**ATTACHMENT A to ACL Complaint No. R5-2015-0549**
**Specific Factors Considered for Administrative Civil Liability**
**Morning Star Packing Company, L.P., Colusa County**

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 section 13327. Each factor of the ten-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.

**Violation Category 1: Violation of Prohibition A.3 of WDRs Order R5-2013-0144. Discharge of Waste to Waters of the State from Unpermitted Expanded Cooling Pond**

Waste Discharge Requirements (WDRs) Order R5-2013-0144 (the "2013 WDRs") Prohibition A.3 prohibits the discharge of waste at a location or in a manner different from that described in the Findings. The 2013 WDRs issued to Morning Star Packing Company, L.P. (Morning Star or Discharger) describe the Cooling Pond as a 210 acre-feet pond approximately 60 acres in size. According to the 2013 WDRs, approximately 695 acres of cropland (also known as land application areas or LAAs) are available for irrigation with wastewater from the Settling Pond and/or Cooling Pond. During the 20 August 2015 and 2 December 2015 site inspections, staff observed and confirmed that the Discharger expanded the Cooling Pond by 40 acres and that LAAs MS20A, MS20B, and MS21, a total of 90.5 acres, had been removed in order to construct the pond expansion. The Discharger's 1 October 2015 response to a Notice of Violation stated that the total acreage of LAAs had been reduced to 485 acres. During the 2 December 2015 inspection, the Discharger's representative stated that land application of wastewater to the 95 acres of land known as MS1, owned by Fred Gobel, had not occurred for the last two years. The expansion of the Cooling Pond at the expense of decreasing the size of the LAA constitutes a material change in the character, location, or volume of discharge triggering the requirement to submit a new Report of Waste Discharge (RWD) as described in WDRs Standard Provision A.4. The expansion of the Cooling Pond is also a violation of WDRs Prohibition A.3. The Discharger did not submit a RWD prior to the expansion of the Cooling Pond, the removal of LAAs MS20A, MS20B, and MS21, and the failure to obtain a lease for LAA MS1. As of the date of this Complaint, a RWD has not been submitted.

**Step 1 – Potential for Harm for Discharge Violations**

The "potential harm to beneficial uses" factor considers the harm to beneficial uses that may result from exposure to the pollutants in the 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 to 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

A score between 0 and 5 is assigned based on a determination of whether the harm or potential for harm to beneficial uses is negligible (0) to major (5). In this case the potential harm to beneficial uses was determined to be "**Moderate"** (i.e. a score of 3), which is defined as a "*moderate threat to beneficial uses (i.e., impacts are observed or reasonably expected and impacts to beneficial uses are moderate and likely to attenuate without appreciable acute or chronic effects*." The *Water Quality Control Plan for the Sacramento River and San Joaquin*

*River Basins, Fourth Edition* (Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Board. The Basin Plan designates the beneficial uses of underlying groundwater as municipal and domestic supply, agricultural supply, and industrial supply. According to the 2013 WDRs, groundwater beneath the facility "is relatively shallow, approximately 5 to 15 feet below ground surface, and generally flows towards the north to northeast". There are two groundwater monitoring wells near the Cooling Pond; data from these wells suggest that in early 2015, groundwater was about 1.7 to 3.2 feet below the base of the Cooling Pond.

There are two separate yet related potential harms to beneficial uses resulting from the discharge of waste to waters of the State from the unpermitted expanded Cooling Pond. The first is the potential harm to beneficial uses resulting from additional wastewater seepage to groundwater beneath the Cooling Pond given the enlarged size of the pond. The second is the potential harm to beneficial uses resulting from discharging wastewater to a smaller LAA; the enlargement of the Cooling Pond resulted in the removal of MS20A, MS20B, and MS21 which accounts for a total loss of 90.5 acres. An additional 95 acre loss with the unavailability of MS1 and the Discharger's confirmation that only 485 acres are currently being used for land application exacerbate this potential for harm to beneficial uses.

According to the 2013 WDRs, the Cooling Pond received water softener reject, condensate from the evaporation process, and boiler blowdown. Water softener reject and boiler blowdown are high strength wastes with electrical conductivity (or salts which conduct electricity) ranging between 850-8,600 mg/L and 1,200-1,400 µmhos/cm, respectively. During the 2015 processing season, unpermitted discharges of tomato material to the Cooling Pond occurred resulting in low dissolved oxygen as evidenced by Daily Assessment Reports, discussed in further detail below under Factor 2. Low dissolved oxygen readings usually indicate higher biochemical oxygen demand to break down organic material, however, the Discharger is not required to monitor BOD in the Cooling Pond as the WDRs did not contemplate the discharge of organic materials in that location. Based on the discussion in the Anti-degradation Analysis in the 2013 WDRs, BOD has the potential to create anoxic conditions that can solubilize naturally occurring metals in soil, and in fact, the 2013 WDRs state that groundwater has already been degraded by the overapplication of BOD to the LAAs.

The 2013 WDRs establish effluent and groundwater limitations for the Facility and the 695 acres available for land application are a critical component for setting limitations and control measures for constituents of concern to ensure that present and anticipated beneficial uses are not unreasonably threatened and that groundwater water quality objectives are not exceeded. The Anti-degradation Analysis in the WDRs identifies the 695 acre LAA as a current discharge treatment and control measure if wastewater application rates are carefully controlled to allow the crops to take up the nutrients found in the wastewater. The BOD loading rate control was also identified by the WDRs as a current discharge control measure. The expansion of the Cooling Pond resulting in a loss 90.5 land application acres, an additional 95 acre loss due to the unavailability of MS1, and the Discharger's statement that only 485 acres are currently being used for land application significantly alter a foundational assumption of land application availability that was used to establish protective limitations in WDRs. The reduction of LAA is particularly concerning where the Discharger has historically over-applied wastewater to the LAAs resulting excessive loading for BOD and uneven nutrient loading for nitrate. Based on the Discharger's 1 October 2015 response to a Notice of Violation, wastewater discharges to the

land application areas decreased from 1,675 gallon per minute in 2014 to 1,100 gallons per minute in 2015. However, the concentration of BOD increased from an average of 600 mg/l in 2014 to an average of 1,769 mg/L in 2015 resulting in a net increase of BOD produced by the facility which was applied on a smaller LAA. As discussed above and in the Anti-degradation Analysis, excessive BOD loading rates can deplete oxygen resulting in anoxic conditions that can solubilize naturally occurring metals in soil. This was a concern in 2013 WDRs which assumed that all 695 acres would be available for land application.

