Attachment A – ACL Order No. R5-2013-XXXX
Specific Factors Considered for Administrative Civil Liability
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The State Water Board's *Water Quality Enforcement Policy* (Enforcement Policy) establishes a methodology for determining administrative civil liability by addressing the factors that are required to be considered under California Water Code sections 13350, subdivision (a) and 13327. Each factor of the nine-step approach is discussed below, as is the basis for assessing the corresponding score. The Enforcement Policy can be found at: http://www.waterboards.ca.gov/water_issues/programs/enforcement/docs/enf_policy_final111709.pdf.

A. Factors Considered Relating to Dead Cow Discharge to Groundwater

The following steps are used in determining administrative civil liability for the discharge of dead cows to groundwater.

Step 1 – Potential for Harm for Discharge Violations

The "potential harm to beneficial uses" factor considers the harm that may result from exposure to the pollutants in the illegal discharge, while evaluating the nature, circumstances, extent, and gravity of the violation(s). A three-factor scoring system is used for each violation or group of violations: (1) the potential for harm to beneficial uses; (2) the degree of toxicity of the discharge; and (3) whether the discharge is susceptible to cleanup or abatement.

Factor 1: Harm or Potential Harm to Beneficial Uses.

This factor evaluates direct or indirect harm or potential for harm from the violation. A score between 0 and 5 is assigned based on a determination of whether the harm or potential for harm to beneficial uses ranges from negligible (0) to major (5). The designated beneficial uses of groundwater for this region are municipal and domestic water supply, agricultural supply, industrial service supply, and industrial process supply. Impacts to beneficial uses are reasonably expected to occur from the discharge of dead cows to groundwater. The decomposition of a dead mature cow releases approximately 63 gallons of fluid[1]; a 1,200 pound cow carcass contains from 24 to 36 pounds of organic nitrogen[2][3]. The U.S. Environmental Protection Agency in the National Primary Drinking Water Regulations has set a maximum contaminant level (MCL) in drinking water for nitrogen in the form of nitrate-nitrogen of 10 mg/l. Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome. The Water Quality Control Plan for the Sacramento and San Joaquin River Basins, 4th Edition (Basin Plan), for drinking water the Most Probable Number (MPN) of coliform organisms over any seven-day period shall not exceed 2.2/100 mL. While not a health threat in itself, coliform is used to indicate whether other potentially harmful bacteria may be present. Any positive result for the coliform bacteria E.coli is a cause for concern according to the U.S. Environmental Protection Agency's Primary Drinking Water Regulations, because E.coli only comes from human and animal fecal waste. Groundwater

[1] Nutsch, N. and M. Spire. 2004. Carcass Disposal: A Comprehensive Review
[2] Payne, J. On-Farm Mortality Composting of Livestock (Oklahoma Cooperative Extension Service BAE-1749)
[3] Glanville, T. Planning Considerations for Dairy Cattle Disposal by On-Farm Burial, Department of Agricultural and Bio-systems Engineering.

samples collected from the excavation when some of the dead cows were removed contained nitrate-nitrogen at 21.9 and 30 mg/l, and total coliform greater than 2419.6 MPN/100/mL, well in excess of the MCL for nitrate-nitrogen and the Basin Plan standard for coliform. In addition, both samples contained E.coli, at 68.9 and 156.5 MPN/100mL. These concentrations are cause for serious concern, and while bacteria can attenuate as they move through soil, attenuation of nitrate-nitrogen is unpredictable. However, based on available data on the location and construction of existing supply wells in the area, staff would expect that the nitrate and bacteria in groundwater would attenuate or dilute over time without appreciable effects on local receptors. Because the nitrate-nitrogen and bacteria concentrations exceed the limits that are protective of water quality, the Prosecution Team has identified the burial of dead cows in shallow groundwater as a moderate threat to beneficial uses, where impacts are reasonably expectedwithout appreciable or chronic effects. A score of **3** is assigned for this factor.

