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BEFORE THE CENTRAL COAST

REGIONAL WATER QUALITY CONTROL BOARD

In the Matter of: CARPINTERIA SANITARY DISTRICT, ACLC NO. R3-2015-0011	PROSECUTION TEAM REBUTTAL BRIEF 1. Rebuttal Brief 2. Rebuttal Evidence List 3. Proposed Order (provided to Advisory Team in Word format) May 13, 2015

The Prosecution Team submits this Rebuttal Brief in support of the Administrative Civil Liability Complaint (ACLC) issued in this matter. It also addresses the questions posed by the Advisory Team to the parties on April 16, 2015.

ARGUMENT

I. The October 3, 2012 Discharge is not a violation subject to a mandatory minimum penalty; discretionary liability is the only appropriate means of assessing liability for the approximate 300,000-gallon discharge.

The District repeatedly suggests in its Initial Statement and Legal Argument (District's Brief) that the October 3, 2012 discharge should be subject to a $3,000 mandatory minimum penalty (MMP) rather than the recommended discretionary liability amount of $81,775.[1] The issue

[1] See P. 2, lines 17-21, 27-28; P. 4, lines 1-2, 8-9, 17-19; P. 5, lines 7-8; P. 7, lines 26-28; P. 8, lines 9-11; P. 20, lines

[Footnote continued on next page.]

here is the type of violation that occurred (MMP-type violation versus a discretionary-type violation) and the Water Board's appropriate response. Legally, these types of violations are treated differently. The District contends that imposing an MMP is the only action by the Board that would be "fair, appropriate and consistent [...] with the Enforcement Policy." (District's Brief, P. 2, lines 24-25; P. 20, lines 13-19; P. 21, lines 5-7.) This argument is legally incorrect and inappropriately suggests that the Central Coast Water Board could simply impose only a $3,000 MMP without engaging in a discretionary penalty analysis using the penalty methodology in the State Water Board's Water Quality Enforcement Policy (Enforcement Policy). The Prosecution Team maintains that in order to be consistent with both the statute and the Enforcement Policy, the only legally appropriate manner for the Central Coast Water Board to determine the liability amount for the October 3, 2012 discharge is through consideration of the penalty methodology factors in the Enforcement Policy related to imposing discretionary liability.

With respect to MMP-type violations, Water Code section 13385, subdivisions (h) and (i) require that the Board impose $3,000 mandatory minimum penalties for certain specified violations of NPDES permits. These violations are:

a. "serious" violations, which include any waste discharges that exceed the effluent limitation for a Group I pollutant by 40 percent or more, or a Group II pollutant by 20 percent or more, or a failure to file certain discharge monitoring reports for a complete period of 30 days; and

b. "non-serious" violations which occur if the discharger does any one of the following four or more times in any period of 180 days:
   a. Violates a WDR effluent limitation;
   b. Fails to file a report of waste discharge pursuant to Water Code section 13260;
   c. Files an incomplete report of waste discharge pursuant to Water Code section 13260; or
   d. Violates a whole effluent toxicity effluent limitation where the WDRs do not contain pollutant-specific effluent limitations for any toxic pollutants.[2]

13-19; P. 21, lines 5-7, 11-12, 16-18; P. 22, lines 8-9; P. 23, lines 3-6, 13-15, 22-25; P. 25 lines 25-28; P. 40, lines 24-25; P. 42, lines 10-11.

[2] Because the imposition of MMPs for these specific violations is required, the discretionary liability factors specified

[Footnote continued on next page.]

However, the District's approximate 300,000 gallon discharge cannot be an MMP effluent violation per the definitions described above; rather, it is a release of partially treated effluent. The District did not collect and analyze an effluent sample during the loss of disinfection interval; therefore, there are no data to determine if there was a violation of an effluent limitation that might trigger an MMP. If the District had collected and analyzed an effluent sample during the loss of disinfection, and there was an effluent violation, the effluent violation would be an MMP-type violation and would be considered **in addition to** the discretionary violation.