A review of the 2015 data shows that Morning Star violated the BOD loading limit on numerous fields. The 2013 WDRs limit the loading to 100 pounds of BOD/acre/day, yet Morning Star applied up to 216 pounds/acre/day. Groundwater monitoring data showed that the excessive BOD loading rates continued to deplete soil oxygen, resulting in the release of manganese and the violation of the groundwater limit for manganese in three wells. In addition, Morning Star violated the nitrogen loading limit for one of its fields. Taken together, the expansion of the Cooling Pond and associated loss of land application area has resulted in at least a moderate impact to the beneficial uses of groundwater.

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. The constituents of concern present in wastewater in the Cooling Pond that ultimately discharged to waters of the State are BOD and salts. In this case, a score of **2** was assigned. A score of 2 is defined as "*discharged material poses a moderate risk or threat to potential receptors (i.e., the chemical and/or physical characteristics of the discharged material have some level of toxicity or pose a moderate level of concern regarding receptor protection)*."

The 2013 WDRs imply that relatively clean water enters the Cooling Pond, and do not anticipate that tomato material will enter it. Therefore, the WDRs do not require monitoring for BOD, nitrogen, or fixed dissolved solids (TDS) in the Cooling Pond. However, it is now known that Morning Star routinely discharges tomato waste to the Cooling Pond[1], and in 2015, more tomato waste than normal entered the pond. Morning Star has stated that the source of the off-site odors was the tomato organics discharged to the Cooling Pond. Tomato waste is high in BOD (biochemical oxygen demand), which is a measure of the amount of biodegradable organic chemicals in waste[2]. When wastewater with a high BOD concentration is discharged to surface water, bacteria utilizes the organic chemicals as food, and in doing so, reduces the amount of dissolved oxygen in the water causing a detrimental effect on the surrounding ecosystem. At Morning Star, wastewater containing high BOD concentrations percolated into groundwater, depleting the soil oxygen and causing adverse chemical changes. Naturally occurring soil minerals such as iron and manganese are chemically reduced in the presence of BOD to more soluble forms and are readily dissolved by oxygen deficient groundwater. In summary, the application of high-BOD water to land can result in groundwater containing levels of iron and manganese that exceed human-health based limits. This concern is discussed in the Anti-degradation Analysis section of the 2013 WDRs, which notes that "it appears that BOD overloading has caused reducing conditions that favor dissolution of manganese from native soil." Wastewater discharged from the Facility is not expected to contain manganese. However,

[1] See (1) "Summary of Meeting" memo from Wendy Wyels to Morning Star case file dated 3 November 2015 and (2) 24 August 2015 letter from Chris Rufer to Wendy Wyels
[2] See http://blog.ecologixsystems.com/about-bio-chemical-oxygen-demand/ and http://www.mantech-inc.com/products/why_bod_cod/.

from December 2013 to the present, groundwater data in MW-7, MW-8, and MW-9 indicate that the Discharger is consistently exceeding the groundwater limit for manganese. In this regard, the chemical characteristics of BOD pose a level of concern and additional risk to groundwater receptors (i.e., humans) in the constituent's ability to make a naturally occurring metal like manganese more soluble than it otherwise would be.

The discharge into the Cooling Pond also contains salts, which are measures as total dissolved solids (TDS) or fixed dissolved solids (FDS). The 2013 WDRs state that the Cooling Pond receives boiler blowdown and water softener regeneration waste, both of which contain high salt concentrations. However, the WDRs state that these waste streams are a small percentage of the flow into the Cooling Pond, and imply that the majority of the wastewater, generated from evaporation condensate, does not have a significant salt content. Therefore, Morning Star is not required to measure the TDS or FDS concentration within the Cooling Pond. However, in 2015 Morning Star added three more evaporators and increased its production by 75%; therefore it is reasonable to assume that significantly more boiler blowdown and water softener regeneration waste entered the Cooling Pond, increasing the salinity of the wastewater in the pond. The Anti-degradation Analysis of the 2013 WDRs states that the discharge of waste has already caused groundwater degradation because the agricultural water quality objective has been exceeded at the facility, but that changes in the salinity content of the waste is not expected, and that the groundwater limitation is set at a level to protect water quality. However, it is noted that the salinity in monitoring well MW-9 has exceeded the "trigger limit" in 2014 and 2015, and with the probability of increased salinity in the Cooling Pond water, it is appropriate to assign a factor of "2" because the discharged material poses a moderate risk that salinity in the groundwater will increase, impacting agricultural and drinking water beneficial uses.

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 the seepage from the Cooling Pond has entered groundwater and the technology exists to clean it up. 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. In this case, a final score of **5** was calculated. The total score is then used in Step 2 below.

**Step 2 – Assessment for Discharge Violations**

This step addresses penalties based on both a per-gallon and a per-day basis for discharge violations.