Factor 2: The Physical, Chemical, Biological or Thermal Characteristics of the Discharge. A score between 0 and 4 is assigned based on a determination of the risk or threat of the discharged material. "Potential receptors" are those identified considering human, environmental, and ecosystem exposure pathways. The Discharger illegally buried dead cows in several feet of groundwater, which results in the direct discharge of decomposing flesh to waters of the state. The decomposition of a dead cow releases many chemicals, including nitrogen and chloride[4], and potential pathogens such as E.coli, salmonellae, campylobacter spp., and prions. If the cows were treated with antibiotics or other pharmaceuticals, these chemicals are released into the groundwater as well via the decomposing flesh[5]. The chemicals discharged into groundwater as a result of the illegal burial of dead cows has the potential to pose a significant threat to environmental and human health. Because the release of nitrogen, chloride, and pathogens from decomposing cow carcasses poses "a significant risk or threat to potential receptors", a score of **4** was assigned for this factor.

Factor 3: Susceptibility to Cleanup or Abatement.
A score of 0 is assigned for this factor if 50% or more of the discharge is susceptible to cleanup or abatement. A score of 1 is assigned if less than 50% of the discharge is susceptible to cleanup or abatement. This factor is evaluated regardless of whether the discharge was actually cleaned up or abated by the discharger. In this case, more than 50% of the discharge was susceptible to abatement. Once the source of the discharge (the dead cow carcasses) was removed from groundwater, the ongoing discharge of decomposing carcass materials would have stopped. In addition, the Discharger could have abated at least some of the impacts of the discharge of its waste if it pumped the underlying groundwater and applied it to cropland. Therefore, a factor of **0** is assigned.

Final Score – "Potential for Harm"
The scores of the three factors are added to provide a Potential for Harm score for each violation or group of violations. In this case, **a final score of 7** was calculated. The total score is then used in Step 2, below.

[4] Freedman, R. and R. Fleming. 2003. Water Quality Impacts of Burying Livestock Mortalities.
[5] Watanabe et al.. 2010. Use and Environmental Occurrence of Antibiotics in Free Stall Dairy Farms with Manured Forage Fields, Environ. Sci 44:6591-6600.

Step 2 – Assessment for Discharge Violations
This step addresses administrative civil liabilities for the discharge based on a per-day basis.

Per Day Assessments for Discharge Violations
The "per day" factor (determined from Table 2 of the Enforcement Policy) is 0.31 based on the total score from Step 1 and the deviation from requirements. The deviation from requirements was determined to be major where the requirement was rendered ineffective. The burial of dead cows is a violation of Prohibition A.6 of the Dairy General Order which prohibits the burial of animal carcasses at a facility enrolled under the Dairy General Order.

The days of violation for the buried dead cows that are the subject of this enforcement action have been calculated from 1 May 2012, the date of the inspection when dead cows were first observed buried in groundwater, to 25 June 2012, the date the carcasses were hauled off to a landfill, or a total of 56 days. Therefore, the Per Day Assessment is calculated as: (0.31 factor from Table 2) x (56 days) x ($5,000 per day). The **Initial Liability** value is **$86,800**.

Step 3 – Per Day Assessment for Non-Discharge Violation
The Enforcement Policy states that the Central Valley Water Board shall calculate an initial liability for each non-discharge violation. In this case, this factor does not apply because all of the violations are related to the discharge of pollutants via dead animals, and the liability was determined in Step 2.

Step 4 – Adjustment Factors
The Enforcement Policy describes three factors related to the violator's conduct that should be considered for modification of the initial liability amount: the violator's culpability, efforts to clean up or cooperate with regulatory authority, and the violator's compliance history. After each of these factors is considered for the violations involved, the applicable factor should be multiplied by the proposed amount for each violation to determine the revised amount for that violation.

Culpability
Higher liabilities should result from intentional or negligent violations as opposed to accidental violations. A multiplier between 0.5 and 1.5 is to be used, with a higher multiplier for negligent behavior. The Discharger was given a multiplier value of **1.5**. The Discharger was notified in 30 June 2007 of the Dairy's enrollment under the Dairy General Order and was provided with a copy of the Dairy General Order. Additionally, the Discharger's Waste Management Plan for the Dairy identifies a renderer for the disposal of dead cows from the Dairy. Nonetheless the Discharger buried dead cows from the Dairy at the Reeve Road Heifer Ranch. Prohibition A6 of the Dairy General Order prohibits the disposal of dead animals on property except in certain very limited emergency circumstances. The Discharger disposed of his cattle in a manner in violation of the Dairy General Order.