The District's suggestion that the October 3, 2012 approximate 300,000-gallon discharge should be handled through imposition of an MMP is not permitted by statute or the Enforcement Policy. Even though the Board cannot impose an MMP for the discharge, it does have the discretion to impose whatever liability it deems appropriate, within the required minimum and maximum penalty ranges, *after the Board has considered the discretionary penalty factors* specified in the Water Code and the Enforcement Policy. The Prosecution Team has carefully considered each of the required factors in determining the recommended penalty for the discharge in the amount of $81,775.

II. The Industry Standard Does Require a Low Dosage Chlorine Alarm.

The permit, as cited in the Complaint and Attachment A, and as Mr. Sarmiento will testify, requires certain safeguards and redundancy, which the Carpinteria system did not have.

> Safeguards shall be provided to assure maximal compliance with all terms and conditions of this permit. Safeguards shall include preventative and contingency plans and may also include alternative power sources, stand-by generators, retention capacity, operating procedures, or other precautions. ...

Attachment D, D-11, B.9, Central Coast Standard Provisions. These safeguards, such as "low

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in Water Code section 13385(e) do not apply, and, as such, there is no requirement to consider the criteria specified in the Enforcement Policy's penalty calculation methodology. -Of course, the MMP statutes *do not prohibit* the Board from assessing a *higher* liability than the mandatory $3,000 minimum. However, if the Board were to do so, it would need to consider the discretionary liability factors specified in Water Code section 13385(e) and the criteria specified in the Enforcement Policy's penalty calculation methodology.

dosage chlorine alarm systems" to alert certified operators of potential chlorination failure are referred to as industry standards for safe, reliable and compliant operation and maintenance of wastewater treatment plants.

In addition to primary and secondary wastewater treatment process, the permit requires chlorination to disinfect the effluent. Primary and secondary wastewater treatment processes reduce some pollutants in large amounts (e.g., suspended solids, biological oxygen demand). However, as seen in Exhibit 18, these processes only result in small reductions of biological pathogens (as indicated by bacteria such as coliforms). This is the reason why disinfection is a key wastewater treatment process; to reduce the levels of pathogens.

Mr. Sarmiento will testify as to not only what the permit requires but also what other permittees do to comply with their permits, including alarms on key pieces of equipment, standard operating procedures related to discharge detection and prevention, and facility maintenance.

III. The Prosecution Team's Selected Factors Are More Appropriate, Given Carpinteria's Arguments, Errors, and Omissions

(a) Potential for Harm for Discharge Violations

(i) Factor 1: Harm or Potential Harm to Beneficial Uses

When analyzing violations under the Enforcement Policy, we first determine whether they are discharge (spills) or non-discharge (reporting) violations. Then the Board can proceed to analyze the violation using the Enforcement Policy calculation methodology. The parties here have stipulated to several of the factors, as described in the evidentiary stipulation submitted with the Prosecution Team's initial submission. We will discuss only disputed factors in this brief.

Potential for harm is analyzed in a three-step process that Carpinteria conflates and fails to fully address. Factor 1, "harm or potential harm to beneficial uses" addresses where the discharge occurred as compared to Factor 2, the physical, chemical, biological, or thermal characteristics of the discharge itself. The parties have stipulated that the final factor, susceptibility to cleanup or abatement, is properly scored as a 1, because the discharge could not be cleaned up or abated.

