Enforcement Policy
Penalty Calculation Methodology

Undisinfected Effluent

October 3, 2012 Incident

Violations

* The Discharger failed to disinfect the secondarily-treated effluent for over 5 ½ hours
  * Estimated 297,896 gallons to the Pacific Ocean
* Other violations include:
  * Failure to take all reasonable steps to minimize or prevent discharge
  * Failure to provide safeguards
  * Failure to monitor (7 days)

Monetary Assessment in ACL Actions

* California Water Code section 13385(e) describes several factors that the Board must consider
* The Enforcement Policy provides directions on how to weigh those factors in 13385
* Ten Steps in Methodology
  * Some steps have several factors
* Apply the Methodology to the October 3, 2012 Incident

Step 1 – Potential for Harm for Discharge Violations

* 3 Factors in this step
  * Factor 1: Harm or Potential Harm to Beneficial Uses
  * Factor 2: The Physical, Chemical, Biological or Thermal Characteristics of the Discharge
  * Factor 3: Susceptibility to Cleanup or Abatement

Characteristics of the Discharge Factor 2

* Factor 2: The Physical, Chemical, Biological or Thermal Characteristics of the Discharge
  * Degree of toxicity of the discharge
  * A score between 0 and 4 is assigned based on a determination of the ***risk*** or ***threat*** of the discharged material
    * Negligible (0), minor (1), moderate (2), above moderate (3), or significant (4).

Undisinfected Secondary Effluent

* Primary and secondary treatment removes pollutants
  * For example: suspended solids
* Primary and secondary treatment results in small reductions in human pathogens
  * Bacteria and viruses remain
    * Norovirus, cryptosporidium, giardia

Fecal Indicator Bacteria

* Until very recently, we didn't have methods to detect human pathogens
  * Water Quality Standards are based on indicators of sewage
* Fecal Indicator Bacteria
  * Total and fecal coliform, enterococcus
    * Enterococcus is the best indicator for the presence of pathogens
  * Large amounts of uncertainty in any one measurement

Coliform Testing

* We required the District to conduct an impact assessment for public health and the ecosystem
* District tested undisinfected secondary effluent at the treatment plant
  * Total coliform 160,000 MPN (Most Probable Number) per 100 mL (milliliters)
    * The range from 40,000 to 460,000 MPN per 100 mL
  * Fecal coliform 92,000 MPN per 100 mL
  * Effluent limit
    * Instantaneous maximum is 2,300 MPN per 100 mL

Score for Factor 2

* Scale goes from 0 to 4
  * Selected 2: Moderate risk or threat to potential receptors
  * Based on the Discharger's analysis:
    * Discharged material has the potential to contain high levels of human pathogens

Harm or Potential Harm to Beneficial Uses - Factor 1

* Considers the harm or potential harm that may result from exposure to the pollutants or contaminants in the illegal discharge
* A score between 0 and 5 is assigned based on a determination of whether the harm or potential for harm is:
  * negligible (0), minor (1), below moderate (2), moderate (3), above moderate (4), or major (5).


Carpinteria
Carpinteria State Beach
Outfall location
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
© 2015 Google
Google earth
1994
34°23'30.34" N 119°31'16.91" W elev 12 ft eye alt 9334 ft

Beneficial Uses

* Water Contact Recreation
  * Zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline
* Shellfish Harvesting
  * The waters from Coal Oil Point to Rincon Point have been designated as having existing uses for shellfish harvesting

Receiving Water

	Permit		CDPH	ABCL analysis	
	Water Contact	Shellfish	Commercial Shellfish	Ocean spiked	Effluent at 93:1
	Single Sample Maximum	Median			
Total	1,000	70		490	1,720
Fecal	400		14	330	989
Enterococcus	104				

Rebuttal to ABCL Report

* Incomplete and inaccurate
  * Did not conduct analysis for the shellfish beneficial use
  * Incomplete since there was no analysis of enterococcus
  * Partially cited recreation standard
  * Overstates the case for disinfection when the chlorine pump failed
    * Leftover chlorine
    * UV disinfection