Cleanup and Cooperation
This factor reflects the extent to which a discharger voluntarily cooperated in returning to compliance and correcting environmental damage. A multiplier between 0.75 and 1.5 is to be used, with a higher multiplier when there is a lack of cooperation. The Discharger did cooperate with the Cleanup and Abatement Order R5-2012-0709 (CAO) directive where the

Discharger removed between eight and twelve cows and properly disposed of them by the required deadline. However, the Discharger did not cleanup the dead cows voluntarily and was ordered to do so under the CAO. Additionally, the Discharger has not taken actions to clean up or remediate the contaminated soil and water. On balance, the cleanup and cooperation multiplier factor has been set at **1.0,** which neither increases nor decreases the proposed liability.

History of Violation

When there is a history of repeat violations, the Enforcement Policy requires a minimum multiplier of 1.1 to be used. The Discharger Henry Tosta has a history of violations of water quality laws. On 25 July 2013 the Central Valley Water Board adopted Order No. R5-2013-0095 imposing an administrative civil liability in the amount of $685,000 for the Discharger's noncompliance at the Henry Tosta Dairy for the discharge of manure to groundwater and violations of a cleanup and abatement order. Staff, therefore, assessed a multiplier value of **1.1**.

Step 5 - Determination of Total Base Liability Amount

The Total Base Liability for the violation is determined by multiplying the Initial Liability by the multipliers associated with each of the Adjustment Factors discussed above.

Total Base Liability Amount: This value is calculated as the Initial Liability ($86,800) X Adjustment Factors **(1.5) (1.0) (1.1)** and is equal to **$143,220**.

B. Factors Considered Relating to Violation of CAO Directive 2: Submittal of Legal Proof of Disposal of Animal Carcasses

The following steps are used in determining administrative civil liability for the failure to timely submit proof of legal disposal of illegally buried carcasses by 2 July 2012. A report with narrative and photographs documenting removal of animal remains was received by the Central Valley Water Board on 20 July 2012.

Because this is a non-discharge violation, Step Nos. 1 and 2 of the Enforcement Policy's administrative civil liability methodology are not addressed.

Step 3 – Per Day Assessment for Non-Discharge Violation

The per-day factor for the violation is 0.35. This factor is determined by a matrix analysis based upon the Potential for Harm and the Deviation from Applicable Requirements.

a. The Potential for Harm for the violation is determined to be moderate. The purpose of the proof of legal disposal via a comprehensive report is to document that the illegally buried animals have indeed been removed and do not pose an ongoing threat to water quality. Delay in the submittal of the report results in ongoing questions about the method and thoroughness of removal activities and whether the discharge has ceased and the waste properly hauled to the appropriate landfill.

b. The Deviation from Applicable Requirements is moderate. The Discharger's submission was 18 days late; therefore the effectiveness of the requirement was only partially achieved.

The length of the violation is alleged from 3 July 2012 (the day after the report was due) to 20 July 2012 (the date the Central Valley Board received from the Discharger a report and receipt from the landfill) for a total of 18 days date. Therefore the Per Day Assessment is calculated as (0.35 factor from Table 3) x (18 days) x ($1,000 per day). **The Initial Liability value is $6,300**.

Step 4 – Adjustment Factors

The Enforcement Policy describes three factors related to the violator's conduct that should be considered for modification of the initial liability amount: the violator's culpability, efforts to cleanup or cooperate with regulatory authority, and the violator's compliance history. After each of these factors is considered for the violations involved, the applicable factor should be multiplied by the proposed amount for each violation to determine the revised amount for that violation.

Culpability

Higher liabilities should result from intentional or negligent violations as opposed to accidental violations. A multiplier between 0.5 and 1.5 is to be used, with a higher multiplier for negligent behavior. The Discharger was given a multiplier value of 1.3. Evidence does not support a finding of negligent or intentional behavior, justifying a 1.5; or of inadvertent behavior, justifying a lower multiplier. The Discharger was aware of the need for the timely submittal of the comprehensive report but failed to submit the report on time in accordance with the deadlines in the CAO.