Carpinteria's consultant, ABCL, prepared a report that was submitted with Carpinteria's Water Code section 13267 response to assess the impacts of the discharge. The ABCL report was

also cited in Carpinteria's brief. However, in several instances ABCL cites to the wrong standard, uses the wrong scientific method, or reaches the wrong conclusion, all in Carpinteria's favor, as follows:

- The ABCL Report is incomplete and inaccurate in the examination of effluent and receiving water limits. The ABCL Report did not mention and did not conduct any analysis for the shellfish beneficial use protection standard. The receiving water limitations, as mentioned in the Prosecution Team's Brief (pg 5, line 3), are that the median total coliform density shall not exceed 70 organisms per 100 mL and in not more than 10 percent of samples shall coliform density exceed 230 organisms per 100 mL. Based on the methodology used by ABCL, the shellfish limitation was exceeded.
- The ABCL Report was incomplete in its analysis for water contact recreation because there was no analysis for enterococcus. When the District analyzed the wastewater samples, it only conducted the analysis for total and fecal coliform and not for enterococcus (enterococcus monitoring is required by the permit for a loss of disinfection). Enterococcus is the best indicator for fecal contamination and the presence of pathogens (EPA 2012) and would have been useful since there is large uncertainty in the analysis for total and fecal coliform (see Prosecution Team's Brief pg 4).
- ABCL Report (page 11) and the District's Brief (pg 31) state that there could have been additional disinfection in the chlorine contact tank from leftover chlorine and possibly by UV disinfection (pg. 34, line 23). However, it is important to note that even if indicator bacteria like total coliform or enterococcus could have been reduced, that does not mean that human pathogens associated with the wastewater would have been reduced too. For instance, for a given level of indicator bacteria, in this case enterococcus at 35 CFU per 100 mL, there is a higher risk of illness from secondary

disinfected effluent than from raw sewage (*see* Exhibit 19[3], page 4683, Figure 1). Furthermore, it was overcast in the area on the morning of October 3rd, further limiting any additional UV disinfection (Exhibit 20). This indicates that any additional disinfection speculated in the report likely had little impact on pathogens in the effluent.

- ABCL used the wrong modeling approach when it attempted to characterize the fate and transport of the effluent plume. ABCL used a near-field model, also known as the mixing zone, but applied it incorrectly to far-field zone. Near-field mixing is turbulent, caused by the buoyancy and momentum of the discharge, and occurs over short distances (10 to 1,000 meters) and times (1 to 10 minutes) (IWA 2010). However, ABCL applied the near-field model by USEPA and USACE (1998) to estimate the dilution of the plume in the far--field zone (IWA 2010). Far-field dilution of the effluent is caused by diffusion and occurs over long distances (100 m to 10 km) and times (1 to 20 hours) (IWA 2010). Therefore, it is not appropriate to use the USEPA and USACE mixing model for the far-field zone.

  Since diffusion is a very slow and gradual process compared to turbulent mixing, it is likely that the plume would have traveled towards shore due to wind and wave motion along the coast until it reached a turbulent area like the surf zone. An analogy for the ABCL's analysis is modeling how long it takes for a parachutist to reach the ground after jumping out of an airplane. There are two phases: a freefall phase and, after the parachute opens, a canopy flying phase. Essentially, the ABCL modeled the canopy flying phase with a freefall model. This causes the consultant to overestimate the time it takes the plume to dilute and thus underestimates the time and area of

[3] Soller, J.A., Schoen, M.E., Bartrand, T.,Ravenscroft, J.E., and Ashbolt, N.J (2010) "*Estimated human health risks from exposure to recreational waters impacted by human and non-human sources of faecal contamination*" Water Research 44, 4674-4691.

the discharge's impact to the receiving water.

- Additionally, the ABCL Report and the District's Brief only partially cited the receiving water limit for water contact recreation and therefore misrepresented the potential harm. The receiving water limit for water contact recreation contains another limit when the fecal to total coliform ratio exceeds 0.1. This ratio is important, because when the ratio of fecal coliform is high, it indicates that the water is contaminated with sewage and has a high likelihood of containing human pathogens. Since the effluent is treated wastewater, the fecal to total coliform ratio will exceed 0.1[4]. However, the ABCL Report and the District's Brief only uses the much higher standard of 10,000 CFU per 100 mL. Pursuant to the appropriate ratio of 0.1, the District should have used the much lower standard of 1,000 CFU per 100 mL.
- The District tries to re-write the effluent standard in the permit (District Brief, page 19, line 14) and claims that based on ABCL's analysis there was no effluent violation. Only the Water Board can change the permit conditions.
- The District claims that the ABCL conclusions are further supported by the fact that Santa Barbara County EHS did not require a beach posting and CDPH stated that shellfish growing areas would not be impacted (District Brief, page 30, line 13). However, the District did not receive a return phone call from the County until the following day (page 12, line 21). Furthermore, CDPH's analysis is only for active commercial shellfisheries (Exhibit 21), the closest one being 13 miles from the outfall. The Basin Plan and the permit list four closely related beneficial uses which have significant overlap between the beneficial uses of Commercial and Sport Fishing (COMM),

