

AGENDA

SEISMIC MONITORING ADVISORY COMMITTEE

November 9, 2020 at 9:30 A.M.

Join Zoom Meeting

<https://lakecounty.zoom.us/j/96384840150?pwd=Qk5KdWFhZFUrNVpjdllUVDVrOEo0Zz09>

Meeting ID: 963 8484 0150

Passcode: 656001

- I. Introductions
- II. Approval of SMAC minutes from **December 12, 2019 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, CalpineCorporation
- V. Report from CA Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) – Amar Rao
- VI. Report on Western Geo Project – Scott Nichols, Ormat
- 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, December 12, 2019
Calpine Geothermal Visitor Center
15500 Central Park Road
Middletown, California

MINUTES

Meeting Called to order by Jan Coppinger, Committee Chair (Lake County Special Districts) at 9:30 a.m.

Minutes recorded by Lori Baca and transcribed to Draft Minutes.

I. Introductions

Conducted by Coppinger:

Present: Jan Coppinger, Committee Chair (Lake County Special Districts), Ben Murphy (Cobb Area Water), Craig Hartline (Calpine), Bill King (Calpine), Ed Voge (Northern California Power Agency), Danielle Sepras (Calpine), Meriel Medrano (Anderson Springs Community Service District ASCSD), Rose Knudsen (ASCSD), Joseph Austin (ASCSD) Joan Clay (ASCSD) Lori Baca (Lake County Special Districts) Michael Shaver (Middletown Rancheria EPA)

II. Approval of SMAC minutes from May 13, 2019 meeting

Motion made by Ben Murphy to approve the minutes, second by Craig Hartline, 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 = 60.25 billion gallons at an average rate of 5,204 gpm

 - **Reporting period, April 1, 2019 ~ September 30, 2019**
 - Average Daily Injection = 6.73 MGD or 4,671 gpm
 - SEGEP Availability = 89.6%

 - Observed Seismicity
 - The USGS Recorded 36 Seismic Events of Magnitude 1.5 and Greater, this is a 56% decrease over the previous six month reporting period.
 - Steam Production for the area in the reporting period was 17.06 billion pounds mass for this reporting period. This value is down 3% from the previous reporting period.

 - Seismic Activity in The Geysers (KCGRA)
 - 464 events of magnitude 1.50 and greater. This is down from 503 events recorded from the previous six month reporting period.
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- The largest event was magnitude 4.12, which occurred on April 15, 2019. 2
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. Calpine Report, Craig Hartline (Figures 1-65)
Reporting period, April 1, 2019 ~ September 30, 2019

- Geysers Geothermal Field and Nearby Communities
- Status of Seismic Networks
 - LBNL Seismic Monitoring Networks
 - USGS Northern California Seismic Network
 - Strong Motion Network
- Kincade Fire Summary
- Yearly Field-Wide Water Injection and Seismicity
- Field wide Seismicity Analysis
- Water Injections and Induced Seismicity Animations
- Community Hotline
- Plate Tectonics and Regional Geology
- 3D Structure Model Building
 - Fault/Fracture Analysis
 - Compartmentalization
 - Well Planning Examples
- Additional Seismic Monitoring and Research

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

V. Report on DOGGR, Amar Rao

Not present

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

Not Present

VII. Anderson Springs Community Service District, Rose K

Present - Rose is encouraged about the amount of phone calls the hot-line is receiving. Please encourage more people to call instead of using social media so the calls can be tracked. If you call the hot-line and request a call back they will return the call. Craig passed out magnets with hot-line number.

VIII. Cob Area Water, Ben Murphy

Present - Ben said there is a lot of community talk after an event. A few water leaks have been found, but not much damage.

IX. Middletown Community Input - Linda Diehl Darms

Not Present

X. Anderson Springs Public Input - Jacquelyn Bartlett

Not present

- XI. Cobb Area Public Input, Robert Stark**
Not present
- XII. Schedule Next Meeting for Monday, November 14, 2020** Motion made to schedule future meetings on the second Thursday in May and December, all in favor for next meeting date.
- XIII. General Public Input – None to report**
- XIV. Adjournment**
There was a consensus to adjourn the meeting at 11:35 a.m.

Next Meeting for Thursday, May 14, 2020

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