Cleanup and Cooperation

This factor reflects the extent to which a discharger voluntarily cooperated in returning to compliance and correcting environmental damage. A multiplier between 0.75 and 1.5 is to be used, with a higher multiplier when there is a lack of cooperation. A report was submitted by representatives of the Echeverria General Partnership, although it was not timely. The report was ultimately submitted not long after the deadline. The Discharger was assessed a neutral multiplier value of **1.0.**

History of Violation

When there is a history of repeat violations, the Enforcement Policy requires a minimum multiplier of 1.1 to be used. For the reasons stated above, staff assessed a multiplier value of **1.1**.

Step 5 - Determination of Total Base Liability Amount

The Total Base Liability for the violation is determined by multiplying the Initial Liability by the multipliers associated with each of the Adjustment Factors discussed above.

Total Base Liability Amount: This value is calculated as the Initial Liability ($6,300) X Adjustment Factors **(1.3) (1.0) (1.1)** and is equal to **$9,009**.

C. Factors Considered Relating to Violation of CAO Directive 4: Failure to Submit a Groundwater Remediation Plan

Because this is a non-discharge violation, Step Nos. 1 and 2 of the Enforcement Policy's administrative civil liability methodology are not addressed.

Step 3 – Per Day Assessment for Non-Discharge Violation

The per-day factor for the violation is **0.40**. This factor is determined by a matrix analysis based upon the Potential for Harm and the Deviation from Applicable Requirements.

a. The Potential for Harm for the violation is determined to be moderate. The CAO directed the discharger to collect groundwater samples and determine if the illegal burial of dead animals has caused pollution of groundwater. Groundwater samples indicated pollution as described in the Complaint. Therefore a groundwater remediation plan was required under the CAO. For the period of time the plan had not been submitted, the plan cannot be approved or implemented, and groundwater impacts will remain unremediated.

b. The Deviation from Applicable Requirements is moderate. The Discharger submitted the Groundwater Remediation Plan approximately eight months late; therefore the effectiveness of the requirement was only partially achieved.

The length of the violation is alleged from 28 August 2012 (the date the groundwater remediation plan was due) through 12 April 2013 (the date that a groundwater remediation plan was received), a total of 228 days. Therefore, the Per Day Assessment is calculated as (0.4 factor from Table 3) x (228 days) x ($1,000 per day). **The Initial Liability value is $91,200**.

Step 4 – Adjustment Factors

The Enforcement Policy allows for multi-day violations to be consolidated provided specific criteria are satisfied. The Enforcement Policy also describes three factors related to the violator's conduct that should be considered for modification of the initial liability amount: the violator's culpability, efforts to clean up or cooperate with regulatory authority, and the violator's compliance history. After each of these factors is considered for the violations involved, the applicable factor should be multiplied by the proposed amount for each violation to determine the revised amount for that violation.

Multiple Day Violations

For violations that last more than thirty (30) days, the daily assessment can be less than the calculated daily assessment, provided that it is no less than the per day economic benefit, if any, resulting from the violation.

The failure to submit a plan is a one-time violation that does not result in an economic benefit that can be measured on a daily basis. Therefore, an adjustment can be made. The Water Board Prosecution Team recommends applying the alternative approach to civil liability calculation provided by the Enforcement Policy. Using this approach, the calculation of days of violation will include the first day of violation, plus one additional day of violation for each five-

day period up to the 30th day of violation, and thereafter, plus one additional day of violation for each 30-day period.

This results in a Revised Initial Liability Amount as follows:

Revised Initial Liability = (.4) X (13 days of violation) X ($1,000) = $5,200

Culpability
Higher liabilities should result from intentional or negligent violations as opposed to accidental violations. A multiplier between 0.5 and 1.5 is to be used, with a higher multiplier for negligent behavior. The Discharger was given a multiplier value of **1.4**. The CAO clearly stated the requirement to submit the groundwater remediation plan if groundwater sampling indicated groundwater pollution. The Status letter issued by staff on 14 September 2012 states that staff's evaluation of groundwater data received from the Discharger's consultant on 20 July 2012 indicates negative impacts to groundwater from dairy operations and states that a plan for the remediation of the groundwater was required by 27 August 2012. The plan was not received until 12 April 2013, approximately eight months after the due date in the CAO.

