

1 **BEFORE THE HEARING BOARD OF THE**
2 **GREAT BASIN UNIFIED AIR POLLUTION CONTROL DISTRICT**

3 _____)
4 **APPEAL HEARING FOR ATC #1552-00-10**)
5 **ISSUED TO KIRKWOOD MEADOWS PUBLIC**)
6 **UTILITY DISTRICT**)

Docket Number: GB10-02

7 Petitioner: Raejean M. Fellows)
8 464 East Meadows Drive)
9 Kirkwood, CA 95646)

Date: June 17, 2010

10 **SUMMARY REPORT & STAFF**)
11 **RECOMMENDATION**)

12 Request Received: June 4, 2010)

Hearing Date: To be determined

13 Facility Location: Powerhouse Road)
14 Kirkwood, CA 95646)

Hearing Location:)
Alpine County Administrative Center)
99 Water Street)
Markleeville, California)

15 **In this appeal Petitioner requests denial of Authority to Construct #1552-00-10 issued to the**
16 **Kirkwood Meadows Public Utility District (KMPUD) for the replacement of diesel-fired**
17 **internal combustion engines used to provide electrical power. Petitioner believes that natural**
18 **gas is a cleaner fuel and should be considered Best Available Control Technology (BACT) as**
19 **required for new facilities under District Rule 209-A. The Great Basin Unified Air Pollution**
20 **Control District (District) contends that the appeal should be denied because KMPUD's plan**
21 **to operate new diesel-fired generators equipped with air pollution controls for diesel**
22 **particulates and oxides of nitrogen is considered BACT for power plant facilities that provide**
23 **prime power at high-altitude locations with no natural gas.**

1 I.

2 **BACKGROUND**

3 To understand the current need for this Authority to Construct for an electrical power plant,
4 it would be helpful to explain what has taken place since the beginning of the year. (See also
5 Chronology of Events in District Exhibit 1) On January 1, 2010, the electrical powerhouse in
6 Kirkwood, California was destroyed by fire. This 5.35 megawatt power plant provided all of the
7 electrical power for the residences in Kirkwood and the Kirkwood ski resort. Kirkwood is a “power
8 island” community and has no connection to the nation-wide electricity grid. Mountain Utilities,
9 LLC, which currently provides electrical power for Kirkwood, brought in portable diesel engines to
10 generate power and to restore electricity to the community. Mountain Utilities is wholly owned by
11 Kirkwood Resort, the developer of the Kirkwood ski area and community. Within two days of the
12 fire, electrical power was restored to the community. These portable engines are currently
13 operating under a state-issued Portable Equipment Registration Program permit. These state-issued
14 permits allow Mountain Utilities to operate the engines for up to one year in Kirkwood. By January
15 1, 2011, these engines must either be replaced by District-permitted equipment, or be granted
16 approval by the District Governing Board to continue operating under an Order of Abatement.¹

17 Following the fire, on March 3, 2010, the Kirkwood Meadows Public Utility District
18 (KMPUD) submitted a permit application for a new powerhouse. (District Exhibit 2) It should be
19 noted that prior to the fire, KMPUD was in the process of acquiring Mountain Utilities from

¹ To continue to provide electrical power to Kirkwood, the operator of the portable generators would have to apply to the District Governing Board for approval to continue operating the generators under an Order of Abatement. The Order of Abatement would likely require the operator to install diesel particulate filters and a selective catalytic reduction control device for oxides of nitrogen to control emissions from the portable diesel engines. Without air pollution controls, diesel particulate emissions will exceed thresholds allowed by state regulations and nitrogen dioxide concentrations will likely exceed state and federal ambient air quality standards.

1 Kirkwood Resort and had already been in contact with the air pollution control district (District)
2 about constructing a new power plant.