Per Gallon Assessments for Discharge Violations

When there is a discharge, the Central Valley Water Board is to determine the initial liability amount on a per gallon basis using the Potential for Harm score from Step 1 and the extent of Deviation from Requirement of the violation. The Potential for Harm score from Step 1 is **5** and the extent of Deviation from Requirements[3] is considered **Major**. The prohibition against the

[3] The "Deviation from Requirement" reflects the extent to which the violation deviates from the specific requirement. In this case, the requirement (i.e., permit Prohibition A.3) was to…

"*[D]ischage of waste at a location or in a manner different from that described in the Findings*" was disregarded by the Discharger and rendered ineffective in its essential function when the Discharger not only expanded the size of the Cooling Pond but substantially decreased the size of the land application area without first submitting a Report of Waste Discharge for Amended WDRs. This requirement was also rendered ineffective due to the discharge of tomato material to the Cooling Pond when the Findings of the 2013 WDRs specify that the Cooling Pond would only receive, "water softener reject, condensate from the evaporation process, and boiler blowdown." Table 1 of the Enforcement Policy (p. 14) is used to determine a "per gallon factor" based on the total score from Step 1 and the level of Deviation from Requirement. For this particular case, the factor is **0.15**. This value is multiplied by the volume of discharge and the per gallon civil liability, as described below.

For the penalty calculation, Board staff estimated the volume of water which seeped from the expanded portion of the Cooling Pond to groundwater. A complete description of how this volume was calculated is found in staff's 6 November 2015 memo[4], and is based on the following data:

- A net increase in the size of the Cooling Pond of 40 acres.
- A review of the Wallace and Kuhl geotechnical engineering report.
- Five feet of separation between the bottom of the pond and groundwater.
- A hydraulic conductivity of $1x10^{-5}$ for the first foot and $1x10^{-6}$ for the remaining four feet.
- Freeboard measurements submitted by Morning Star in its monthly monitoring reports.
- The Cooling Pond was filled with water at the beginning of the processing season.

Board staff estimated that 276,300 gallons seeped from the expanded Cooling Pond into groundwater each day. The number of days of violation was conservatively set at 92 days, the extent of the 2015 processing season. It is noted however, that the Cooling Pond is not emptied after the processing season ends, and therefore wastewater continues to seep into groundwater as of the date of issuance of this Complaint. Board staff chose not to extend the days of violation because additional waste was not discharged to the Cooling Pond after the processing season ended.

The maximum civil liability allowed under Water Code section 13350 is $10 per gallon discharged. The Enforcement Policy recommends applying the statutory maximum of $10 per gallon discharged, however, considers certain circumstances where an alternative maximum amount of $2 per gallon may be used in situations where high volume discharges occur. Though the circumstances in the present matter do not fall into one of the examples discussed in the Enforcement Policy (i.e. high volume sewage spills or releases of storm water from construction sites) Board staff took into consideration the flow limitations in the 2013 WDRs which allow for the discharge of up to an average of 4.3 million gallons per day and 422 million gallons per year of process wastewater combined with Cooling Pond Water to the land application areas. Based on these flow amounts, Board staff determined it was appropriate to use the "high volume discharge" rate of $2 per gallon as described in the Enforcement Policy.

Therefore, the initial liability amount based on volume is determined using the Per Gallon Factor for Discharges of 0.15 multiplied by the number of gallons discharged multiplied by $2 per gallon, as shown below.

[4] 6 November 2015 memorandum from Howard Hold and Mike Fischer to Wendy Wyels titled "Pond seepage estimate, Morning Star Packing Company, Williams Facility, Colusa County"

**Violation 1 - Initial Liability Amount based on Volume Only**

The initial liability amounts for the violation calculated on a per gallon basis is as follows:

0.15 x 276,300 gallons per day x 92 days x $2/gallon

Total Initial Liability = $7,625,880

Per Day Assessments for Discharge Violations

As stated in the Complaint, Water Code section 13350, subdivision (e) allows for administrative civil liability to be imposed either on a "per day" or "per gallon" basis, but not both. The Central Valley Water Board Prosecution Team recommends assessing administrative civil liability pursuant to Water Code section 13350, subdivision (e)(2) on a per gallon basis. However, in the alternative, the Prosecution Team recommends assessing administrative civil liability on a per day basis pursuant to Water Code section 13350, subdivision (e)(1). Though the Prosecution Team is recommending that the Board assess liability on a per gallon basis, both alternatives are being analyzed herein.

When there is a discharge, the Water Board is to determine the initial liability amount on a per day basis using the same Potential for Harm score from Step 1 and the same Extent of Deviation from Requirements used in the per-gallon analysis. The Potential for Harm score from Step 1 is **3** and the Extent of Deviation from Requirements is considered to be **Major**. Therefore the "per day" factor is **0.15** (as determined from Table 2 in the Enforcement Policy). The Per Day Assessment is calculated as (0.15) x (91 days of the processing season) x $5,000 per day (the maximum per day penalty allowed by Water Code section 13350).

**Violation 1 - Initial Liability Amount based on Days of Discharge Only**

The initial liability amount for the violation calculated on a per day basis is as follows:

0.15 x 92 days x $5,000 per day

Total Initial Liability = $69,000

**Step 3 – Per Day Assessment for Non-Discharge Violations**

This step is not applicable for Violation Category 1, which is alleged as a discharge violation, therefore liability has been determined under Step 2, above.

**Step 4 – Adjustment Factors**

There are three additional factors to be considered for modification of the amount of initial liability: the violator's culpability, efforts to clean up or cooperate with regulatory authority, and the violator's compliance history.