Rebuttal to ABCL report

* Wrong fate and transport modeling approach
  * Used a dredging model for wastewater effluent
    * Many of the parameters for the modeling are applied inappropriately
  * Used a near-field (mixing zone) model for the far-field

United States Environmental Protection Agency
Office of Water (4305)

Department of The Army
US Army Corps of Engineers

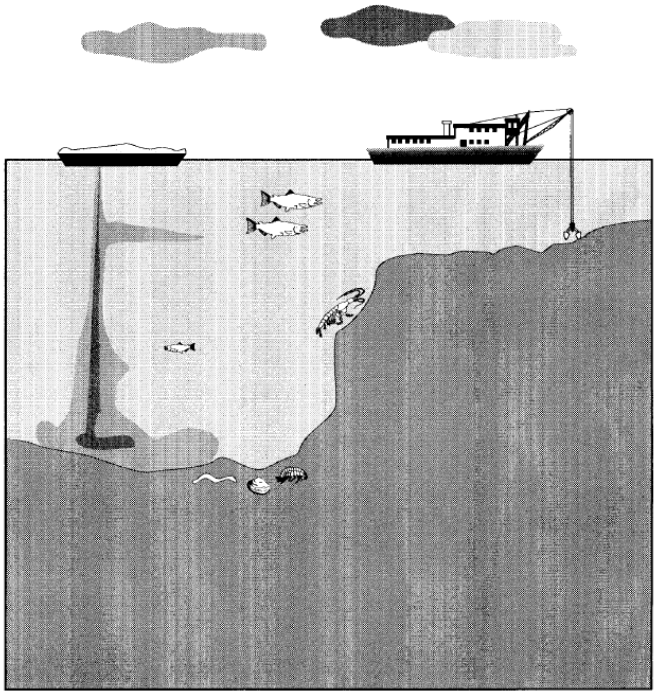
EPA-823-B-98-004
February 1998

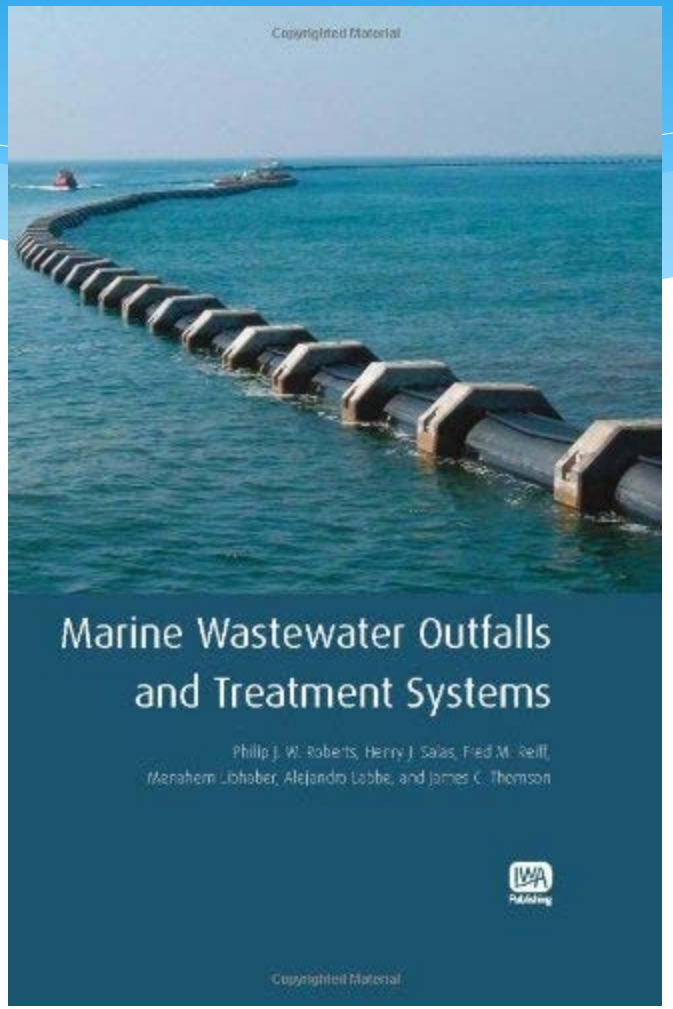
EPA

U.S. Army Corps of Engineers

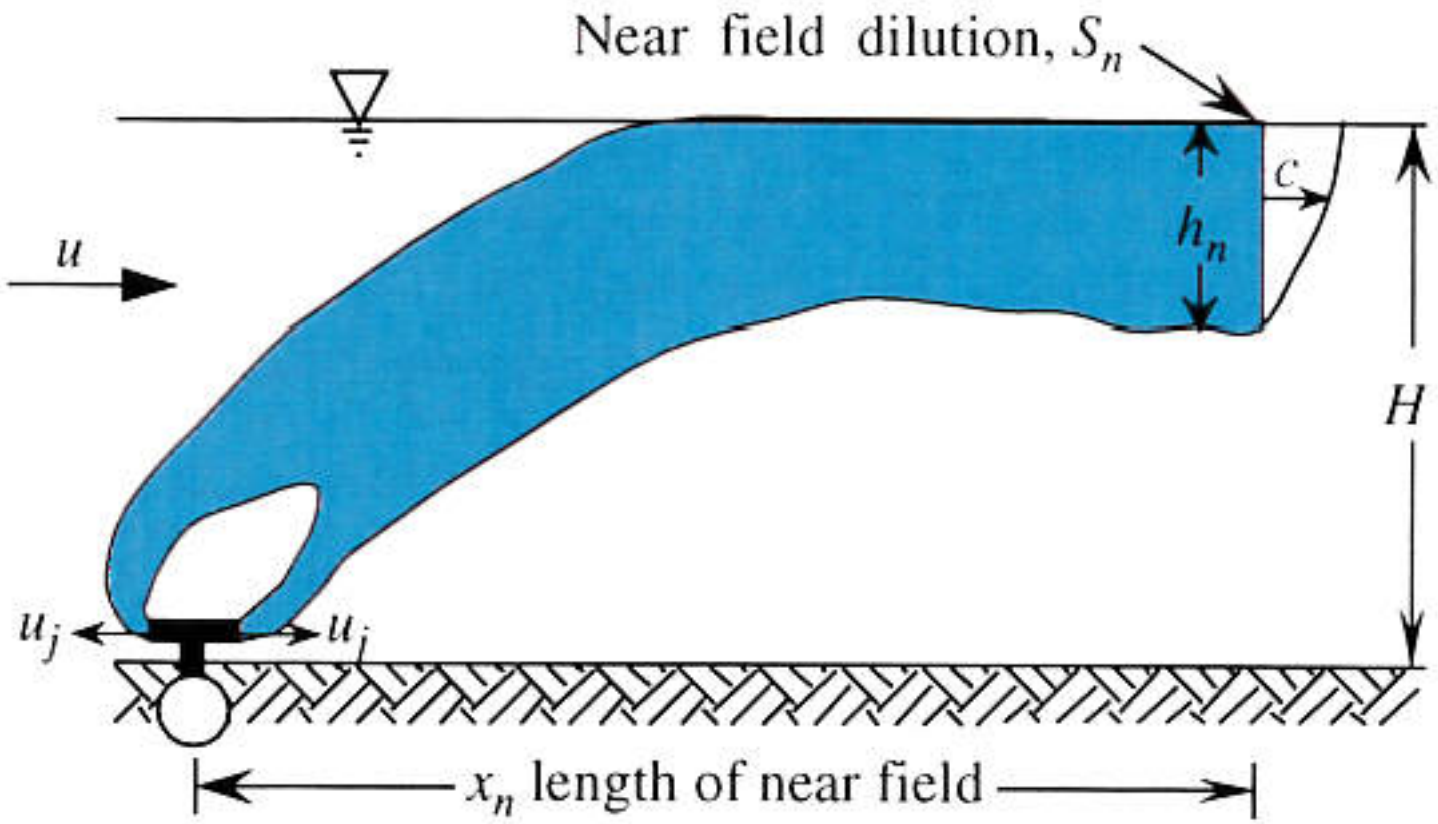
Evaluation of Dredged Material Proposed For Discharge in Waters of the U.S. - Testing Manual

