

AGENDA

SEISMIC MONITORING ADVISORY COMMITTEE

November 8, 2021 at 9:30 A.M.
Calpine Geothermal Visitors Center
15500 Central Park Road, Middletown

Join Zoom Meeting

<https://us06web.zoom.us/j/89199006968?pwd=cHNpeWVzcTduMld5bWNXZTFBNEcrdz09>

Meeting ID: 891 9900 6968 Passcode: 838137

One tap mobile

+16699006833,,89199006968#,,,,*838137# US (San Jose)

Find your local number: <https://us06web.zoom.us/j/koXQF3lpw>

- I. Introductions
- II. Approval of SMAC minutes from **May 10, 2021 meeting**
- III. Southeast Geysers Effluent Pipeline (SEGEP) Operations & Northern California Power Agency Update – Ed Voge, NCPA
- IV. Santa Rosa Geysers Recharge Project (SRGRP) Update & Calpine Update - Craig Hartline, Calpine Corporation
- V. Report from CALGEM – California Geologic Energy Management Division – Amar Rao
- VI. Report on US Geothermal - Western Geo Power– Scott Nichols
- VII. Anderson Springs Community Service District – Rose Knudsen
- VIII. Anderson Springs Public Input – Jacquelyn Bartlett
- IX. Cobb Area Water – Ben Murphy
- X. Cobb Area Public Input – Robert Stark
- XI. Middletown Community Input – Linda Diehl Darms
- XII. General Public Input
- XIII. Schedule Next Meeting for _____
- XIV. Adjournment

SEISMIC MONITORING ADVISORY COMMITTEE (SMAC) Monday, May 10, 2021

Virtual Meeting Due to COVID-19 Concerns

<https://lakecounty.zoom.us/j/91926032724?pwd=UHBKUlhoUktyZiFsRnJyRjhaSFZlQT09>

Meeting ID: 919 2603 2724

Passcode: 097747

MINUTES

Meeting Called to order by Scott Harter, Committee Chair (Lake County Special Districts) at 9:30 A.M.

Minutes recorded via Zoom and transcribed to Draft Minutes by Lori Baca.

I. Introductions

Introductions conducted by Scott Harter:

Present: Scott Harter, Committee Chair (Lake County Special Districts), Craig Hartline (Geysers Power Company, LLC), Bill King (Calpine), Ed Voge (Northern California Power Agency), Danielle Sepera (Calpine)

II. Approval of SMAC minutes from November 9, 2020 meeting

Motion made by Ben Murphy to approve the minutes, second by Ama Rao, all in favor. Motion carried.

III. Update of SE Geyser Pipeline Operations, Ed Voge (Figures 1-7)

- Historical SE Geysers Effluent Pipeline Deliveries To The Geysers
 - Total Daily Delivery = 62.7 billion gallons at an average rate of 5,070 gpm
 - **Reporting period, October 1, 2020 – March 31, 2021**
 - Average Daily Injection = 4.07 MGD or 2,826 gpm
 - SEGEP Availability = 74.7%
- Observed Seismicity
 - The USGS Recorded 24 Seismic Events of Magnitude 1.5 and Greater, this is down from the previous six month reporting period.
 - Steam Production for the area in the reporting period was 17.75 billion pounds mass for this reporting period.
- Seismic Activity in The Geysers (KCGRA)
 - 203 events of magnitude 1.50 were recorded for this reporting

period. There were 4 events of magnitude 3.0 or greater. The largest event was magnitude 3.81 which occurred in the Northwest portion of the Geysers. Figure 6 shows the trends of seismic events for the Geysers since 2010 while Figure 7 shows the locations of the events for the last six months.

There was more discussion on each figure noted above. Please see presentation on Calpine website for additional data details

**IV. Geysers Power Company, LLC Report, Craig Hartline (Figures 1-34)
Reporting period, October 1, 2020 – March 31, 2021**

- Seismic Monitoring Networks
 - USGS/ Northern California Seismic Network
 - LBNL/ Geysers Power Company, LLC Seismic Monitoring Networks
 - Field-wide Seismic Analysis
 - Field-wide Water Injection and Seismicity
 - Water Injection and Induced Seismic Animations
 - LBNL/ Geysers Power Company, LLC Calpine Strong Motion Network
 - Strong Motion Data Access and Analysis
 - Community Hotline
- Fieldwide Seismicity Analysis
- Water Injection and Induced Seismicity Animations
- Calpine 3D Structural Model
 - 3D Pre-Drilling Project Analysis (Well Planning)
 - Fracture/Fault Analysis
 - Local Seismicity Analysis
- Strong Motion Data Analysis
 - Peak Ground Acceleration
 - Energy/Distance/Modified Mercalli Intensity
- Community Hotline
- Seismic Events Occurring Near Anderson Springs Reporting Period
- Summary

There was much discussion on each figure noted above. Please see presentation on Calpine website for additional data details.

V. Report on CALGEM, Amar Rao

Amar was present and mentioned that in the Fourth Quarter of last year they had two permits, once permit (Notice of Intent) to unplug an abandoned well which was completed Feb 8, 2021. Second permit (Notice of Intent) was on for a new Injection Well, completed April 6, 2021. Amar also mentioned four permits in the First Quarter which included: one for a new Injection Well, completed Jan 17, 2021. Two were modification on existing permits, and one Plug and Abandon permit which has not been completed.

VI. Report on US Geothermal – Western Geo Power, Scott Nichols

Scott Nichols was not present

- VII. Anderson Springs Community Service District, Rose K**
Rose Knudsen was not present
- VIII. Cob Area Water, Ben Murphy**
Ben Murphy was present and mentioned fixing 12 water leaks during the last month. Thanks everyone for the reporting.
- IX. Middletown Community Input - Linda Diehl Darms**
Not Present
- X. Anderson Springs Public Input - Jacquelyn Bartlett**
Jacquelyn Bartlett was present. Mentions that Anderson Springs has experienced some “shake ups” and expresses her appreciation for Craig Hartline and Calpine.
- XI. Cobb Area Public Input, Robert Stark**
Not present
- XII. Schedule Next Meeting for November 8, 2021:** Motion made to schedule future meetings on the second Thursday in May and November beginning May 2022. Move, Amar Rao. Second, Ben Murphy
- XIII. General Public Input – None to report**
- XIV. Adjournment**
Meeting Adjourned at approx. 10:40 AM

Next Meeting for Monday November 8, 2021

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