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 violated Prohibition A.3 in the 2013 WDRs which prohibits the discharge of waste at a location or in a manner different from that described in the Findings. The conduct of the Discharger that led to this alleged violation was its unpermitted expansion of

the Cooling Pond, and the associated reduction in cropland, that resulted in the discharge of waste to waters of the State. The Discharger was given a multiplier value of **1.4** because the Discharger demonstrated a complete disregard for the Board's regulatory process prior to making material changes to its operations by expanding its Cooling Pond from 60 to 100 acres. The multiplier reflects the Discharger's failure to do what a reasonably prudent person would have done in a similar circumstance, which is comply with Prohibition A.3 and Standard Provision A.4, and submit a Report of Waste Discharge (RWD) prior to the expansion. The RWD is needed to allow the Board's Permitting staff to fully evaluate the potential water quality impacts from the Discharger's proposed changes to its facility, conduct an Anti-degradation Analysis, and prepare updated WDRs for the Board to consider. The Discharger was fully aware of the Board's permitting process, as staff spent considerable time in 2013 working with the Discharger to update the WDRs at that time. Though the 2013 WDRs acknowledge the Discharger's plans to increase production by up to 65 percent in the future and states that the planned expansion is not expected to change wastewater character, this acknowledgement does not: 1) allow the Discharger to self-certify whether expansions will have an unreasonable effect on beneficial uses or water quality nor does it; 2) negate the Discharger's responsibility to submit a new Report of Waste Discharge with the Board prior to making a material change such as expanding the Cooling Pond by 60 acres and removing 90.5 acres of land application area. During a meeting on 2 November 2015, the Discharger stated that it had not applied wastewater to the field leased from Mr. Gobel in 2014 or 2015, because it was unable to obtain a lease. Failure to apply wastewater to land described in the WDRs, and included in the Anti-degradation Analysis is also a violation of Prohibition A.3 in the 2013 WDRs.

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 was given a multiplier value of **1.2** because the Discharger did not take any actions during the processing season to come back into compliance with its WDRs. In particular, the Discharger has not indicated that it will submit a Report of Waste Discharge, or that it needs to apply wastewater to the 695 acres of cropland allowed by the WDRs. In fact, the Discharger's 1 October 2015 response to a Notice of Violation states, "the facility does not plan on replacing the fields replaced by the cooling pond at the current time." A review of the 2015 monitoring reports shows that the Discharger has violated the BOD and nitrogen loading rates on its cropland, and that the 2015 average BOD in the wastewater was higher than the historical concentrations described in the Findings of the WDRs. In addition, groundwater continues to exceed the manganese groundwater limitations, which is a direct result of the reduction in cropland and an overloading of BOD. The Anti-degradation Analysis in the 2013 WDRs states that groundwater has already been impacted by the discharge but finds that if the Discharger follows the provisions of the WDRs then impacts will be reduced to acceptable levels. To mitigate the current impacts to groundwater, it is imperative that the Discharger apply its wastewater to the 695 acres of the cropland described in the WDRs and reduce the size of its Cooling Pond to that allowed by the WDRs.

History of Violations

This factor is to be used when there is a history of repeat violations. A minimum multiplier of 1.0 is to be used, and is to be increased as necessary. In this case, a multiplier of **1.1** was used. In 2005, the Central Valley Water Board issued Cease and Desist Order No. R5-2005-0003 to Morning Star to address discharges of wastewater to surface water, low dissolved oxygen

issues in the Settling Pond, and potential groundwater degradation from over-application of nutrients and salts. The 2005 CDO also noted that only 180 acres received wastewater in a regular irrigation cycle during the 2004 processing season, that the Discharger had not applied wastewater to the Gobel property since 1995, and that only 554 acres out of 670 acres of land described in the 1995 WDRs was available for wastewater application since adoption of the 1995 permit. The 2005 CDO required the Discharger, in part, to limit BOD loading to 100 pounds per acre per day, submit a Dissolved Oxygen Compliance Report, and a Cropping Plan to ensure the use of available cropland is maximized. While the alleged violation of Discharge Prohibition A.3 differs from the alleged violations used as the basis of the 2005 CDO, the underlying issues addressed by the 2005 Order are similar to the underlying issues which result from the Discharger's noncompliance with Prohibition A.3 and lead to the Discharger's liability pursuant to Water Code section 13350: issues with high BOD in wastewater being land applied, instances where the Discharger is irrigating a smaller acreage of land which leads to over-application of wastewater and overloading of constituents, and low dissolved oxygen readings in both the Cooling Pond and the Settling Pond during the 2015 processing season. For the foregoing reasons, the Prosecution Team determined that it is appropriate to consider the issues and violations being addressed by the 2005 CDO as part of the history of violation for this Complaint.

**Step 5 - Determination of Total Base Liability Amount**

The Total Base Liability is determined by applying the adjustment factors from Step 4 to the Total Initial Liability Amount determined in Step 2.

**Violation 1: Total Base Liability Amount based on Volume Only**

Initial Liability x Culpability Multiplier x Cleanup and Cooperation Multiplier x History of Violations Multiplier = Total Base Liability

$7,625,880 x 1.4 x 1.2 x 1.1 = $14,092,626

**Violation 1: Total Base Liability Amount based on Days of Discharge Only**

Initial Liability x Culpability Multiplier x Cleanup and Cooperation Multiplier x History of Violations Multiplier = Total Base Liability

$69,000 x 1.4 x 1.2 x 1.1 = $139,104

**Violation Category 2: Violation of Prohibition A.3 of WDRs Order R5-2013-0144. Discharge of Waste to Waters of the State from Unpermitted Expanded Settling Pond**

Waste Discharge Requirements (WDRs) Order R5-2013-0144 (the "2013 WDRs") Prohibition A.3 prohibits the discharge of waste at a location or in a manner different from that described in the Findings. The 2013 WDRs issued to The Morning Star Packing Company, L.P. describe the Settling Pond as 5 acre-feet in volume, and located to the southeast of the Cooling Pond and west of Field MS24. According the Discharger's 12 January 1995 letter submitted with its Report of Waste Discharge, the Settling Pond is 40,000 square feet by 5 feet deep[5], or 4.59

[5] 12 January 1995 letter *Description of liquid waste discharge to land by The Morning Star Packing Company tomato processing facility in Williams, California*.

acre feet. It is unknown whether the Settling Pond was slightly increased in size between 1995 and 2013, or whether Permitting staff rounded up the volume in the 2013 WDRs. In any regard, the Discharger is currently authorized to discharge waste to the Settling Pond which has a volume of 5 acre-feet.