[4] The post incident samples taken by the District for the receiving-water harm analysis confirm that the fecal to total coliform ratio exceeded 0.1.

Aquaculture (AQUA), Marine Habitat (MAR), and Shellfish Harvesting (SHELL). There is no distinction between commercial and recreation shellfish harvesting. Even if there is no active commercial or recreational shellfish harvesting, the analysis by ABCL indicates that the beneficial use was impaired because the receiving water limits were exceeded.[5]

(b) Factor 2: The Physical, Chemical, Biological, or Thermal Characteristics of the Discharge.

The District confuses the analysis for this factor with the analysis for Factor 1. This factor is based on the risk or threat of the material involved in the violation. The potential receptors are defined in the Enforcement Policy as those "identified considering human, environmental and ecosystem health exposure pathways." There is no disagreement that undisinfected wastewater is hazardous to humans regardless of whether exposure is through water recreation contact or through shellfish consumption. The District's argument that this factor should be scored as a "0, or no more than 1" (Brief, page 34, line 26) is inappropriate. Based on the lack of disinfection and therefore the presence of high levels of fecal indicator bacteria such as coliform, the Prosecution Team selected a 2 for this factor because the discharged material poses a moderate risk to potential receptors. The District is arguing for a 0 (negligible risk) or a 1 (minor risk), even though high levels of total coliform were present as indicated by its own analysis, indicating the likely presence of high levels of human pathogens.[6]

(c) Deviation from Requirement

The Prosecution Team often selects a factor of "major" for any discharge in similar enforcement actions, because the permits prohibit unpermitted discharges. However, given the compliance efforts made by Carpinteria, the Prosecution Team selected a factor of moderate. There

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[5] Also note that although it doesn't affect the analysis, the 2012 Ocean Plan standards cited in the ABCL Report were not in effect at the time of the incident. The 2012 Ocean Plan became effective August 19, 2013. Furthermore, the depth of diffuser is 25 feet; not 30 feet (Exhibit 1, pg F-4 and District Brief, pg 9, line 16).

[6] Without supporting evidence, the District claims that over 20% of the POTW in Region 3 discharge to the Pacific Ocean without any disinfection whatsoever (District's Brief, pg 32, footnote 16). However, of the 16 ocean dischargers, only two are not required to disinfect (12.5%). These two Dischargers, Watsonville and Monterey Regional, have outfalls that are significantly further offshore (greater than 1 mile) compared to the District. Exhibit 22.

is no reason to reduce this factor beyond that selection. The chlorination system that failed was over 14 years old and did not have an alarm to notify plant personnel when a failure occurred. The Prosecution Team has provided citations to the permit and Mr. Sarmiento will testify that this type of an alarm is industry standard. By waiting until a discharge occurred, Carpinteria took a gamble: it could either invest in an alarm, updated equipment or more regular monitoring to be sure of working equipment, or it could use the money not spent on alarms required by the permit for penalties when discharges occurred.

(d) Culpability

The Prosecution Team selected a 1.1 for culpability, because the duration of the discharge could have been lessened had Carpinteria acted differently. This is a different concept beyond having an industry-standard SCADA alarm system. The Carpinteria plant operator who discovered the loss of disinfection did not make his discovery upon first showing up to work that day in October. He had to make his rounds, and discovered the failure several hours later. That indicates the need for improved processes beyond alarms and notifications.

