INFORMATION SHEET

ORDER NO. R5-2007-XXXX
BIG VALLEY POWER, LLC, AND NORRIS AND DOROTHY GERIG
BIG VALLEY POWER SAWMILL AND COGENERATION FACILITY
LASSEN COUNTY

Big Valley Power, LLC is proposing to restart a wood burning steam power plant and sawmill formerly operated by the former Big Valley Lumber Company. Big Valley Lumber Company operated a sawmill and co-generator power plant at the site from the mid-1950's to 2001. The power plant facility was added in 1983. The sawmill and power plant facility most recently operated under Regional Board Order No. 98-232 (NPDES No. CA0081451). The facility ceased operations in 2001 and the property and equipment were auctioned in November 2001 to meet creditor debt. Regional Board Order No. 98-232 was rescinded on January 30, 2004.

Big Valley Power, LLC purchased the power plant, property, building, and residual sawmill equipment in April 2004. The plant is located on parcels totaling approximately 110 acres (Assessor's Parcel Nos. 001-130-11, 47,61, 62,73, 74, and 34 and 001-150-34, 33, and 24). Additional land (Assessor's parcel Numbers 001-130-09 and 63) for the northern pond is leased from Norris D. and Dorothy M. Gerig. The plant is located along the north side of Highway 299 approximately ½-mile east of the town of Bieber (Section 14, T38N, R7E, MDB&M) as shown on Attachment A, which is attached hereto and made part of this Order by reference. The latitude and longitude of the plant is 41.13 degrees North Latitude and 121.14 degrees West Longitude. The discharge ponds are on land owned by Norris D. and Dorothy M. Gerig. Big Valley Power, LLC and Norris D. and Dorothy M. Gerig are named as the Discharger.

The project consists of restarting the power plant and sawmill. A projected 50,000 dry tons of wood waste will be burned each year at this steam powered plant to produce 7.5 megawatts (MW) of electrical power for sale to a utility company. The plant includes a boiler feed water treatment system, a boiler, a turbine, a condenser, and a two-cell evaporative cooling tower. The sawmill equipment is still incomplete though it is anticipated that sawmill operations will be similar to the historic sawmill operation.

Process water is supplied from the "cooling tower" well which is screened at approximately 525 feet bgs and has an electrical conductivity of approximately 226 umhos/cm however there are five other wells on the site which may be used for water supply. Approximately 110 gallons per minute (gpm) of process water will be discharged to the northern percolation pond. Approximately 2 gpm of boiler blow-down and 212 gpm of make-up well water are supplied to the cooling tower. Approximately half the water supplied to the cooling tower is lost to evaporation and the remaining (110 gpm) is discharged to the percolation ponds or log deck. The electrical conductivity of cooling tower discharge generally ranges from 700 to 820 umhos/cm.

Most cooling tower water will be discharged to two retention ponds to the north of the

power plant. A portion of the cooling tower water may be used to wet the logs on the log deck. The ponds are connected such that the primary pond overflows to a second pond (overflow pond) located to the north of the main pond. Though no measurements exist for the ponds, according to facility staff, the primary pond ranges in depth from approximately 3 feet to a maximum of over 17 feet. The overflow pond is larger but shallower with an average depth of 5 to 6 feet and a maximum depth of approximately 12 feet. According to facility staff, the ponds were originally borrow pits. They were not constructed as disposal ponds.

Groundwater elevation data from a previous investigation at the facility shows the groundwater depth to range from approximately 21 feet below ground surface to 34 feet bgs varying seasonally. Groundwater information was also obtained from the Red Barn gas station located less than 1000 feet east of the facility. Big Valley is gently sloping and there is little ground surface elevation difference between the two sites. The Red Barn data shows depth to groundwater ranging from approximately 13 to 20 feet below ground surface. Data from the Red Barn site shows electrical conductivity of the shallow ground water to be highly variable and ranges from the mid 300 umhos/cm to over 1,200 umhos/cm.

The Discharger uses various chemicals in the storage tanks, cooling tower, and boiler to control pH, corrosion, and scaling. Material Safety Data Sheets for all chemicals are available on-site and were provided to the Board.

Domestic wastewater is discharged through Bieber's municipal water works system to the Lassen County Waterworks Sewage Treatment ponds located to the south of the town of Bieber.

Fuel, in the form of chips, bark, logs, brush, etc. are stored in the uncovered fuel storage areas located outside. A storage building adjacent to the boiler building contains relatively moist wood chips that are used as needed for fuel moisture consistency. Only untreated wood products currently fuel the plant.

Approximately five cubic yards of ash will be generated each day. Fly ash and bottom ash are stored in the central portion the property.

Based on information from the investigation of the facility in the 1990's, the investigation of the Red Barn site to the east and the county landfill adjacent to the Big Valley site to the west, the area is predominately underlain by silty sands and silty clays with interbedded sand lenses. In general silty sands and gravels were encountered to a depth of approximately 5 feet bgs and silty clays were encountered between approximately 5 feet bgs to at least 40 feet bgs. As a result, the subsurface is relatively impermeable.

Storm water will be directed to the disposal ponds or routed through existing drainage

ditches to the Babcock Ditch. Precipitation falling in the fuel storage log deck and truck unloading areas will be contained in the log deck ponds. Storm water in the immediate vicinity of the northern disposal pond will be stored in the northern pond. A drainage ditch along the eastern property boundary captures storm water from the eastern half of the site. The ditch runs beneath Highway 299 through a culvert. A second culvert is available in the event that the primary route is blocked. The facility is currently regulated under a General Industrial Storm Water Permit.