During the 2 November 2015 site inspection, Board staff observed the Settling Pond and suspected that Morning Star had increased size of the Settling Pond beyond 5 acre-feet. Subsequent to the site inspection, Board staff compared one group of images including those taken during a 4 September 2008 Board staff inspection, a 9 October 2009 Google Earth aerial image, and a 20 September 2011 Board staff inspection against a second group of images including a 10 July 2013 Google Earth aerial image, field observations, and site inspection photos taken on 20 August 2015 and 2 November 2015. This comparison confirmed that the Settling Pond had been enlarged, and on 3 November 2015, Board staff issued a Water Code section 13267 Order for a technical report describing the dimensions of the Settling Pond.

The response was submitted on 12 November 2015. A registered engineer determined that the top of the Settling Pond is now 440 feet by 196 feet, and that the pond is 7.65 feet deep (with two feet of freeboard). Based on the average length and width, Board staff determined that the current volume of the Settling Pond is now 10.16 acre feet[6], as compared to the 5 acre feet authorized by the 2013 WDRs. The document also references "the 2011 staking plans for the pond expansion." Based on the Discharger's response to the 13267 Order, it appears that the Settling Pond was expanded sometime in 2011, yet Morning Star did not communicate this to the Board's Permitting staff when the updated WDRs were being prepared in 2013. The Anti-degradation Analysis of the 2013 WDRs is based on a 5 acre foot Settling Pond, not an 10.16 acre foot Settling Pond.

The expansion of the Settling Pond from the 5 acre feet allowed in the 2013 WDRs to the current 10.16 acre feet constitutes a material change in the character, location, or volume of discharge triggering the requirement to submit a new Report of Waste Discharge as described in Standard Provision A.4. The expansion of the Settling Pond is also a violation of Prohibition A.3 of the WDRs.

**Step 1 – Potential for Harm for Discharge Violations**

The "potential harm to beneficial uses" factor considers the harm to beneficial uses that may result from exposure to the pollutants in the 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 to 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

A score between 0 and 5 is assigned based on a determination of whether the harm or potential for harm to beneficial uses is negligible (0) to major (5). In this case the potential harm to beneficial uses was determined to be "**Moderate"** (i.e. a score of 3), which is defined as a "*moderate threat to beneficial uses (i.e., impacts are observed or reasonably expected and impacts to beneficial uses are moderate and likely to attenuate without appreciable acute or chronic effects*." The *Water Quality Control Plan for the Sacramento River and San Joaquin*

[6] See the 16 November 2015 memo from Howard Hold and Mike Fischer to Wendy Wyels titled "*Settling Pond Seepage Increase Estimate, Morning Star Packing Company, Williams Facilty, Colusa County."*

*River Basins, Fourth Edition* (Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Board. The Basin Plan designates the beneficial uses of underlying groundwater as municipal and domestic supply, agricultural supply, and industrial supply. A review of Morning Star's recent monitoring reports shows that groundwater currently exists about 13 feet below the bottom of the expanded pond.

The WDRs describe the strength of the waste discharged to the Settling Pond. In 2011, prior to the pond expansion, the annual average BOD was 241 mg/L, the fixed dissolved solids was 607 mg/L and the total Kjeldahl nitrogen was 67 mg/L. In contrast, in 2015 the annual average BOD was 1,624 mg/L, the fixed dissolved solids was 934 mg/L, and the total Kjeldahl nitrogen was 63 mg/L. The BOD is 8 times higher and the TDS is 1.5 times higher than in 2011. The expansion of the Settling Pond in 2011 has resulted in a potential harm to the beneficial uses of the groundwater not just from the increased seepage of wastewater into the groundwater, but from the significantly higher strength waste that is entering groundwater. The Anti-degradation Analysis in the 2013 WDRs was based on a Seepage Pond with a volume of 5 acre feet and a much lower strength waste.

As described in the Anti-degradation Analysis, BOD has the potential to create anoxic conditions that can solubilize naturally occurring metals such as manganese and iron in soil. In fact, the 2013 WDRs state that groundwater has already been degraded by the overapplication of BOD to the LAAs. Several monitoring wells currently exceed the groundwater limit for manganese. Fixed dissolved solids are the portion of total dissolved solids that do not degrade in the soil, and move into groundwater. One groundwater monitoring well exceeds the "trigger limit" for total dissolved solids in the groundwater. The unauthorized enlargement of the Settling Pond has resulted in at least the moderate potential that the beneficial uses of the groundwater will be impacted by, at a minimum, manganese, iron, and salts.

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. In this case, a score of 2 was assigned. A score of **2** is defined as "*discharged material poses a moderate risk or threat to potential receptors (i.e., the chemical and/or physical characteristics of the discharged material have some level of toxicity or pose a moderate level of concern regarding receptor protection)*."

The constituents of concern present in wastewater in the Settling Pond are BOD, fixed dissolved solids (FDS) and total nitrogen. In addition, the high BOD results in low dissolved oxygen concentrations, which creates odor conditions. The Monitoring and Reporting Program for the 2013 WDRs require the Discharger to collect weekly samples of wastewater in the Settling Pond prior to discharging to the LAAs and requires monthly reporting for the constituents previously mentioned.

As described above, in 2015 the annual average BOD was 1,624 mg/L, the fixed dissolved solids was 934 mg/L, and the total Kjeldahl nitrogen was 63 mg/L. The impacts of BOD on potential receptors is fully described above, in the Factor 2 discussion for Violation 1.