3 Electricity from KMPUD's replacement power plant would be generated by six new diesel
4 internal combustion engines. These diesel engines would meet Tier II EPA non-road emission
5 standards (or lower, if available) and would be equipped with diesel particulate filters and selective
6 catalytic reduction to reduce emissions of particulate matter (PM) and oxides of nitrogen (NOx).
7 They would also use ultra low sulfur fuel to reduce sulfur emissions. KMPUD's application
8 included an analysis of Best Available Control Technology (BACT), which showed that the
9 proposed facility complied with BACT requirements for the South Coast Air Quality Management
10 District. The new facility would be located 0.2 miles northwest from the destroyed Mountain
11 Utilities site and would have 70 percent lower NOx emissions and 70 percent lower PM emissions.
12 Three of the older engines formerly operated by Mountain Utilities were not required to have diesel
13 particulate filters and did not meet the Tier II EPA emission standards. In addition, the new
14 selective catalytic reduction system provides 95 percent NOx control versus 90 percent for the old
15 unit.

16 District staff reviewed the permit application and the supporting documentation submitted
17 by the permit applicant. During the April and May 2010 period, District staff including Duane Ono,
18 Ted Schade and Jon Becknell, were also in contact with the Petitioner to this appeal hearing, Ms.
19 Raejean Fellows. Ms. Fellows submitted letters, materials and a petition to ask that the District
20 defer a decision to July 2010 so that more consideration could be given to using natural gas engines
21 instead of diesel engines, or to deny KMPUD's permit application. The District was also in contact
22 with R. Wayne Sawyer (Walters Powers California) who submitted information on the availability
23 of liquefied natural gas (LNG) and other power plant facilities that have successfully used natural
24 gas engines. (District Exhibit 3) The pertinent issue was whether natural gas engines, or diesel

1 engines with the proposed air pollution controls should be considered BACT for the proposed
2 Kirkwood facility. Since Kirkwood has no natural gas lines both diesel and LNG fuels would have
3 to be trucked to Kirkwood.

6 II.

7 THE NEW DIESEL GENERATORS MEET THE TECHNICAL AND ECONOMIC 8 FEASIBILITY STANDARDS OF BEST AVAILABLE CONTROL TECHNOLOGY (BACT)

9 District Rule 209-A provides the following definition of BACT, which is identical to the
10 language contained in most federal, state and local regulations:

11 F. DEFINITIONS

12 1. "Best Available Control Technology (BACT)" means for any source the more
13 stringent of:

14 a. The most effective emissions control technique which has been achieved in
15 practice, for such category or class of source; or

16 b. Any other emissions control technique found, after public hearing, by the Air
17 Pollution Control Officer or the Air Resources Board to be technologically feasible
18 and cost/effective for such class or category of sources or for a specific source; or

19 c. The most effective emission limitation which the EPA certifies is contained in the
20 implementation plan of any State, approved under the Clean Air Act for such class or
21 category or source, unless the owner or operator of the proposed source
22 demonstrates that such limitations are not achievable.

23 In no event shall the emission rate reflected by the control technique or limitation
24 exceed the amount allowable under applicable new source performance standards.

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Air pollution control agencies rely on previous BACT determinations for similar classes or categories of facilities in other districts to provide guidance and authority on approving BACT for new sources. The California Air Resources Board and the South Coast Air Quality Management District maintain BACT databases to document previous BACT determinations. As technology evolves and the cost effectiveness of control techniques improve, new BACT determinations are made based on facilities that have shown that better levels of control and cost effectiveness have been achieved in practice. Since BACT determinations for new categories or classes of sources can have far reaching effects on new facilities state-wide and on equipment manufacturers, the issue of technical feasibility and cost effectiveness is highly scrutinized through a public review process before changes to BACT are made.

The District reviewed information provided by Raejean Fellows, R. Wayne Sawyer, and additional information provided by the KMPUD addressing LNG engines at Kirkwood. The District included this information with all comments on the ATC in District Exhibits 3 and 4.

On April 2, 2010, the District issued a 30-day public notice of our intent to issue an Authority to Construct (ATC) for the KMPUD powerhouse using diesel engines. The draft ATC included conditions that would ensure that the facility would operate in compliance with all current federal, state and District regulations.

