



Biomass Cogeneration Facility Location Assessment for

Fall River Resource Conservation District and

The State Wood Energy Team

Conducted Summer/Fall 2014

November 14, 2014

Project

The purpose of this assessment is to evaluate locations for siting of up to 3MW combined heat and power facility to improve biomass utilization from the 370,000 acre Burney-Hat Creek Community Forest and Watershed group landscape and adjacent federal and private lands. The assessment was supported by the State Wood Energy Team, which received a grant from the U.S. Forest Service, Region 5 to advance utilization of woody biomass across the region.

Despite the presence of Sierra Pacific Industries and Sierra Forest Products mills in the town of Burney, both with biomass-powered cogeneration facilities, there is an over-abundance of biomass in region. The closing of the 12-13 MgW Covanta Cogeneration Biomass Facility in Burney a number of years ago dramatically reduced biomass demand and, in turn, reduced forest thinning, and jobs produced by both activities. The result is that some forest work is not being done because there is no purchaser of biomass. A signature project of the Burney-Hat Creek Community Forest and Watershed group (one of three public Collaborative Forest Landscape Restoration group in California) was halted because there is no place to take harvest of encroaching pine in Burney Garden meadows. Up until this point, the Burney Gardens project had grown to one of the larger watershed and aspen restoration project in the state.

The Shasta-Trinity and Lassen National Forests and private landowners need more biomass demand in the region. Many forest restoration projects have been developed and permitted but not implemented because of the lack of demand. Fall River Resource Conservation District Board of Directors voted to pursue the investigation of assisting partners/stakeholders with the development of a combined heat and power facility of up to 3MW in the Burney-Hat Creek area and requested support from the State Wood Energy Team to do this work. The Sierra Institute for Community and Environment was contracted to work with the RCD to conduct the pre-feasibility assessment.

The Sierra Institute worked with Fall River Resource Conservation District project coordinator Todd Sloat to identify sites with suitable road access, sufficient acreage to support a cogeneration facility and attendant activities, and likely to be minimally disruptive to adjacent landowners.

A variety of sites with appropriate land use and zoning were considered for more detailed examination. After initial review, two locations were pursued in depth: the Covanta combined heat and power facility in Burney and the Hat Creek Construction Company land, four miles north of the Highway 299 and 89 junction, just under nine miles north and slightly east of Burney.

Sierra Institute staff met on site with the current Covanta manager. Discussion revealed that the site is owned by Fruitgrowers Supply Company, which is being paid \$80,000 annually by Covanta for its lease. Upon ceasing operations and lease payments, Covanta is required to return the site to a "natural forest" condition. Because of the requirement in SB1122 that a new facility be developed, there remains a question about whether a new facility can be constructed on the site with an old cogeneration facility or use any part of it. The expense of the lease and requirement to restore the site, which would be extremely costly, halted further examination of the location.

Sierra Institute staff and Todd Sloat met with the owner of the Hat Creek Construction Company site and toured the property. The owner enthusiastically supported the project and the 343 acre site appeared ideal for location of a combined heat and power facility. The primary question was whether the location was close to a sub station and whether system

capacity was sufficient. Sierra Institute determined the most effective next step was to develop and submit a Rule 21 Pre-Application to PG&E.

Sierra Institute staff developed a map (below) and assisted the Fall River Resource Conservation District with submission of a Rule 21 Pre-Application. The \$300 application fee was paid using SWET funds. Development of the necessary materials needed for the Rule 21 Pre-Application was delayed, which led to a delay in completing this pre-feasibility project.

24339 Highway 89 Burney, California



The Pre-Application report from PG&E was received August 24, 2014 and is appended to this report. It indicated that that the Hat Creek Construction Company location is unsuitable for a 3 MgW Cogeneration facility. Among other problems it is distant from a sub station and the available capacity is no more than 1.35 MgW. These results halted further consideration of the site.

On October 7, 2014 the Sierra Institute and Todd Sloat convened a meeting with private industrial timberland owners and several Lassen National Forest employees to, among other things, discuss alternative industrial-zoned sites in proximity to the sub station in Burney. Three were identified: a transfer station run by Burney Disposal Inc., on Black Ranch Road; an Industrial Park in Cassell owned by Packway Materials Enterprises, Inc., and Byron Boyd Trucking; and an industrial site at the east end of Burney and north of Highway 299 owned by Doug Lindgrens, who also owns Tubit Enterprises, Inc. The Packway site was determined to be 15 miles from the substation and was dropped from further analysis.

The Lindgrens site is close to the sub station, used relatively recently by the Covanta biomass power plant, and the owner sells firewood at this location. He welcomes exploration of the site for a combined heat and power facility. The next steps involve further discussions with the landowner about a pre-feasibility study, and submission of a Rule 21 Pre-Application to PG&E to initiate site suitability analysis.



Pre-Application Report for Generator Interconnection

A. Total Capacity (MW) of substation bank and circuit likely to serve proposed site.

See Table 1

B. Allocated Capacity (MW) of substation/area bus or bank and circuit likely to serve proposed site.

See Table 1

C. Queued Capacity (MW) of substation/area bus or bank and circuit likely to serve proposed site.

See Table 1

D. Available Capacity (MW) of substation/area bus or bank and circuit most likely to serve proposed site.

See Table 1

E. Substation nominal distribution voltage or transmission nominal voltage if applicable.

12 kV

F. Nominal distribution circuit Primary voltage at the proposed site.

12 kV

G. Approximate circuit distance between the proposed site and the substation.

2,9091 ft

H. Relevant Line Section(s) peak load estimate, and minimum load data, when available.

See Table 2

I. Number of protective devices and voltage regulating devices between the proposed site and the substation/area.

3 Protective Devices

1 Regulating Devices

0 Auto Transformer Devices

J. Whether or not three-phase power is available at the site.

3-phase

K. Limiting conductor rating from proposed Point of Interconnection to distribution substation.

157 Amps

See Table 3 for more details.

L. Based on proposed Point of Interconnection, existing or known constraints such as, but not limited to, electrical dependencies at that location, short circuit interrupting capacity issues, power quality or stability issues on the circuit, capacity constraints, or secondary.

Project Name: Hat Creek Project

Address: 24339 Highway 89, Burney, CA

Substation: BURNEY

Feeder: 103311101

GPS: 40.996793, -121.620893

Table 1

Device	A (MW)	B (MW)	C (MW)	D (MW)
Bank	4.71	0.31	3	1.4
Breaker	4.66	0.31	3	1.35

Table 2

Type	Peak (KW)	Min (KW)
Recloser	773.06	0
Recloser	1546.12	0
Breaker	3905.99	~600
Bank	3900	~600

Table 3

Equipment ID	Rating	Length (ft)
2_ACSR_I	157	13970
2_CU_I	183	2559
397_AAC_I	515	12562

The Pre-Application Report need only include pre-existing data. A Pre-Application Report request does not obligate Distribution Provider to conduct a study or other analysis of the proposed project in the event that data is not available. If Distribution Provider cannot complete all or some of a Pre-Application Report due to lack of available data, Distribution Provider will provide Applicant with a Pre-Application Report that includes the information that is available. In requesting a Pre-Application Report, Applicant understands that 1) the existence of "Available Capacity" in no way implies that an interconnection up to this level may be completed without impacts since there are many variables studied as part of the interconnection review process, 2) the distribution system is dynamic and subject to change and 3) data provided in the Pre-Application Report may become outdated and not useful at the time of submission of the complete Interconnection Request. Notwithstanding any of the provisions of this Section, Distribution Provider shall, in good faith, provide Pre- Application Report data that represents the best available information at the time of reporting.