In summary, the presence of excessive BOD can deplete oxygen, resulting in anoxic conditions that can solubilize naturally occurring metals in soil. In its 1 October 2015 response to a Notice of Violation, the Discharger acknowledged that there was a net increase in BOD

produced by the Facility between the 2014 and 2015 processing seasons and that wastewater with increased BOD concentrations was applied on a smaller land application area. Increasing concentrations of BOD in wastewater is a specific concern because of its ability to solubilize metals in soils. In this regard, the chemical characteristics of BOD pose an additional risk to groundwater receptors in the constituent's ability to make a naturally occurring metal like manganese more soluble than it otherwise would be. The BOD concentration in the wastewater in the Settling Pond supports a Factor of 2, a moderate potential risk to receptors.

Fixed dissolved solids (FDS) is a measure of the inorganic salt content of wastewater. Fixed dissolved solids are not expected to volatilize or degrade in the soil column and will move into groundwater. Excessive salt results in unpalatable drinking water. Irrigation water containing salts can impact salt-sensitive crops. According to the 2013 WDRs, the Agricultural Water Quality Goal for total dissolved solids (of which fixed dissolved solids is a component) is 450 mg/L, and the Secondary Maximum Contaminant Level for total dissolved solids is 1,500 mg/L. The waste is the Settling Pond had an annual average FDS concentration of 934 mg/L, which supports assigning a Factor of 2, a moderate risk to potential receptors.

Total Kjeldahl nitrogen (TKN) is a measure of the reduced forms of nitrogen, whereas nitrate and nitrate are the oxidized form. Total nitrogen is the sum of TKN, nitrate, and nitrate. The 2013 WDRs contains an effluent limit for total nitrogen which is equivalent to the crop demand for nitrogen. Nitrogen is soluble, and excess nitrogen rapidly moves into groundwater. The Primary Maximum Contaminant Level for nitrate as nitrogen is 10 mg/L, and is set to protect infants from "blue baby syndrome" or *methemoglobinemia*. Morning Star has exceeded its nitrogen limit for one of its fields in 2015. The concentration of TKN in the waste in the Settling Pond supports assigning a Factor of 2, a moderate risk to potential receptors.

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 the seepage from the Cooling Pond has entered groundwater and the technology exists to clean it up. 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. In this case, a final score of **5** was calculated. The total score is then used in Step 2 below.

**Step 2 – Assessment for Discharge Violations**

This step addresses penalties based on both a per-gallon and a per-day basis for discharge violations.

Per Gallon Assessments for Discharge Violations

When there is a discharge, the Central Valley Water Board is to determine the initial liability amount on a per gallon basis using the Potential for Harm score from Step 1 and the extent of Deviation from Requirement of the violation. The Potential for Harm score from Step 1 is **5** and the extent of Deviation from Requirements is considered **Major**. The prohibition against the "*[D]ischage of waste at a location or in a manner different from that described in the Findings*"

was disregarded by the Discharger and rendered ineffective in its essential function when the Discharger expanded the size of the Settling Pond without first submitting a Report of Waste Discharge for Amended WDRs. Though the expanded portion of the Settling Pond represents approximately 5.16 acre feet more than permitted, the deviation from the underlying prohibition against discharging waste in a manner different than described in the WDRs still constitutes a major deviation because the requirement prohibits any deviation from what the WDRs describe. Table 1 of the Enforcement Policy (p. 14) is used to determine a "per gallon factor" based on the total score from Step 1 and the level of Deviation from Requirement. For this particular case, the factor is 0.15. This value is multiplied by the volume of discharge and the per gallon civil liability, as described below.

For the penalty calculation, Board staff estimate that 1,277,856 gallons of unauthorized wastewater was discharged to waters of the State. A complete description of how this volume was calculated is found in staff's 16 November 2015 memo[7], and is based on the following data:

- A net increase in the size of the Settling Pond of 5.16 acre feet.
- A review of the Wallace and Kuhl geotechnical engineering report.
- 13.6 feet of separation between the bottom of the pond and groundwater.
- A hydraulic conductivity of $1x10^{-5}$ for the first foot below the pond and $1x10^{-6}$ for the remaining distance to groundwater.
- 5.4 feet of solids accumulation over the processing season.
- A varying depth of water during the processing season to account for solids.

The days of violation were determined as follows. The technical report references a "2011 staking plan for the pond expansion". Board staff made a conservative estimate that the Settling Pond was expanded after the 2011 processing season. The days of violation are the days in which the Settling Pond held wastewater, typically from the beginning of the processing season until a few days afterward. A review of the monitoring reports shows that the 2012 processing season was 81 days (24 July through 12 October 2012), the 2013 processing season was 83 days (12 July through 2 October 2013), the 2014 processing season was 92 days (16 July through 15 October 2014, and the 2015 processing season was assumed to be 92 days (1 July 2015 through 30 September 2015). The Prosecution Team assumed that the liquid in the settling pond was emptied on the last day of the processing season (although the solids remained for months afterward); therefore the days of violations are the cumulative days of each processing season, or 348 days.

The maximum civil liability allowed under Water Code section 13350 is $10 per gallon discharged. The Enforcement Policy recommends applying the statutory maximum of $10 per gallon discharged, however, considers certain circumstances where an alternative maximum amount of $2 per gallon may be used in situations where high volume discharges occur. Though the circumstances in the present matter do not fall into one of the examples discussed in the Enforcement Policy (i.e. high volume sewage spills or releases of stormwater from construction sites) Board staff took into consideration the flow limitations in the 2013 WDRs which allow for the discharge of up to an average of 4.3 million gallons per day and 422 million gallons per year of process wastewater combined with Cooling Pond Water to the land application areas. Based on these flow amounts, Board staff determined it was appropriate to use the "high volume

[7] 16 November 2015 memo from Howard Hold and Mike Fischer to Wendy Wyels titled "*Settling Pond Seepage Increase Estimate, Morning Star Packing Company, Williams Facilty, Colusa County."*

discharge" rate of $2 per gallon as described in the Enforcement Policy.

