in Phoenix, Arizona (this would need to be planned in advance; check with Ron Montoya). It could be coupled with a lease training sessions and include planners, NEPA consultants (Dwight Carey and Laurie McClenahan), resource experts from USFS and BLM, tribes and the Advisory Council on Historic Preservation. The information gathered at this session could be used to improve the BLM/FS - CA MOU and develop a national MOU.

The last permitting and leasing on federal lands workshop was held in 1993 by GRC and nothing has been done for ten years.

The next step is to talk with consultants about where they will be getting work and federal folks who just leased or are about to lease. Jody Erikson has already begun conversations with Laurie McCleanahan and Dwight Carey.

White House Task Force on Energy Project Streamlining's Deputies Meeting Opportunity - It is important to go to the WHTF deputies meeting with a request or actions, not just ideas. The MOU would show what was required and where funding is needed.

Next Steps

1. **August 17th, Portland, Oregon** - A meeting to review the CA-BLM/FS MOU and work to improve it (internal analysis), also use RESOLVE's interviews to date on the BLM/FS MOU and to develop some key points, for the WHTF deputies meeting, where the deputies could be helpful.
 - a. Gordon Hansen will contact Nancy Ketrenos to attend the meeting.
 - b. RESOLVE will contact Karen Schilling, BLM-ID, to attend the meeting.
 - c. Janine Clayton will send RESOLVE contact information for the following people to attend the meeting
 - i. Charley Seth and Lynn Oliver – Inyo Forest
 - ii. Sean Hagerty and Leroy Mohorich – BLM-CA
 - iii. Newberry and Alice Doremus – Deschutes, Bend, Oregon
 - iv. Bob Fujimoto – USFS-OR
2. Charlene Wardlow will translate the current flow chart into electronic form, as soon as possible.
3. RESOLVE will contact Karl Gawell and Dennis Gilles to attend briefing and the WHTF's deputies meetings (the message is more powerful coming from outside the agencies).

4. RESOLVE will verify when the WHTF's September Deputies meeting is and get on the agenda.
5. RESOLVE, with steering committee help, will schedule other briefings when in DC – Tom Loni, Kathleen Clark, and Tom Thompson