Cleanup and Cooperation
This factor reflects the extent to which a discharger voluntarily cooperated in returning to compliance and correcting environmental damage. A multiplier between 0.75 and 1.5 is to be used, with a higher multiplier when there is a lack of cooperation. Because the remediation plan was not submitted until 12 April 2013, the Discharger was given a higher factor than a neutral score of 1.0. Instead, the Discharger is given a multiplier value of **1.1.**

History of Violation
When there is a history of repeat violations, the Enforcement Policy requires a minimum multiplier of 1.1 to be used. For the reasons stated above, Staff assessed a multiplier value of **1.1**.

Step 5 - Determination of Total Base Liability Amount
The Total Base Liability for the violation is determined by multiplying the Initial Liability by the multipliers associated with each of the Adjustment Factors discussed above.

Total Base Liability Amount: This value is calculated as the Revised Initial Liability ($**5,200**) X Adjustment Factors **(1.4) (1.1) (1.1)** and is equal to **$8,808.80**.

D. Factors Considered Relating to Violation of CAO Directive 4: Failure to Remove and Properly Dispose of the Manure Containing Animal Remains from the Area South of the Wastewater Lagoon

Because this is a non-discharge violation, Step Nos. 1 and 2 of the Enforcement Policy's administrative civil liability methodology are not addressed.

Step 3 – Per Day Assessment for Non-Discharge Violation

The per-day factor for the violation is 0.55. This factor is determined by a matrix analysis based upon the Potential for Harm and the Deviation from Applicable Requirements.

a. The Potential for Harm for the violation is determined to be moderate. The Discharger placed dead cows in an area south of the lagoon at the Heifer Ranch and covered the cows with manure. When the lagoon at the Heifer Ranch was cleaned out, as required by the CAO, the removed manure, which also contained animal remains, was added to the pile of manure containing animal remains south of the wastewater lagoon. Land application of manure containing residues from mammalian tissue is not allowed because pathogens that are resistant to decomposition may be present, including prions responsible for Transmissible Spongiform Encephalopathy (TSE). Prions are very resistant to degradation, heat, and normal sterilization processes. While TSE is rare, should prions be present in a cow placed in the manure, prions could be transferred to the soil when the manure is land applied. The disease can be transmitted at very low exposure levels[6] and is fatal to humans. Because of the severity of the impacts of TSE, should the disease-causing prions be present, this material must be discharged to a landfill that is permitted to accept this material.

b. The Deviation from Applicable Requirements is major. The Discharger has failed to remove the manure containing animal remains. By adding manure from the lagoon to the piled manure containing animal remains, the total volume of material requiring landfill disposal has actually increased from the amount at the time of issuance of the CAO. The Discharger has been repeatedly informed of the requirement to haul this material to an appropriate landfill; this requirement was reiterated in letters dated 14 September 2012, 26 August 2013, and 29 October 2013. The Discharger has rendered the requirement ineffective, therefore warranting a major deviation from requirements.

The length of the violation is alleged from 30 June 2012 (the day after the manure and animal remains were to be removed per the CAO) through 15 November 2013, the date of the last inspection by staff, for a total of 504 days late. Therefore the Per Day Assessment is calculated as (0.55 factor from Table 3) x (504 days) x ($5,000 per day). The Initial Liability value is $1,386,000.

Step 4 – Adjustment Factors

The Enforcement Policy allows for multi-day violations to be consolidated provided specific criteria are satisfied. The Enforcement Policy also describes three factors related to the violator's conduct that should be considered for modification of the initial liability amount: the violator's culpability, efforts to clean up or cooperate with regulatory authority, and the violator's compliance history. After each of these factors is considered for the violations involved, the applicable factor should be multiplied by the proposed amount for each violation to determine the revised amount for that violation.

Multiple Day Violations

For violations that last more than thirty (30) days, the daily assessment can be less than the calculated daily assessment, provided that it is no less than the per day economic benefit, if

[6] Federal Register 21 CFR 589, 25 April 2008, p 22725, Department of Health and Human Services, Food and Drug Administration, Substances Prohibited From Use in Animal Food or Feed.

any, resulting from the violation. The failure to remove the manure and animal remains does not result in an economic benefit that can be measured on a daily basis. Therefore, an adjustment can be made. The Water Board Prosecution Team recommends applying the alternative approach to civil liability calculation provided by the Enforcement Policy. Using this approach, the calculation of days of violation will include the first day of violation, plus one additional day of violation for each five-day period up to the 30th day of violation, and thereafter, plus one additional day of violation for each 30-day period.