Petroleum tankage at the facility totals 9,000 gallons consisting of one 500-gallon gasoline, one 500-gallon diesel tank and one 8,000-gallon diesel tank. All gasoline and diesel will be stored in aboveground tanks capable of holding a minimum of 125 percent of the tank capacity. Turbine oil, hydraulic oil, and motor oils will be kept in 55-gallon drums. Secondary containment will be provided. The containment basin will be capable of holding 110 percent of the total drum capacity. Anti-corrosion chemicals added to the boiler will be kept in polyethylene drums in a separate containment facility. A secondary containment basin capable of storing 110 percent of the total drum volume will surround the polyethylene drums. The polyethylene and 55-gallon drums storage areas will be located under roofed structures to shelter the contents of the drums from the sun and precipitation. Each area of fuel storage will contain a spill cleanup kit in the event of a spill. The Discharger prepared a Spill Prevention Control and Countermeasure Plan (SPCC).

Basis of Order Conditions

Groundwater Limitations and Provisions E.2 and E.3. The California Department of Health Services Recommended Electrical Conductivity Secondary Maximum Contaminant Level (MCL) is 900 umhos/cm and the Agricultural Water Quality Goal is 700 umhos/cm. Electrical conductivity in the discharged waters was found to be 698 umhos/cm during the October 5, 2006 test run sample and 817 umhos/cm in the June 29, 2005 test run sample. As this is higher than anticipated background groundwater levels, the Discharger is required to install monitoring wells up and downgradient of the disposal ponds to assess the impact the facility will have on local groundwater. The results of the groundwater monitoring will be used to in evaluating the discharge with respect to State Water Resources Control Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality Waters in California.

Interim background groundwater limitations have been established because it has not been demonstrated that degradation of groundwater quality above background conditions resulting from activities at the facility is consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the Board's policies. Under Provision E.2, should the Discharger propose final groundwater limitations other than background, the Discharger may provide economic, water quality, and water use evaluations to show

that groundwater limitations other than background are consistent with the Antidegradation Policy. Under Provision E.3, the Regional Board may reopen this Order to establish numerical groundwater limitations based on information provided by the Discharger.

Cooling tower blowdown samples taken during facility test runs were compared to applicable water quality limits to determine water quality monitoring requirements. Constituents that may exceed water quality limits or have a reasonable potential to impact ground water quality were included in the **Monitoring and Reporting Program** as shown in the table below.

Upgradient groundwater well(s) will be sampled to establish background levels. Downgradient wells will be sampled to assess impact of the ponds to groundwater.

As discussed in **Sludge, Wood Waste, or Ash Disposal Management Requirement C.4**, ash removed from the facility can be tilled into agricultural fields as soil amendment, disposed in a dedicated unit (such as an ash monofill), or disposed in a Class III landfill. Any other use would constitute disposal and would be subject to Title 27, CCR requirements.

Table 1. Big Valley Power Monitoring Rationale

Constituent	**Units**	**BVP range**	**Limit**	**Inc. in M&R?**
Hardness	mg/L	156-169	None	No
pH	pH units	8.26-8.76	6.5-8.5 Basin Plan	Yes
Chloride	mg/L	49.2-58.4	250	Yes
Fluoride	mg/L	0.37	1 Ag use	Yes
Nitrate as N	mg/L	0.04-0.06	45 P-MCL	No
Nitrite as N	mg/L	0.02-0.16	1 P-MCL	No
Sulfate	mg/L	23.4-32.2	250 S-MCL	Yes
Sulfide	mg/L	<0.02-0.03	--	No
Electrical Conductivity	umhos/cm	698-817	900 S-MCL	Yes
Total Dissolved Solids	mg/L	478-548	Regulated under EC	No
Ammonia as N	mg/L	0.11-0.29	1.5 T&O	No
Total Phosphorus as P	mg/L	0.64-0.75	--	No
MBAS	mg/L	0.03	0.5 S-MCL	No
Cyanide - Total	ug/L	<5-3	150 P-MCL	No
Metals – Total				
Aluminum	ug/L	10.3-36.2	200 S-MCL	Yes
Antimony	ug/L	0.2	6 P-MCL	No
Arsenic	ug/L	2.8-5.2	10 P-MCL	Yes
Barium	ug/L	81.5-118	1000 P-MCL	No
Beryllium	ug/L	<0.5	4 P-MCL	No
Cadmium	ug/L	<0.06-<0.25	5 P-MCL	No
Chromium	ug/L	3.1-6.8	50 P-MCL	No
Chromium, +6	ug/L	<2.0-3.0	100 Ag use	No
Copper	ug/L	4.1-7.2	200 Ag use	No
Iron	ug/L	809-1030	300 S-MCL	Yes
Lead	ug/L	0.4-0.5	15 P-MCL	No
Manganese	ug/L	184-206	50 S-MCL	Yes
Mercury	ug/L	1.59-2.52	2 P-MCL	Yes
Mercury Field Blank	ug/L	0.22-0.74	Not applicable	--
Nickel	ug/L	1.2-2.0	100 P-MCL	No
Selenium	ug/L	0.6	20 Ag use	No
Silver	ug/L	<0.12-<0.62	100 P-MCL	No
Thallium	ug/L	<1.0	2 P-MCL	No
Zinc	ug/L	10.7-10.8	2000 Ag use	No

Limits: P-MCL = Primary MCL, S-MCL = Secondary MCL, Ag use = agricultural use.

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