District staff reviewed the comments and responses from all parties and found that there were conflicting opinions on the technical and economic feasibility of operating natural gas fueled engines in Kirkwood. Due to the lack of a natural gas pipeline to Kirkwood, proponents for natural gas engines recommend trucking LNG. An environmental analysis to comply with the California Environmental Quality Act (CEQA) would be required before LNG could be considered for use in a new power plant. The process to seek approval to transport and store LNG at Kirkwood may take a

1 year, and there is no guarantee that it would be approved. Proponents for natural gas believe it
2 would cost less in the long run to operate natural gas-fired engines after the investment is made to
3 construct LNG storage tanks. (Exhibit 3, pg. 3-30) Proponents of diesel say that it costs twice as
4 much to generate electricity at sea level using natural gas engines, and that considering the altitude
5 de-rating of the engines for altitude that it would cost 4 times more to produce electricity at
6 Kirkwood using natural gas engines than using diesel. (Exhibit 4, pg. 4-132)

7 As previously mentioned, air pollution control districts rely on previous BACT
8 determinations that have been made for similar situations to evaluate the technical and economic
9 feasibility of controls for new sources. In this case, diesel-fired internal combustion (IC) engines
10 with appropriate air pollution control devices for diesel particulates and oxides of nitrogen were
11 approved as BACT for a remote prime power facility in the South Coast Air Quality Management
12 District. Although remote prime power engines are normally required to be fired by natural gas,
13 SCAQMD determined that diesel-fired IC engines with air pollution controls were BACT due to the
14 lack of natural gas in the community (*SCAQMD, BACT Determinations, Snow Summit, Inc.*
15 *Application no. 418235, July 23, 2004*) (District Exhibit 2, pg. 2-117). The Snow Summit BACT
16 determination by South Coast AQMD provides the District the authority to approve diesel-fired
17 engines as BACT at Kirkwood due to the power plant being a remote high-altitude prime-power
18 plant located in a community without natural gas.

19 On May 24, 2010, the District issued Authority to Construct #1552-00-10 for the KMPUD
20 powerhouse. Permit conditions indicated that the diesel engines would meet Tier II EPA non-road
21 emission standards and would be equipped with diesel particulate filters and selective catalytic
22 reduction to reduce emissions of particulate matter and oxides of nitrogen. They would also use
23 ultra low sulfur fuel to reduce sulfur emissions. (District Exhibit 5)

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III.

**NATURAL GAS IS CURRENTLY NOT AVAILABLE IN KIRKWOOD AND DENIAL OF
THE AUTHORITY TO CONSTRUCT WILL RESULT IN SUBSTANTIAL DELAY**

Petitioner seeks to reverse the Authority to Construct based primarily on a claim that natural gas-fired engines are BACT. However, natural gas is not currently available in Kirkwood, and Petitioner has not provided sufficient analysis of the feasibility and cost effectiveness of transporting, storing and operating using natural gas to support a new BACT determination. (District Exhibit 6) Even if KMPUD wanted to modify their power plant to include natural gas-fired engines, the District could not approve such a modification until the impacts of transporting and storing LNG are assessed under the California Environmental Quality Act (CEQA). This additional analysis and report would require at least a year. Under these circumstances the KMPUD's Portable Equipment Registration Program permit would expire in January 2011 and as previously mentioned, the District Governing Board would have to approve an Order of Abatement to allow them to continue operating the portable generators.

1 RECOMMENDATION

2 District staff recommends that the Hearing Board deny Petitioner's appeal of Authority to
3 Construct #1552-00-10 issued to the Kirkwood Meadows Public Utility District.

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5 Respectfully submitted,

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7 Dated: June 17, 2010



8 Theodore D. Schade
9 Air Pollution Control Officer

10 District Exhibit 1 - Chronology of events

11 District Exhibit 2 - KMPUD permit application material

12 District Exhibit 3 - Letter from proponents of natural gas engines and public notice

13 District Exhibit 4 - Letters from proponents of diesel engines

14 District Exhibit 5 - Approved ATC #1552-00-10 issued to KMPUD for powerhouse

15 District Exhibit 6 - Best Available Control Technology Guidelines

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