(e) Cleanup and Cooperation

Carpinteria mistakenly states that the Prosecution Team gave it a 1.0, a neutral factor, and argues for a 0.75, the lowest factor that can be assigned. The Prosecution Team instead has always assessed this factor as a 0.9, which serves to reduce the penalty. The Prosecution Team does not see the need to reduce the factor further. While Carpinteria reported and fixed the SCADA system after the discharge, it failed to complete the required monitoring. A discharger that fails to comply with its permit should not be given the maximum reduction in any recommended penalty.

(f) Economic Benefit

In reviewing Carpinteria's modified economic benefit calculation of $7,000 to conduct the sampling, we would point out the following: assuming that a half-day boat rental is sufficient time to load the equipment on the boat, travel from Santa Barbara Harbor to Carpinteria, collect the samples, return to Santa Barbara Harbor, and unload (a ¾ day charter is $1,300.00 for Finaddict), that would leave $178.57 to analyze the five samples for total and fecal coliform and enterococcus at the laboratory. Carpinteria's estimate does not appear to include the cost of analyzing enterococcus since this analysis was not included in the estimate of harm by ABCL and is only

required by the permit if there is a failure of disinfection or if there is three consecutive total coliform exceedances (i.e., enterococcus analysis is not normally conducted by the District).

Carpinteria failed to include an estimate of staff time to collect the samples. Staff time would include driving to Santa Barbara and returning to Carpinteria, chartering the boat and collecting the two ocean samples, and then collecting three beach samples in addition to the laboratory staff time to process the samples. For safety reasons, particularly for the ocean sampling, we estimated this effort would take two staff eight hours at a cost of $75.00/hour for a daily cost of $1,200 per day. The Prosecution Team's estimate did not include miscellaneous costs like gas, parking, ice, or weekend rates.

We remind the Central Coast Water Board that the economic benefit in all matters is only a floor, and that the penalty recommended by the Prosecution Team recovers the economic benefit plus 10%, as required by the Enforcement Policy.

(g) Staff Costs

As stated in the Prosecution Team's Brief, it is seeking $22,000 in staff costs, and is excluding the staff costs of Michael Thomas, Harvey Packard, Todd Stanley, Thea Tryon, Julie Macedo, and David Boyers. The $22,000 figure was calculated at the time of the issuance of the ACLC, on March 2, 2015. The current total is now much greater. Carpinteria argues that because it entered into an evidentiary stipulation on April 10, 2015, that staff's effort to investigate the 2012 discharge, issue a Water Code section 13267 Order, correct the volume amount, participate in settlement negotiations, draft the ACLC, and prepare for hearing should be negated. The Prosecution Team disagrees, and Carpinteria's position is not consistent with the Enforcement Policy, suggesting that such costs be added to the liability amount (Enforcement Policy, pp. 19-20).

IV. Carpinteria's Reliance on ACLO R5-2010-0505 (City of Chico) is Misplaced

The ACLC for the City of Chico matter was issued on March 17, 2009, and the ACLO[7] referenced by Carpinteria was signed on January 28, 2010. A quick analysis of the Order

[7] This ACLO is submitted as Exhibit H to Carpinteria's Brief.

(paragraph 25) indicates that it was decided before the current Enforcement Policy went into effect on May 20, 2010. Therefore, while the same general factors were analyzed under Water Code section 13385, the ACLO has very little relevance for the Central Coast Water Board as compared to the matters that were either decided or settled after the current Enforcement Policy came into effect, and which the Prosecution Team relies on in comparison for this ACLC.

V. Advisory Team Questions of April 16, 2015

Questions Regarding the Complaint:

(1) The Complaint states that the "maximum liability that the Central Coast Water Board may assess pursuant to Water Code section 13385, subdivision (c) is $2,978,960, based on a volume of 297,896 gallons plus $10,000 per day." 297,896 multiplied by 10 is $2,978,960. Adding $10,000 per day (one day) totals $2,988,960. Is it correct that $2,988,960 is the maximum penalty for the alleged violations described in Attachment A?