This results in a Revised Initial Liability Amount as follows:

Revised Initial Liability = (.55) X (22 days of violation) X ($5,000) = **$60,500**

Culpability

Higher liabilities should result from intentional or negligent violations as opposed to accidental violations. A multiplier between 0.5 and 1.5 is to be used, with a higher multiplier for negligent behavior. The Discharger was given a multiplier value of **1.5**. The CAO issued to the Discharger clearly stated the requirement to remove the manure and animal remains by 29 June 2012. The Status letter sent to the Discharger on 14 September 2012, and additional letters sent on 26 August 2013 and 29 October 2013, reminded the Discharger that the removal had not been done. The manure and animal remains have not been removed as of 14 November 2013. Despite repeated attempts by staff to reach out to and remind the Discharger of the outstanding violation, the Discharger has failed to comply with the requirements of the CAO. Staff assessed the Discharger's behavior as intentional and therefore, assessed a multiplier of 1.5.

Cleanup and Cooperation

This factor reflects the extent to which a discharger voluntarily cooperated in returning to compliance and correcting environmental damage. A multiplier between 0.75 and 1.5 is to be used, with a higher multiplier when there is a lack of cooperation. Because the manure and animal remains have not been removed, because the Discharger and the Discharger's consultant have repeatedly questioned the need to remove the material to a landfill without taking any steps towards removal, and because actions taken at the Heifer Ranch have only increased the amount of material requiring landfill disposal, the Discharger was given the maximum multiplier value of **1.5**.

History of Violation

When there is a history of repeat violations, the Enforcement Policy requires a minimum multiplier of 1.1 to be used. For the reasons stated above, Staff assessed a multiplier value of **1.1**.

Step 5 - Determination of Total Base Liability Amount

The Total Base Liability for the violation is determined by multiplying the Revised Initial Liability by the multipliers associated with each of the Adjustment Factors discussed above.

Total Base Liability Amount: This value is calculated as the Revised Initial Liability ($**60,500**) X Adjustment Factors **(1.5) (1.5) (1.1)** and is equal to **$149,737.50**

Step 6 - Ability to Pay and Ability to Continue in Business

The ability to pay and to continue in business factor must be considered when assessing administrative civil liabilities. Below is an initial analysis of the Discharger's financial situation, which may be revised based on the submission of additional information by the Discharger. As part of the cost of doing business, the Dischargeris liable for compliance with the Dairy General Order at the Reeve Road Heifer Ranch and for penalties the Central Valley Water Board assesses for failing to comply with the Dairy General Order.

Besides the available income that may be generated from operations at the Reeve Road Heifer Ranch, the Discharger owns and operates a 1,196 cow dairy in the immediate area. The dairy is an ongoing business that potentially generates profits that may be used to pay the assessed penalty. The Discharger owns an additional five parcels of land in the vicinity of the Heifer Ranch, together with a restaurant/bar in a neighboring community. Public records show that the Discharger is the legal property owner of the following parcels.

> APN 229-060-15 (agricultural); APN 239-270-06 (residential); APN 209-290-06 (agricultural); APN 209-290-07 (agricultural); APN 209-300-18 (agricultural); APN 239-160-02; APN 239-160-16 (dairy); APN 239-160-15 (agricultural); APN 212-090-01 (agricultural); APN 239-270-02 agricultural); APN 209-300-18 (agricultural); APN 249-020-06; APN 229-060-16 (agricultural); APN 229-060-17 (agricultural)

Based on the information publicly available and without additional information provided by the Discharger, the Discharger has the available assets to pay the proposed administrative civil liability amount and continue in business.

Step 7 – Other Factors as Justice May Require

If the Central Valley Water Board believes that the amount determined using the above factors is inappropriate, the amount may be adjusted under the provision for "other factors as justice may require," but only if express findings are made to justify this.