**Violation 2 - Initial Liability Amount based on Volume Only**

The initial liability amounts for the violation calculated on a per gallon basis is as follows:

0.15 x 3,672 gallons/day x 348 days x $2/gallon

Total Initial Liability = $383,670

Per Day Assessments for Discharge Violations

As stated in the Complaint, Water Code section 13350, subdivision (e) allows for administrative civil liability to be imposed either on a "per day" or "per gallon" basis, but not both. The Central Valley Water Board Prosecution Team recommends assessing administrative civil liability pursuant to Water Code section 13350, subdivision (e)(2) on a per gallon basis. However, in the alternative, the Prosecution Team recommends assessing administrative civil liability on a per day basis pursuant to Water Code section 13350, subdivision (e)(1). Though the Prosecution Team is recommending that the Board assess liability on a per gallon basis, both alternatives are being analyzed herein.

When there is a discharge, the Water Board is to determine the initial liability amount on a per day basis using the same Potential for Harm score from Step 1 and the same Extent of Deviation from Requirements used in the per-gallon analysis. The Potential for Harm score from Step 1 is **5** and the Extent of Deviation from Requirements is considered to be **Major**. Therefore the "per day" factor is **0.15** (as determined from Table 2 in the Enforcement Policy). The number of days of violation for Violation Category 2 is considered to be 344 days between 24 July 2012 and 30 September 2015. The actual number of days were calculated as described above in the "Per Gallon Assessments for Discharge Violations" section.

**Violation 2 - Initial Liability Amount based on Days of Discharge Only**

The initial liability amount for the violation calculated on a per day basis is as follows:

0.15 x 348 days x $5,000 per day

Total Initial Liability = $261,000

**Step 3 – Per Day Assessment for Non-Discharge Violations**

This step is not applicable for Violation Category 1, which is alleged as a discharge violation, therefore liability is determined under Step 2.

**Step 4 – Adjustment Factors**

There are three additional factors to be considered for modification of the amount of initial liability: the violator's culpability, efforts to clean up or cooperate with regulatory authority, and the violator's compliance history.

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 violated Prohibition A.3 in the 2013 WDRs which prohibits the discharge of waste at a location or in a manner different from that described in the Findings. The conduct of the Discharger that led to this alleged violation was its unpermitted expansion of the Settling Pond that resulted in the discharge of waste to waters of the State. The Discharger was given a multiplier value of **1.3** because of the Discharger failed to comply with the Board's regulatory process prior to making material changes to its pond. In addition, the Discharger was fully aware of the Board's permitting process and had ample opportunity to inform Permitting staff prior to adoption of the 2013 WDRs that it had increased the size of the Settling Pond.

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 was given a multiplier value of **1.2** for the same reasons described in the Cleanup and Cooperation section of Violation 1.

History of Violations
This factor is to be used when there is a history of repeat violations. A minimum multiplier of 1.0 is to be used, and is to be increased as necessary. In this case, a multiplier of **1.1** was used for the same reasons described in the History of Violations section of Violation 1.

**Step 5 - Determination of Total Base Liability Amount**
The Total Base Liability is determined by applying the adjustment factors from Step 4 to the Total Initial Liability Amount determined in Step 2.

**Violation 2: Total Base Liability Amount based on Volume Only**
Initial Liability x Culpability Multiplier x Cleanup and Cooperation Multiplier x History of Violations Multiplier = Total Base Liability

$383,670 x 1.4 x 1.2 x 1.1 = $709,022

**Violation 2: Total Base Liability Amount based on Days of Discharge Only**
Initial Liability x Culpability Multiplier x Cleanup and Cooperation Multiplier x History of Violations Multiplier = Total Base Liability

$261,000 x 1.4 x 1.2 x 1.1 = $482,328

**Summation of Total Base Liability Amounts**

The total base liability is the sum of the base liability for all violations. The Prosecution Team recommends assessing administrative civil liability pursuant to Water Code section 13350, subdivision (e)(2) on a per gallon basis. The total base liability based on volume only is $14,092,626 (Violation 1) plus $709,022 (Violation 2), or $14,801,648.

In the alternative, the Prosecution Team recommends assessing administrative civil liability on a per day basis pursuant to Water Code section 13350, subdivision (e)(1). The total base liability based on days of violation is $139,104 (Violation 1) plus $482,328 (Violation 2) = $621,432.

**Step 6 – Ability to Pay and Continue in Business**

The ability to pay and to continue in business must be considered when assessing administrative civil liabilities. The Prosecution Team conducted an initial inquiry regarding the Discharger's ability to pay based on publicly available information. Morning Star accounts for over 25% of the California processing tomato production, supplying 40% of the United States ingredient tomato paste and diced tomato markets, with industrial sales of approximately $350 million dollars. According to the Discharger's website, the Facility processes approximately 630 tons of tomatoes (approximately 200,000 pounds of tomato paste) per hour, making it the largest tomato processing facility in California.[8] According to the Discharger's November 2014 newsletter, the Facility planned to increase its processing throughput by 65% and an additional capacity of 300 million pounds of paste per year.[9] Based on this information, there is no indication that the proposed administrative civil liability amount would result in undue hardship to the Discharger or affect its ability to continue in business.

**Step 7 – Other Factors as Justice May Require**

The costs of investigation and enforcement are "other factors as justice may require," and could be added to the liability amount. The Central Valley Water Board incurred over $30,000 (200 hours at a statewide average of $150/hour) in staff costs associated with the investigation and enforcement of the violations alleged herein. The Prosecution Team, in its discretion, is not recommending an increase in the Total Base Liability amount in consideration of these costs incurred as the proposed liability amount serves as a sufficient general and specific deterrent against future violations.

