

Attachment B – ACL Complaint No. R1-2011-0081
Specific Factors Considered – Civil Liability
DG Fairhaven (Complaint)

Each factor of the Enforcement Policy and its corresponding score for each violation are presented below:

- 1. Violation Group No. 1 (Effluent Limit Exceedances):** The **\$21,000** in liability being recommended for the effluent limit exceedances alleged as Violation No. 1 in the Complaint addresses Mandatory Minimum Penalties (MMPs) statutorily required under CWC section 13385(h) and (i). No discretionary liability is proposed and therefore, the consideration of liability factors under CWC section 13385 factors and the methodology for assessing liability in the Enforcement Policy is not applicable.
- 2. Violation Group No. 2 (Reporting Violation):** According to quarterly self-monitoring reports submitted by the Discharger for the period from April 1, 2005 through December 31, 2009, the Discharger submitted 19 quarterly and 2 annual self-monitoring reports that were deficient. The deficiencies in these reports constitute violations that are classified in the Enforcement Policy as Class II violations.

Calculation of Penalty for Violation Group No. 2

Step 1. Per Day Assessment for Non-Discharge Violations

Step 1A. The per day factor is **0.4**. This factor is determined by a matrix analysis using the potential for harm and the deviation from requirements.

- a. The potential for harm is **moderate** and determined as follows:

Deficient self-monitoring reports have limited the Discharger and Regional Water Board staff knowledge of the effluent quality and compliance status for the missed periods. The degree of toxicity of the effluent during the periods covered under the deficient annual self-monitoring reports is also unknown.

Quarterly Self-Monitoring Reports:

- Hexavalent Chromium

During 2005, the Discharger consistently analyzed the Gross Effluent Waste Stream for Total Chromium in lieu of Hexavalent Chromium and, as a consequence, the required Hexavalent Chromium analyses were not reported in each quarterly self-monitoring report. The Discharger failed to sample all waste streams because of a weather related facility shutdown for the 4th quarter of 2006, and, as a consequence, no data, including results for Hexavalent Chromium, are available. All other quarterly SMRs during 2006 through 2009 show that the Discharger consistently complied with effluent limitations for Hexavalent Chromium.

- Other Constituents

Due to a weather-related facility shutdown during the scheduled sampling event, the Discharger failed to have samples tested for several other constituents (pH, copper, zinc, total chromium and chlorine) in the boiler and cooling water blowdown waste stream during the 4th quarter of 2006. The WDRs require monitoring and contain limitations for these constituents for the protection of marine and aquatic life. The Discharger also failed to have samples tested for three constituents (pH, TSS, and oil and grease) in the low-volume waste stream during the 4th quarter of 2006. Analytical results for these constituents during all other quarters show consistent compliance with effluent limitations contained in the WDRs.

Annual Self-Monitoring Reports:

- Chronic Toxicity Testing

As reported by the Discharger, it failed to conduct sampling and testing for chronic toxicity because of an administrative oversight during 2005 and 2007. Chronic toxicity testing provides valuable information about the potential harmful effects of effluent discharged into surface waters. Although pollutant concentrations can be analytically determined in samples, these measures may fall short of actually identifying toxic discharges. Chronic toxicity testing is a more direct measure of identifying toxic discharges and an observable toxic response between a chosen indicator organism and the pollutants. This test is critical in determining the toxicity of effluent on aquatic life. The Discharger conducted chronic toxicity testing during 2006, 2008 and 2009 monitoring periods, and test results from these showed 0, 0, and 1 TUc respectively, indicating no toxicity to the indicator organisms and compliance with WDRs.

b. The deviation from requirements is **moderate** and evaluated as follows:

SMRs are designed to ensure compliance with or to clearly identify all violations of effluent limitations contained in the WDRs. Without complete self-monitoring reports, it is difficult for the Discharger or the Regional Water Board staff to determine the compliance status of the various waste streams, any pollutants, and/or corrective measures, if necessary, to achieve compliance.