Step 8 – Economic Benefit

The Enforcement Policy requires that the Economic Benefit of Noncompliance be estimated for every violation. The economic benefit of noncompliance is any savings or monetary gain derived from the act or omission that constitutes the violation. In other words, the Discharger realized a gain by not expending the resources to comply with water quality laws, including the Dairy General Order and the Cleanup and Abatement Order. The Discharger has realized an economic benefit of noncompliance of $4,795. The economic benefit of noncompliance is estimated by calculating the time value of the delayed expenditures, net of taxes, and inflation using the U.S. Environmental Protection Agency's BEN model[7].

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[7] USEPA developed the BEN model to calculate the economic benefit a violator derives from delaying and/or avoiding compliance with environmental statutes. Funds not spent on environmental compliance are available for other profit-making activities or, alternatively, a defendant avoids the costs associated with obtaining additional funds for environmental compliance. BEN calculates the economic benefits gained from delaying and avoiding

The economic benefit of noncompliance of $4,334, for the disposal of manure containing animal remains does not take into account the actual cost of disposing of the waste. Additionally, the total economic benefit of noncompliance of $4,795 does not consider the benefit derived from an illegal competitive advantage by operating without complying with its permit and/or the requirements of the Cleanup and Abatement Order.

Final adjusted liability
The final adjusted liability is **$310,775**.

Step 9 – Maximum and Minimum Liability Amounts
The maximum and minimum amounts for discharge violation must be determined for comparison to the amounts being proposed. These values are calculated in the ACL Complaint, and the values are repeated here.

Maximum Liability Amount: $3,047,000

Minimum Liability Amount: the minimum liability is the lowest amount allowed by statute and by policy. The Enforcement Policy requires that, at a minimum, the assessed penalty must be equal to the economic benefit plus ten percent. The economic benefit of non-compliance plus ten percent is an estimated amount of **$5,274**. The Adjusted Total Base Liability Amount is greater than economic benefit plus ten percent, and therefore, no adjustment is necessary based on the economic benefit analysis.

Below is a table with the minimum and maximum amounts allowed by statute. The proposed liability amount for each violation falls within the minimum and maximum allowable amounts.

Violation	Statute	Minimum	Maximum	Proposed
Dead Cow Discharge to Groundwater	Water Code sections 13350(e)(1) and 13350(e)(1)(A)	$28,000	$280,000	$143,220
Violation of CAO Directive 2: Submittal of Legal Proof of Disposal of Animal	Water Code section 13268	--	$18,000	$9,009

required environmental expenditures such as capital investments, one-time non-depreciable expenditures, and annual operation and maintenance costs.
BEN uses standard financial cash flow and net present value analysis techniques based on generally accepted financial principles. First, BEN calculates the costs of complying on time and of complying late adjusted for inflation and tax deductibility. To compare the on time and delayed compliance costs in a common measure, BEN calculates the present value of both streams of costs, or "cash flows," as of the date of initial noncompliance. BEN derives these values by discounting the annual cash flows at an average of the cost of capital throughout this time period. BEN can then subtract the delayed-case present value from the on-time-case present value to determine the initial economic benefit as of the noncompliance date. Finally, BEN compounds this initial economic benefit forward to the penalty payment date at the same cost of capital to determine the final economic benefit of noncompliance.

Carcasses				
Violation of CAO Directive 4: Failure to Submit a Groundwater Remediation Plan	Water Code section 13268	--	$229,000	$8,808.80
Violation of CAO Directive 4: Failure to Remove and Properly Dispose of the Comingled Manure and Animal Remains from the Wastewater Lagoon and from the Area South of the Wastewater	Water Code sections 13350(e)(1) and 13350(e)(1)(B)	$50,400	$2,520,000	$149,737.50

Step 10 – Final Liability Amount

Liabilities imposed by the Regional Water Board are an important part of the Water Boards' enforcement authority. Accordingly, any assessment of administrative civil liability should fully eliminate any economic advantage obtained from noncompliance, fully eliminate any unfair competitive advantage obtained from noncompliance, bear a reasonable relationship to the gravity of the violation and the harm to beneficial uses or regulatory program resulting from the violation, deter the specific Discharger from committing further violations, and deter similarly situated persons in the regulated community from committing the same or similar violations. The methodology outlined in the Enforcement Policy is a process for arriving at a liability amount consistent with these objectives.

The final proposed liability amount of **$310,775** is consistent with the methodology in the Enforcement Policy and with the objectives outlined above. **.**