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.

In this case, application of the Enforcement Policy results in a Total Base Liability of $14,801,648 on a per-gallon discharged basis, and a Total Base Liability of $621,432 on a per-day basis. The Prosecution Team asserts that the liability based on a per-day basis is unsuitable given the magnitude of the violations and the estimated economic benefit accrued by the Discharger.

It is appropriate to assess a liability based on the gallons of wastewater discharged to groundwater in violation of the 2013 WDRs. Application of the Enforcement Policy factors results in a Total Base Liability of $14,801,648. This amount, although quite large, is the result of the application of the Enforcement Policy to a multi-year discharge, and a discharger who has a history of violating the Board's Orders, is fully culpable, and has not made efforts to abate the current violations. Nevertheless, the amount is disproportionate to the circumstances surrounding the discharge. Moreover, a $14 million penalty is inconsistent with other recent penalties issued by the Central Valley Water Board, including the 2014 ACL Order issued to the California Department of Transportation's Sonora Bypass Project for $2.7 million. In that case,

[8] http://morningstarco.com/index.cgi?Page=About%20Us/Company%20History
[9] http://morningstarco.com/newsletters/MSPC%20Nov%202014.pdf

822,701 gallons of turbid stormwater were discharged to surface waters, CalTrans violated multiple permit provisions for multiple days, and was highly culpable for the violations. A $14 million penalty to Morning Star is unbalanced when compared to the CalTrans penalty. The Prosecution Team asserts that the punitive and deterrent goals of the Water Code and Enforcement Policy can be met here with a smaller, though still substantial, final liability in the amount of $1,500,000. This application of discretion is a result of the specific circumstances peculiar to this case, and is not intended to be precedential.

**Step 8 – Economic Benefit**

Pursuant to the Enforcement Policy, administrative civil liability, at a minimum, must be assessed at a level that recovers the economic benefits, if any, derived from the acts that constitute the violation plus ten percent. The economic benefit gained by non-compliance has been calculated using the US EPA's BEN model.

As discussed above and in the Complaint, the Discharger's acts of discharging waste to waters of the State from unpermitted expanded ponds result in violations of several provisions of the 2013 WDRs. Pursuant to the 2013 WDRs, the Discharger is required to operate its facility, dispose, and treat waste in the manner described in its permit and approved by the Board. Expanding the Cooling and Settling Pond, removing 90.5 acres of land application area to accommodate the Cooling Pond expansion, and having an additional 95 acres at MS1 unavailable for land application are all material changes not previously permitted or approved by the Board. An administrative subpoena will be issued concurrently with this ACL Complaint and will require the Discharger to produce additional information to more completely determine the economic benefit of non-compliance. For example, the amount the Discharger spent in planning and implementing the Cooling Pond expansion is not currently known to the Prosecution Team. Additionally, the Discharger indicated that it expanded the production by 75 percent in 2015 increasing production of fresh tomatoes to paste from 1.3 million tons to 2.01 million tons. The Discharger is continuing to generate income largely due to its expanded size, three additional evaporators, and larger Cooling Pond and Settling Pond while in violation of its 2013 WDRs. This information is needed in order to more fully assess the economic benefit of noncompliance.

Board staff identified several measures the Discharger could have implemented to comply with its 2013 WDRs and operate the ponds within the scope authorized by the WDRs. For example, rather than expanding the size of the Cooling and Settling Ponds, the Discharger could have installed additional aerators to mitigate BOD or cooling towers to cool wastewater in the Cooling Pond prior to recirculating back to the Facility. Additionally, the Discharger could have also implemented the use of dissolved air flotation (DAF) tanks to remove suspended solids and oils, and therefore reduce BOD rather than expanding the size of its Settling Pond. DAF tanks are widely used to treat wastewater, including food processing waste, and clarify wastewater by introducing pressurized air into the wastewater. The air forms tiny bubbles which then adhere to suspended matter as they float to the surface, at which point the material may be removed by a skimming device. And finally, the Discharger also achieved an economic benefit from not submitting a Report of Waste Discharge prior to expanding either pond.

Costs associated with staff identified measures that could have been implemented, costs actually expended on planning and implementation of the Cooling and Settling Pond expansions, as well as any additional capital expenditures, and profit differentials between the 2014 and 2015 processing seasons should all be considered to more completely understand the Discharger's economic benefit. Pending the subpoena response, the economic benefit of

noncompliance may be modified. However, with the information known to the Prosecution Team to date, an extremely conservative estimate of the minimum economic benefit is calculated to be $792,301. Therefore a conservative estimate of the minimum civil liability which must be assessed pursuant to the Enforcement Policy is $792,301 + 10% or $871,531.

**Step 9 – Maximum and Minimum Liability Amounts**

Minimum Liability Amount based on Volume Only for Violation Categories 1 and 2: Economic Benefit + 10% = **$871,531**

Minimum Liability Amount based on Days of Discharge Only for Violation Categories 1 and 2: Economic Benefit + 10% = **$871,531**

Maximum Liability Amount based on Volume Only for Violation Categories 1 and 2: The maximum administrative liability amount is the maximum amount allowed by Water Code section 13350 based on a per gallon calculation only. The statutory maximum amount for the alleged violations based on volume only is **$266,974,560**.

Maximum Liability Amount based on Days of Discharge Only for Violation Categories 1 and 2: The maximum administrative liability amount is the maximum amount allowed by Water Code section 13350 based on a per day calculation only. The statutory maximum amount for the alleged violations based on days of discharge only is **$2,200,000**.

**Step 10 – Final Liability Amount**

Based on the foregoing analysis, and consistent with the Enforcement Policy, the final liability amount (based on gallons discharged) proposed for the alleged violations is **$1,500,000 (one million five hundred thousand dollars)**. This liability falls within the statutory maximum and minimum liability amounts.