Quarterly SMRs

The Discharger submitted deficient reports for the following quarters:

- In 2005, the 1st, 2nd, 3rd and 4th quarterly reports were consistently missing one constituent (hexavalent chromium);
- In 2005, 2006, 2007, 2008 and 2009, all quarterly reports contained pH and Chlorine residual results, but the holding times required by EPA Standard Methods were exceeded, invalidating the results;

- In 2006, the 4th quarterly report contained no sampling results. The Discharger noted in the SMR that sampling was scheduled for the end of December of 2006; however, due to weather related unscheduled facility shutdowns, samples were not taken. The Discharger failed to reschedule this sampling event.

Annual SMRs

The Discharger submitted deficient annual self-monitoring reports in 2005 and 2007. Due to an administrative oversight noted by the Discharger in its annual SMRs, the Discharger failed to conduct the sampling events and consequently, both reports are missing the annual chronic toxicity testing results.

Step 1B. There are 21 days of violation. The maximum statutory per day liability is \$10,000. Applying the per day factor of 0.4 to the number of days of violation and the maximum liability yields an initial liability of \$84,000 (number of days of violation x per day factor x statutory maximum liability).

Step 2. Adjustment Factors

Step 2A. The discharger's culpability factor is **1**. This value is based on the following:

The Regional Water Board has issued WDRs and a MRP to the Discharger. The Discharger has been formally and informally notified of its obligations under its Permit, and is fully culpable for the deficient self-monitoring reports.

Step 2B. The discharger's cleanup and cooperation factor is **1**. This value is based on the following:

Reporting violations are not applicable to this factor.

Step 2C. The discharger's history of violations factor is **1.1**. This value is based on the following:

- On May 2, 2002, the Regional Water Board issued ACL Complaint No. R1-2002-0054 (to the previous Discharger) for violations of a CWC section 13267(b) Order issued March 14, 2002. Complaint No. R1-2002-0054 alleged the Discharger submitted deficient technical reports, and penalties continued to accrue until an acceptable technical report was submitted. Complaint No. R1-2002-0054 covered the period of April 12, 2002 to April 30, 2002 and assessed a penalty amount of \$19,000. Complaint No. R1-2002-0054 was amended with Compliant No. R1-2002-0054A which was issued on March 28, 2003 and alleged that the Discharger failed to submit or submitted an inadequate or late technical report. Complaint No. R1-2002-0054A covered the period from April 12, 2002 through August 26, 2002, and assessed a penalty amount of \$80,000 with a payment schedule. Although the facility has changed ownership since Complaint No. R1-2002-0054A was issued, the Discharger continues to utilize the administrative services of the same consulting firm as the previous

Discharger. The consulting firm is familiar with the facility wastestreams and requirements contained in the WDRs, and conducts sampling and prepares and submits SMRs as well as technical reports on behalf of the Discharger.

- On August 21, 2008, the Regional Water Board Assistant Executive Officer issued ACL Complaint No. R1-2008-0104 for violations of WDRs, specifically alleging that the Discharger submitted six late self-monitoring reports, assessing a total mandatory minimum penalty amount of \$165,000, and providing the Discharger with an option to direct a portion of the penalty amount towards completing a Supplemental Environmental Project (SEP). On October 21, 2008, the Discharger waived its right to a public hearing, requested the option to apply \$90,000 toward a SEP, and submitted an acceptable SEP proposal on November 7, 2008. The proposed SEP consists of redirecting treated wastewater discharges from an ocean outfall to a freshwater discharge location, converting approximately 6 acres of land into new wetlands, and improving approximately 4 acres of marginal wetlands. The wetlands will not be a part of the treatment process, but this effluent disposal option provides a permanent open wetland area for wildlife and habitat preservation, and is intended, in part, to demonstrate an innovative use of industrial treated wastewater. Subsequently, the Regional Water Board adopted ACL Order No. R1-2009-0042 on July 23, 2009, acknowledging the Discharger's payment of \$75,000 into the Cleanup and Abatement Account, describing the proposed SEP, and requiring the Discharger to complete specific tasks for the SEP with corresponding due dates.
- On September 9, 2008, the Regional Water Board Assistant Executive Officer issued a Notice of Violation (NOV) to the Discharger for unauthorized discharges of bottom ash washwaters into the effluent waste stream and ultimately the Pacific Ocean, during a pilot study of processed bottom ash and washwater conducted from 2006 to 2008. Pursuant to Water Code section 13267, the NOV required the Discharger to submit a summary report specifying the date that bottom ash washwaters were first introduced into the effluent stream, the volumes of bottom ash wastes discharged including liquid waste volumes discharged to the Pacific Ocean, and analytical data for any discharged waste. The Discharger provided a summary report letter dated October 15, 2008.

