

AGENDA

SEISMIC MONITORING ADVISORY COMMITTEE

May 14, 2018 @ 9:30 a.m. Calpine
Geothermal Visitors Center
15500 Central Park Road, Middletown

Call In: 1-888-449-6492; Participant Passcode: 226083

- I. Introductions
- II. Approval of SMAC minutes from November 13, 2017 meeting.
- III. Anderson Springs Public Input – Jacquelyn Bartlett
- IV. Cobb Area Public Input – Robert Stark
- V. Middletown Community Input – Linda Diehl Darms
- VI. Update of SE Geysers pipeline operations – Ed Voge
- VII. Summary of Seismic Data from USGS Network -Lind S. Gee
- VIII. Anderson Springs Community Service District – Meriel Medrano
- IX. Cobb Area Water – Ben Murphy
- X. Calpine - Craig Hartline
- XI. Report on LBNL – Kurt Nihei
- XII. Report on DOGGR – Joe Austin
- XIII. Report on US Geothermal – Western Geo Power – Scott Nichols
- XIV. Santa Rosa Geysers Operations – Mike Sherman
- XV. Schedule Next Meeting for Monday, November 12, 2018
- XVII. General Public Input
- XVIII. Adjournment

SEISMIC MONITORING ADVISORY COMMITTEE (SMAC)

Monday, November 13, 2017 @ 9:30 a.m.

Calpine Geothermal Visitors Center

15500 Central Park Road

Middletown, California

FINAL MINUTES

Meeting called to order by Jan Coppinger, Committee Chair (Lake County Special Districts) at 9:37 a.m.

Minutes were recorded by tape recorder and transcribed to Draft Minutes. Coppinger initiated introductions. Coppinger announced that due to a meeting in Sacramento, she needs to leave the meeting early but Scott Harter with Special Districts will conduct the meeting in her place. Additionally, Kurt Nehei (Lawrence Berkeley National Laboratory) due to time constraints will be moved up on the agenda.

Present: Jan Coppinger, Committee Chair (Lake County Special Districts), Scott Harter, Craig Hartline (Calpine), Les Drake (Northern California Power Agency), Joe Austin (Division of Oil, Gas & Geothermal Resources), Danielle Matthews Seperas (Calpine), Bruce Carlsen (Calpine), Bill King (Calpine), Jeffrey Taylor (Lake County Community Development Department), Mark Roberts (Lake County Community Development Department), Michelle Drace (Lake County Community Development Department), Byron Turner (Lake County Community Development Department, Jacquelyn Bartlett (Anderson Springs), Linda Diehl-Darms (Middletown), Ben Murphy (Cobb); By Telephone: Kurt Nihei (Energy Geosciences Division, Lawrence Berkeley National Laboratory).

- I. **May 8, 2017 Meeting Minutes for Approval: Jan Coppinger**
Jan Coppinger presented the Draft Minutes for approval. The minutes were approved by consensus.
- II. **Lawrence Berkeley National Laboratory: Kurt Nihei**
Nihei presented slides on the status of:
 - a) Lawrence Berkeley National Laboratory's MEQ Network;
 - b) California Energy Commission funded MEQ project at The Geysers;
 - c) Positive feedback on Craig Hartline's 09/26/2017 LBNL Presentation on 3D model building.
- III. **Cobb Area Water: Ben Murphy, Nothing to report.**
- IV. **Middletown: Linda Diehl-Darms, Nothing to report.**
- V. **Anderson Springs Report: Jacquelyn Bartlett**
Bartlett reports that rebuilding efforts are slow but people are building modern now. Tile and other structural things may be affected by events. They are just going to have to wait and see once homes are built. However, Anderson Springs's concerns with Calpine now do not have to do with geothermal but does have to do with the location of the Anderson Springs community emergency response siren and the large "Calpine" slide that came down and this winter.

Coppinger called on Byron Turner, Lake County Community Development Department regarding the landslide. Turner reports that they are working with Cal OES but at this time, does not have anything to report. Danielle Matthews Seperas, Calpine, stated that the slide runs through three

privately owned lots in Anderson Springs and originated on a lot that Calpine leases. Matthews Seperas requested that Lake County Community Development address the community references to the slide as the "Calpine slide" as well as the statements that the building permit process in Anderson Springs was impacted or halted due to the slide.

Turner stated that there was a rumor that this slide was holding up rebuilding of the community but that was untrue. However, building to today's standards has absolutely resulted in permit delays in gathering the information the county requires.

Regarding the emergency notification sirens, Matthews Seperas stated that Calpine provided the funding sirens for the community and has offered its warehouse site free of charge. The South Lake County Fire Protection District (SLCFPD) is reviewing Calpine's access agreement and has expressed concerns that the District will be taking on financial encumbrances due to insurance requirements. Both Calpine and SLCFPD are working to resolve the issues. Bartlett states that SLCFPD advised her that the delay is with Calpine. Bartlett further stated that Calpine is holding up installation of all the sirens in the area. Matthews Seperas recommends that Anderson Springs follows up with Cal Fire Chief Battalion Mike Wink directly.

- VI. Cobb Area Public Input: Not Present**
- VII. General Public Input: None**
- VIII. Northern California Power Agency (NCPA) Report: Les Drake**
NCPA Slide Deck Presented on Reporting Period 04/01/2017 – 09/30/2017
 - a) Historical SE Geysers Effluent Pipeline Deliveries to The Geysers;
 - b) Southeast Geysers Effluent Pipeline Delivery: Average Delivery Rate = 7.62 MGD;
 - c) Daily SEGEP Delivery: NCPA and Calpine;
 - d) The Geysers – Historical Seismic Activity;
 - e) Southeast Geysers – Historical Seismic Activity: Magnitude >1.5, 2002-2016.
- IX. Seismic Data from USGS Network: Not Present**
- X. Calpine Corporation: Craig Hartline**
Calpine Slide Deck Presented on Reporting Period 04/01/2017 – 09/30/2017
 - a) Status of Seismic Monitoring Networks;
 - b) LBNL Seismic Monitoring Network;
 - c) USGS / Northern California Seismic Network;
 - d) Strong Motion Stations;
 - e) Field-wide Seismicity Analysis;
 - f) Synchronized Field-wide Water Injection and Seismicity Analysis;
 - g) Community Hotline;
 - h) Strong Motion Analysis;
 - i) Regional Seismicity Analysis;
 - j) Water Injection Goals and Modifications;
 - k) 3D Structural Model Building;
 - l) Fault/Fracture Analysis;
 - m) Additional Seismic Monitoring and Research.
- XI. Report on US Geothermal/Western Geo Power: Not Present.**
- XII. Report by Lind Gee Seismic Data: Not Present.**

XIII. Report on DOGGR: Joe Austin – Joe complimented the presentations and information provided by Craig Hartline.

X. Report on Coordination with Santa Rosa: Not Present.

Group discussed videotaping of the meeting in addition to high level meeting minutes. Anyone with issues or concerns should contact Jan Coppinger with Special Districts.

Next meeting: The next SMAC meeting is set for ***Monday, May 14, 2018, 9:30 am*** at the Calpine Geothermal Visitors Center. Scott Harter, Special Districts adjourned the meeting at 11:16 a.m.

Meeting Agenda and Full Presentations are available online at:
<http://www.geysers.com/smac.aspx>