

**Prosecution Team's Rebuttal Response
Morning Star Tomato Packing Company
Tentative Cease and Desist Order**

The Tentative CDO was written to require that Morning Star take actions such that it would return to compliance with the 2013 WDRs. However Morning Star's *Legal, Policy and Technical Statements* indicates that it does not want to restore its facility to comply with the 2013 WDRs, meaning that the Board will need to consider new WDRs to allow the already-completed changes. Therefore, the Prosecution Team is proposing revisions to the Tentative CDO providing Morning Star the choice to either (a) return to compliance with the 2013 WDRs or (b) continue operating in non-compliance, but with limitations to protect water quality and requirements to collect the data necessary to revise the WDRs. Due to the seasonal variability in Morning Star's operations, it is anticipated that three years of data collection would be needed before Morning Star would submit a Report of Waste Discharge (RWD) and apply for revised WDRs, and therefore this CDO would be in place for approximately four years. New WDRs may or may not permit Morning Star to continue the current operations as prescribed by the revised Tentative CDO; final permitting actions will be dependent upon the data collected during the next three years, and an analysis of Morning Star's potential to impact water quality.

1. Expansion of the Cooling Pond and Settling Pond

Morning Star argues that the 2015 expansion of the Cooling Pond from 60 acres to 100 acres, and the 2012 expansion of the Settling Pond from 5 acre-feet to 10.16 acre-feet, are permitted by the 2013 WDRs. The Prosecution Team strongly disagrees that the expansions were allowed and specifically contemplated by the WDRs; our discussion on this issue is found in both the Findings of the Tentative CDO and the *Prosecution Team's Technical Analysis Supporting the Proposed Cease and Desist Order* and does not need to be repeated here.

Revised Tentative CDO Options

The Tentative CDO requires that Morning Star come into compliance with its 2013 WDRs by restoring the Cooling Pond to 60 acres and restoring the Settling Pond to 5 acre-feet in volume. Morning Star objects to these requirements. The revised Tentative CDO will provide Morning Star with a choice: either restore the two ponds to meet the size and location described in the 2013 WDRs or operate them consistent with the underlying intent of the 2013 WDRs, in a manner protects water quality while collecting data for a new RWD for the current operations.

If Morning Star elects to keep the Cooling Pond at the expanded size, then it will need to measure the flow into the pond on a daily basis, and conduct bi-weekly monitoring of the influent into the pond and the pond itself. Constituents to be analyzed will be expanded from the current requirements include biochemical oxygen demand (BOD), nitrate, total Kjeldahl nitrogen, ammonia, total dissolved solids, and fixed dissolved solids. Morning Star will also need to install at least two more groundwater monitoring wells, one upgradient and one downgradient of the pond along the eastern edge. (It is noted that the current upgradient monitoring well, MW-5, exhibits widely varying constituent concentrations. For purposes of obtaining data for a RWD, another background well is needed). The list of constituents to be monitored in the groundwater will be expanded to include those that are indicative of reducing anoxic conditions: dissolved oxygen, oxygen reducing potential, total Kjeldahl nitrogen, and ammonia. And finally, the revised Tentative CDO will contain an effluent limits for BOD, as measured in the pond (see "Discharge of Organic Waste into the Cooling Pond" section for details).

If Morning Star elects to keep the Settling Pond at the expanded size, then it will be required to add constituents to its current effluent monitoring program. It is currently required to monitor the pond weekly for BOD, fixed dissolved solids, and total nitrogen. The effluent monitoring program will be expanded to include weekly sampling for total dissolved solids, nitrate, total Kjeldahl nitrogen, and ammonia. The Prosecution Team proposes that groundwater monitoring also be expanded to include dissolved oxygen, oxygen reduction potential, total Kjeldahl nitrogen, and ammonia nitrogen, again, to better monitor for anoxic conditions. In addition, the Prosecution Team recommends that Morning Star further evaluate installing a soil-cement bottom to the pond (as discussed in Morning Star Exhibit K).

2. Land Application Area, Flow Limits

Morning Star argues that the WDRs do not require the use of the entire 695 acres of cropland, and that if the CDO required it to do so, the Board would violate Water Code section 13360.