The Discharger has reportedly had problems with administrative oversight causing a pattern of noncompliance related to its self-monitoring reports. Specifically, as discussed in this Complaint, the Discharger has failed to submit SMRs, missed sampling events and/or failed to have effluent tested for specific constituents, resulting in deficient SMRs.

Step 3. Determination of Total Base Liability Amount

The Total Base Liability is determined by applying the adjustment factors from Step 2 to the Initial Liability Amount determined in Step 1.

Total Base Liability Amount: \$92,400 (Initial Liability (\$82,000) x Adjustments (1)(1)(1.1)).

- 3. Violation Group No. 3 (Unauthorized Discharges):** According to a Summary Report Letter dated October 15, 2008 prepared and submitted by SCS Engineers on behalf of the Discharger, six unauthorized discharges of bottom ash processing wastewater (washwater) occurred in 2006, 2007, and 2008 during a pilot study. The letter describes the pilot study conducted by the Discharger to determine the feasibility of processing bottom ash to be recycled for fuel. The Discharger estimates the volume of washwater discharged to be 2000 gallons for each incident, or a total of 12,000 gallons. These unauthorized discharges are violations of prohibitions contained in the WDRs, classified in the Enforcement Policy as Class II violations.

Calculation of Penalty for Violation Group No. 3

Step 1. Potential for Harm for Discharge Violations

The total potential for harm to the environment associated with the discharge of bottom ash washwater is **6**. This is determined by the sum of the factors for:

- a. *Harm or Potential Harm to Beneficial Uses: 3 – Moderate.* This value is based on the following:

In 2006, the Discharger began a pilot study to determine the feasibility of processing bottom ash; separating uncombusted wood from other materials in the bottom ash; and recycling the uncombusted wood as fuel for power generation. The pilot study included six unauthorized discharges of washwater; the first occurred on August 15, 2006 and the last on August 6, 2008. Two unauthorized discharges of washwater occurred each year during 2006, 2007 and 2008. The volume of washwater discharged is estimated to be 2,000 gallons for each incident, totaling 12,000 gallons discharged to the Pacific Ocean. Neither processed bottom ash nor washwater was sampled or analyzed during the pilot study.

- b. *Physical, Chemical, Biological or Thermal Characteristics: 2 – Moderate*
This value is based on the following:

March 12, 2009 Filtered Bottom Ash Washwater

The Discharger investigated sampling and analysis of processed bottom ash and bottom ash washwater for the purpose of using the bottom ash as inert waste for road base and combining the washwater with the facility effluent. The results are contained in a Report of Investigation¹ (ROI) dated September 10, 2009. The washwater discharged during the pilot study from 2006 to 2008 would have a similar pollutant profile as the

¹ *Processed Bottom Ash and Process Water Sampling Report of Investigation* dated September 10, 2009 and prepared by SCS Engineers on behalf of DG Fairhaven Power

processed bottom ash washwater that was characterized in the ROI on March 12, 2009, except that the washwater discharged during the pilot study incidents was not filtered prior to discharge.

- The March 12, 2009 bottom ash washwater had, in part, the following pollutant concentrations:

Table 4: March 12, 2009 Process Washwater Analytical Results

Parameter	Units	Sample PW	Sample PW-dup
Arsenic	mg/L	0.16	0.15
Barium	mg/L	1.1	1
Chromium	mg/L	0.16	0.11
Cobalt	mg/L	0.051	< 0.05
Copper	mg/L	0.62	0.5
Lead	mg/L	0.14	0.11
Nickel	mg/L	0.15	0.1
Vanadium	mg/L	0.16	0.12
Zinc	mg/L	2.5	1.9

- With the exception of dioxin (2,3,7,8-TCDD) all Organic Constituents of Concern concentrations were below their respective Reporting Detection Limits in samples PW and PW-dup. The quantity of solids in the samples was approximately 0.7% by weight. EPA Method 1613 dictates that samples with quantities of solids less than 1% must be filtered and that the solids remaining on the filter be extracted with toluene. The extract is then added back into the aqueous sample before it is analyzed. Sample PW had a concentration of 0.034 µg/L 2,3,7,8-TCDD and sample PW-dup had a concentration of 0.038 µg/L 2,3,7,8-TCDD; the Discharger concluded that these detections were a result of toluene extraction of these suspended solids.