Response: No. Section 13385 requires that the first 1,000 gallons be subtracted from any discharge, resulting in the maximum penalty of $2,978,960.

(2) Similarly, if the MMP liability is potentially $50,000, shouldn't the total maximum liability be $2,988,960 + $50,000 or $3,038,960?

Response: We did make an error here. This number should be $3,028,960 (again accounting for subtracting the first 1,000 gallons).

Questions Regarding Attachment A:

(1) The Prosecution concludes that the score for Factor 1 is two for being Below Moderate. Please explain what criteria were compelling. Were impacts observed? Is there evidence of harm to Beneficial Uses? Is harm to Beneficial Uses reasonably expected due to the length of the discharge (5 ½ hours) and the type of pollution (fecal coliform)?

Response: We believe we have addressed this in both our opening (pgs. 3-6) and rebuttal briefs (pgs. 4-9).

(2) The Prosecution concludes that the score for Factor 2 is two, a moderate risk or threat. Please explain what criteria were compelling. What are potential receptors in the discharge area? 68 times the effluent limit appears to be significant. Why is there only a "moderate" concern for potential receptors?

Response: We believe that we have addressed this in both our opening (pgs. 6-7) and rebuttal briefs (pgs. 8-9). We usually score raw sewage a 3 or above, and took that into account here, to respond to your comment "why is there only a 'moderate' concern for potential receptors." The Prosecution Team looked at things in context, both in terms of each factor, an appropriate final penalty, the deterrence for this discharger, for all dischargers, the likelihood of a similar discharge occurring again, and so on.

(3) Please confirm that chlorine monitoring is now constant and has an alarm that will promptly alert personnel in the event of an exceedance.

Response: The Prosecution Team finds that this question is more appropriately directed to Carpinteria, but that based on its planned upgrades, a new alarm is in place, as well as a backup pump in case the main pump fails.

(4) Was Carpinteria in violation of the permit by not maintaining such an alarm prior to the alleged violation? If so, is failure to maintain an alarm a separate violation of the permit?

Response: Since the Prosecution Team has argued that appropriate alarms and backup systems are required by the permit (*see* ACLC p. 26 and Attachment A, culpability), it is a separate violation. We exercised our discretion to not recommend a penalty for this violation.

(5) Under the "deviation from requirement" section of Factor 3, is the

requirement to chlorinate "rendered ineffective in its essential functions" by the failure to maintain alarm systems?

Response: We did not believe the requirement was "rendered ineffective," we believe it was "partially compromised" by the selection of a moderate deviation from requirement. Again, we exercised our discretion in a conservative fashion. Carpinteria was not ignoring its permit or disregarding its obligation. It did, however, fail to consider the ramifications, especially the water quality impacts, of all of its decisions. In reaching an appropriate penalty, the Prosecution Team considers what Carpinteria did and what it should have done, and how far apart those are. We find a "moderate" for Factor 3 accurately reflects the efforts Carpinteria made toward achieving compliance.

VI. Conclusion

Every driver, even good drivers, gets his or her first speeding or parking ticket. While Carpinteria is a well-run facility, the October 2012 discharge was significant in volume and is being appropriately scored under the Enforcement Policy for its potential harm. Legally, the discharge cannot be assessed as an MMP because it does not fit the legal criteria or definition. If the Board would like to go through the Enforcement Policy methodology and assess a discretionary penalty in an amount lower than the Prosecution Team's recommendation, that is within the Board's discretion, as long as economic benefit is captured. However, that does not make the discharge an MMP-type violation. The discharge is a discretionary-type violation, and the Prosecution Team has applied the penalty methodology reasonably and conservatively where warranted based on Carpinteria's past operational history. The resulting penalty recommendation is appropriate and consistent with the Water Code and the Enforcement Policy, and the Prosecution Team recommends that the Board adopt ACLC NO. R3-2015-0011.

May 13, 2015

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