Inland Testing Manual





Mixing Zone



(b) Side view

Rebuttal to District's Brief

* District claims that ABCL's conclusion of no impact is supported by the fact that other agencies did not require additional actions
  * Santa Barbara County
    * Had a return call the day after the event
  * California Department of Public Health
    * Analysis is only for the active commercial shellfishery located 13 miles away from the outfall

Score for Factor 1

* Scale goes from 0 to 5
  * Selected 2: Below moderate threat to beneficial uses
    * Exceeding the receiving water limits for shellfish and likely exceeding the limits for water contact recreation

Step 2: Assessments for Discharge Violations

* Deviation from Requirement
  * Minor, Moderate, or Major
    * Selected **Moderate** because the requirement has been violated for more than five hours
* High Volume Discharge
  * Instead of a maximum $10 per gallon, we assessed it at $2 per gallon

Step 4
Adjustment Factors

* Adjustment Factors
  * Culpability (multiplier between .5 to 1.5)
  * Cleanup/Cooperation (multiplier between .75 to 1.5)
  * History of violations (multiplier of 1.1 or greater where there is a history of repeat violations)

Culpability

* Higher liabilities should result from intentional or negligent violations than for accidental, non-negligent violations.
  * A first step is to identify any performance standards (or, in their absence, prevailing industry practices) in the context of the violation.
* Likely cause is air lock
* Lack of alarm or automated back-up system contributed to the duration and volume
* Scored **1.1**

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Water Resource Control Engineer
State Water Board Office of Enforcement

- Wastewater Treatment Operator (Regional Wastewater Treatment Plant, Palo Alto, CA), Grade III
- Regulator/Inspector (Sacramento Regional Water Board and State Water Board), WRCE, P.E. in Chemical Engineering

Violations of NPDES "Standard Provisions"

(Attachment D)

Section I.C(D-1)

"The Discharger shall take reasonable steps to minimize any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment."

Section I.B.9 (page D-11)

"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."

INDUSTRY STANDARD PRACTICE

- Industry Standard Practices are generally accepted set of methods or practices within an industry
- Alarm systems are "Industry standard practice" safeguards that notify operators of potential equipment problems.
- State Water Board "Manual for Chlorination and Dechlorination Practices" recommends chlorination alarms:

"every chlorination facility should have an alarm system that adequately alerts operators"

CONCLUSIONS

- Chlorination is a critical process that should be continuously monitored with an alarm system in accordance with Industry Standard Practices
- District violated Standard Provisions in its NPDES permit
- Alarm could have prevented or mitigated the discharge

Cleanup and Cooperation

* Extent to which the discharger voluntarily cooperated in returning to compliance and correcting environmental damage
  * Discharger created alarm
  * Cooperative in responding to requests for information
  * Failed to complete the required monitoring
* Scored **0.9**

Staff Costs and Economic Benefit

* Step 7: Other Factors as Justice May Require
  * Staff costs. Calculated at the time the ACLC was issued and excludes the costs of several members of the prosecution team
* Step 8: Economic Benefit
  * Costs of the Alarm and Failure to Monitor Receiving Waters
    * Includes staff time to collect the samples and their analysis

Final Steps

* Step 9: Minimum and Maximum Liability
  * Minimum = $28,087.40
  * Maximum = $2,978,960
* Step 10: Final Liability Amount
  * $81,775