February 17, 2010 Filtered Bottom Ash Washwater

On February 17, 2010, the Discharger sampled and analyzed filtered bottom ash washwater. The washwater discharged during the pilot study from 2006 to 2008 would have a similar pollutant profile as the processed bottom ash washwater that was characterized on February 17, 2010, except that the washwater discharged during the pilot study incidents was not filtered prior to discharge. The February 17, 2010 sample had, in part, the following pollutant concentrations:

Table 5: February 17, 2010 Bottom Ash Washwater Analytical Results

Parameter	Units	Sample
Barium	mg/L	0.081
Antimony	mg/L	0.015
Dioxin and Cogeners	pg/L	0.43

- c. *Susceptibility to Cleanup: 1* This value is based on the following:

Once discharged, the bottom ash washwater entered the outfall and the Pacific Ocean; less than 50% of the discharge was susceptible to cleanup or abatement.

Step 2. Assessments for Discharge Violations

The Discharger estimates the volume of washwater discharged to be a total of 12,000 gallons.

Step 2A. The per gallon factor is **0.220**. This factor is determined by a matrix analysis using the potential for harm and the deviation from requirements.

- a. The potential for harm is **6** as described above in Step 1, Potential for Harm for Discharge Violations.
- b. The deviation from requirements is **major** and evaluated as follows:

The Regional Water Board has issued WDRs and a MRP to the Discharger. The Discharger failed to file a Report of Waste Discharge to the Regional Water Board prior to initiating the bottom ash washwater pilot study and introduced, briefly and infrequently, a new waste to the facility effluent discharge.

The volume of washwater discharged is estimated to be 12,000 gallons. The statutory maximum liability per gallon is \$10. Applying the per gallon factor (0.220) to the number of gallons discharged and the maximum liability yields an initial liability of **\$26,400** (gallons discharged x per gallon factor x statutory maximum liability).

Step 2B. The per day factor is **0.220**. This factor is determined by a matrix analysis using the potential for harm (6) and the deviation from requirements (major). These values are the same as described above in Step 2A, Assessments for Discharge Violations.

The number of days bottom ash washwater was discharged is 6. The maximum statutory liability per day is \$10,000. Applying the per day factor (.220) to the number of days bottom ash washwater was discharged and the maximum liability yields an initial liability of **\$13,200** (no. of days of violation x per day factor x statutory maximum liability).

The initial liability for the per gallon amount is considered in conjunction with the per day amount. The total initial liability for bottom ash discharges is **\$39,600**.

Step 3. Adjustment Factors

Step 3A. The discharger's culpability factor is **1**. This value is based on the following:

The Regional Water Board has issued WDRs and a MRP to the Discharger. The Discharger has been formally and informally notified of its obligations

under its Permit. The Discharger failed to file a Report of Waste Discharge to the Regional Water Board prior to initiating the bottom ash washwater pilot study and introduced, briefly and infrequently, a new waste to the facility effluent discharge.

Step 3B. The discharger's cleanup and cooperation factor is **1.25**. This value is based on the following:

The pilot study generated bottom ash and process washwater which was contained in an impoundment prior to discharging. At this point in the process, the washwater was susceptible to cleanup and/or abatement, but discharger chose to release washwater directly to the Pacific Ocean without any treatment.

Step 3C. The discharger's history of violations factor is **1**. This value is based on the following:

The Discharger does not have a history of unauthorized discharges.

Step 4. Determination of Total Base Liability Amount

The Total Base Liability is determined by applying the adjustment factors from Step 3 to the Initial Liability Amount determined in Step 2.

- a. *Total Base Liability Amount:* **\$49,500** (Initial Liability (\$39,600) x Adjustments (1)(1.25)(1)).

