

## PG&E, county government talk cloud seeding



By Dale Andreasen

Chief meteorologist for PG&E, Byron Marler, shows a map of the area to be cloud seeded.

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An advertisement for "The Dixon Department". It features a logo with a stylized "D" and "X" on the left. To the right, the text reads "The Dixon Department", "1512 S. Oregon St., Yreka, CA", and "Tel: 530.842.1366". Below this, a photograph of Monique Dixon is shown. To the left of the photo, her name "Monique Dixon" is written in bold, followed by the text "We provide; management services, grant writing, and project administration."

By Dale Andreasen

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Yreka, Calif. -

Representatives from Pacific Gas and Electric addressed the board of supervisors last week at its regular meeting. Two PG&E scientists made presentations and answered questions from the board concerning the cloud seeding project that is about to be implemented in the Pit-McCloud watershed area of southern Siskiyou County.

The weather modification project has caused controversy in various tribal groups and concerned citizens from the county's southern sector, who question the safety and appropriateness of the cloud seeding procedure. Cloud seeding, also known as weather modification, attempts to change the amount or type of precipitation

that falls from clouds.

Janet Walther, a governmental relations consultant for PG&E, introduced Gary Freeman, managing hydrologist, and Byron Marler, chief meteorologist, to the board.

Freeman discussed the hydrology of the Pit-McCloud watershed. He noted that 40 percent of PG&E's hydroelectric power generation comes from Northern California aquifers.

These aquifers, according to Freeman, are subject to long periods of droughts. Due to reduced precipitation, including loss of sufficient snow pack, the aquifer's ability and opportunity to recharge has been greatly diminished in recent years.

He traced the development of the area over the past 12 million years, with special emphasis on the last 500,000 to 600,000 years. Freeman also pointed out that it takes a drop of water 85 to 120 years to move through the aquifer, thus necessitating PG&E's programs to help increase waterflows in a preventative manner years ahead of actual need.

Freeman said the expectations of the cloud seeding program are to reduce the severity of the current drought and to add to the snow pack.

Marler, who is a meteorologist with expertise in weather modification, explained briefly how cloud seeding works. He said it is done during cold weather by injecting microscopic particles of silver iodide into clouds to help form snowflakes.

He mentioned that cloud seeding has been done in many states, particularly in the western U.S., for the past 50 years. During 2003-04, there were nine projects in the Sierra, facilitated by utility companies, irrigation districts and other organizations.

The goal, said Marler, is "to improve the precipitation efficiency of cloud systems." PG&E expects an annual precipitation increase of between 5 and 10 percent following the cloud seeding program, he said.

Silver iodide is released into the atmosphere during carefully selected time periods from generators located on the ground on private land. There are four such generators in Siskiyou County and three in Shasta County, Marler said.

The generators are radio-controlled and weather conditions are monitored closely as to temperature, wind direction and other factors.

"Suspension criteria will be incorporated into the project in case of flooding or other adverse conditions," Marler said.

Marler pointed out that less than 20 pounds of silver iodide is used per generator per year. He said the maximum used for a large project would be about 400 pounds per year.

He said that snow induced in this method contains relatively few parts per trillion of silver iodide.

"Very low concentrations are found in rivers and lakes," Marler continued. "It's anywhere from 100 to 1,000 times below the level which would produce any adverse environmental concerns."

"Silver iodide is not a carcinogenic," he added, "and there are negligible environmental hazards."

Benefits to Siskiyou County, Marler said, will be healthier forests, better grasses and more water in the streams. He noted that more hydroelectric energy production is good for all of California and that it is good for the environment and for the economy.

County natural resources policy specialist Ric Costales thanked the PG&E scientists and opened the discussion to board members and county staff.

Supervisor LaVada Erickson said she would like more information about the subject.

Supervisor Jim Cook mentioned that he understands there is some debate as to whether cloud seeding "really brings more moisture."

"However, I don't see dreadful problems," he said.

Supervisor Marcia Armstrong asked if the county has jurisdiction over a program of this nature.

Siskiyou County Counsel Tom Guarino said he is discussing the matter with other attorneys and will have a report by the end of the month.

"Is this a project that should trigger an environmental review?" Guarino asked rhetorically, "I'm still going through the records and the literature."

Supervisor Michael Kobseff asked about the possibility of precipitation being increased in one area while it's decreased in another area.

Marler said, "No, it's not a matter of robbing Peter to pay Paul."

Board chair Bill Overman opened a public comment period. About 10 people from the Mount Shasta area chose to speak, along with one individual from Scott Valley and one Shasta Valley resident.

Comments from the Mount Shasta residents were very similar to those made at the Nov. 21 board meeting.

Tribal representatives were worried about chemicals harming sacred areas, as well as plants, medicinal herbs and animals.

Many comments revolved around why California Environmental Quality Act (CEQA) procedures were not followed. One person asked, "Who owns the sky?" Many requested that more research be done. Others asked if PG&E would be responsible for "unintended consequences."

Rancher and former supervisor Roger Zwanziger worried about increased precipitation in the Pit-McCloud watershed causing less precipitation in Tulelake and the Shasta Valley.

Comments (1)

Betsy Phair

6 days ago

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Interesting.....this is a time when Nestle and the McCloud Services District says that McCloud has plenty of water in the aquifer/aquifers to enable water bottlers, i.e. Nestle, to extract millions of gallons. Now this article points to the fact that the aquifers are not recharging and that's why we need cloud seeding. I wonder if these same hydrologists would be willing to present their findings in the next EIR with Nestle, if it gets that far!!!

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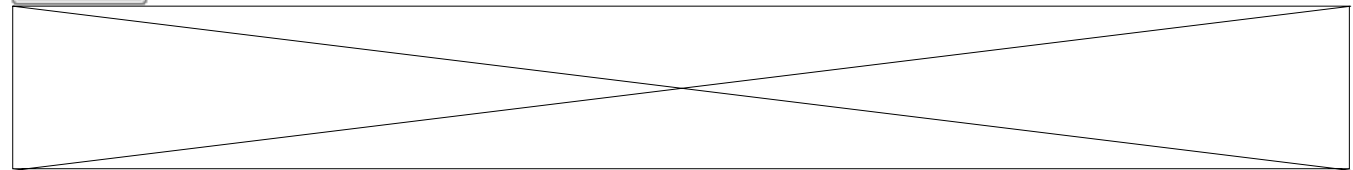
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