COMBINED TOTAL BASE LIABILITY AND FACTORS APPLIED TO ALL DISCRETIONARY VIOLATIONS

The Combined Total Base Liability Amount for Violation Groups No. 2 and 3 is **\$141,900** (\$92,400 + \$49,500).

The following factors apply to the combined Total Base Liability Amounts for all of the discretionary violations (Violation Groups No. 2 and 3) discussed above.

Step 5. Ability to Pay and Continue in Business: 1

- a. *Adjusted Combined Total Base Liability Amount:* **\$141,900.**
- b. Discussion: The Discharger is a private company which has annual revenue of \$10,000,000 to \$20,000,000, and employs a staff of approximately 20 to 49 persons². Additionally, the Discharger is owned by Marubeni Sustainable Energy, Inc., a subsidiary of Marubeni Corporation.

² Company Profile provided by *Bun and Bradstreet, Inc.* found at internet site http://www.manta.com/coms2/dnbcompany_jgbvkb

Marubeni Sustainable Energy, Inc. owns and operates renewable generation plants, on-site cogeneration, and district plants for a range of utility, industrial, commercial and manufacturing facilities throughout the U.S. They are headquartered in San Diego, CA.³ Marubeni Corporation is an international corporation with 118 offices in 71 countries and employs a staff of approximately 3,951 (plus 1,728 overseas employees).

Step 6. Other Factors as Justice May Require: 1

- a. *Adjusted Combined Total Base Liability Amount: \$141,900 + \$10,050 (Staff Costs) = \$151,950*
- b. *Discussion:* Regional Water Board staff costs associated with addressing the above violations of the WDRs are estimated to be 67 hours at \$150 per hour or a minimum of \$10,050. This includes staff time to tally violations and prepare the complaint, public notices, public hearing, and response to comments. In accordance with the Enforcement Policy, this amount is added to the Combined Total Base Liability Amount.

Step 7. Economic Benefit

- a. *Estimated Economic Benefit: \$6,692*
- b. *Discussion:* The Discharger may have benefited economically from the effluent violations and possible delays in implementing appropriate corrective measures such as the purchase and installation of treatment equipment for the removal of copper in the wastewater stream (delayed capital investment). Additionally, the Discharger may have benefited economically from missed sampling events and corresponding laboratory analysis (avoided costs) as described above under deficient self-monitoring reports. The Discharger may have benefited from discharging contained bottom ash washwater rather than treating, cleaning up or disposing of the material appropriately.

On July 7, 2011, State Water Board staff conducted an Economic Benefit Analysis with respect to these violations, and estimated that the total economic benefit realized by the discharger was \$6,692.⁴

Step 8. Maximum and Minimum Liability Amounts

- a. *Minimum Liability Amount: \$7,361*

Discussion: The Enforcement Policy requires that the minimum liability amount imposed not be below the economic benefit plus ten percent. As

³ Biomass Power Association, Profiles found at internet site
http://www.usabiomass.org/profiles/membership_marubeni.php

⁴ Memorandum dated July 7, 2011 by Gerald Horner, Economist, State Water Resources Control Board, Economics Unit of the Office of Research, Planning and Performance

discussed above, the Regional Water Board Prosecution Team's estimate of the Discharger's economic benefit obtained from the violations cited in this Complaint is \$ 7,361.

b. *Maximum Liability Amount: **\$330,000***

Discussion: The maximum administrative liability amount is the maximum amount allowed by Water Code Section 13385: (1) ten thousand dollars (\$10,000) for each day in which the violation occurs; and (2) where there is a discharge, any portion of which is not susceptible to cleanup or is not cleaned up exceeds 1,000 gallons, an additional liability not to exceed ten dollars (\$10) multiplied by the number of gallons by which the volume discharged but not cleaned up exceeds 1,000 gallons.

The proposed liability falls within these maximum and minimum liability amounts.

Step 9. Final Liability Amount

The final liability amount proposed for Violation Groups No. 2 and 3 is \$151,950. The total recommended liability for all the violations alleged in the Complaint is **\$172,950** (final liability amount for Violation Nos. 2 and 3 + MMP for Violation No. 1).