Upon review, the Prosecution Team agrees that the WDRs do not specifically require that the entire flow generated each year be distributed over 695 acres. However, the WDRs do contain BOD loading limits and a maximum flow limit which are calculated on the availability of 695 acres of Land Application Area (LAA). The cropland is described as "a treatment and control measure." But Morning Star has now reduced its cropland to 485 acres. The Tentative CDO originally required that Morning Star restore its 695 acres of cropland. Morning Star objects to this, and instead has proposed reduced flow limits based on the 485 acres¹. The 2013 WDRs establish a daily flow limit of 4.3 million gallons per day (mgd), and Morning Star's proposed daily limit of 3.0 mgd is simply 31% less, based on a 31% reduction in cropland. We note that the average BOD concentration in the wastewater increased 2.5 times between 2014 and 2015². The flow rate, acreage, and BOD concentrations are intertwined: increasing the BOD concentration logically means that the flow rate must also increase to provide more dilution or the acreage must increase to allow for a wider, more even distribution of wastewater to avoid violating the WDR's BOD loading limit. It is Morning Star's responsibility to manage its BOD, flows, and cropland in order to comply with the BOD loading rate.

Revised Tentative CDO

The Prosecution Team will amend the Tentative CDO to remove the statements that wastewater must be applied to 695 acres, and instead will require that the daily flow rate not exceed 3.0 mgd. Although Morning Star did not calculate it, the Prosecution Team will also amend the CDO to include a reduced annual flow rate. The 2013 WDRs contain an annual flow rate of 422 million gallons per year; the proportionally reduced value is 294 million gallons per year. Finally, the CDO will be amended to state that the flow rates are based upon the availability of 485 acres of cropland and that regardless of the BOD concentration of the wastewater, Morning Star must still meet its BOD loading limit of 100 pounds per day per acre and stay within the flow limits of the CDO.

3. Discharge of Organic Waste into the Cooling Pond

Morning Star argues that it is allowed to discharge organic waste into the Cooling Pond. The Prosecution Team's arguments rebutting this are found in both the Findings of the Tentative

¹ Morning Star Exhibit J.

² Morning Star Exhibit K.

CDO and the *Prosecution Team's Technical Analysis Supporting the Proposed Cease and Desist Order* and does not need to be re-stated here.

Finding 16 of the 2013 WDRs states that among other waste streams, the Cooling Pond contains "condensate from the evaporation process". Morning Star's Exhibit L states that "the condensate can contain low concentration of organic compounds in vapor carryover from the tomato paste". Apparently, these organic compounds are continually entering the Cooling Pond. Because Board staff did not know that the condensate contained organic matter, Morning Star has never been required to sample the Cooling Pond for BOD, and neither the 1995 nor 2013 WDRs contained a limit for BOD in the Cooling Pond.

In addition, Morning Star states that prior to the 2015 season, new evaporators were installed which were plumbed to the Cooling Pond instead of the Settling Pond. Therefore, greater than normal amounts of organic waste entered the Cooling Pond. In August 2015, the three evaporators were re-plumbed to discharge to the Settling Pond. Morning Star's Exhibit K contains analytical data from three samples collected while the evaporators discharged to the Cooling Pond. During that time, BOD at the Cooling Pond inlet ranged from 24-41 mg/L, while BOD at the Cooling Pond outlet ranged from 27-34 mg/L. The document also states that "although no other BOD data is available...it is likely that normal BOD concentrations and pond loading rates are considerably less than what was measured during the startup of the new evaporators..."

Morning Star's Exhibit K states that the EPA's "recommended BOD loading rate for naturally aerated facultative ponds...are 40 to 80 pounds BOD/acre/day", and that this is probably appropriate for the Cooling Pond. The document further states that BOD loading rates into the Cooling Pond were 10 to 20 pounds/ac/day while the evaporators were still discharging, and implies that the BOD loading from the typical organic waste should not impact groundwater.

The Prosecution Team notes that the referenced EPA document is a *Design Manual for Municipal Wastewater Stabilization Ponds* while Morning Star is operating a cooling pond with lower strength, and much hotter, wastewater. It is unclear how the EPA document relates to this situation, as the document is intended to be used for stabilization ponds to treat municipal wastewater prior to discharge to surface water or land. The quoted loading rate is for facultative ponds which the manual defines as "aerobic-anaerobic". Morning Star does not operate the Cooling Pond as a facultative pond. In addition, Morning Star has not provided any information as to how the EPA's BOD loading rate relates to control of odors or groundwater protection. For these reasons, the Prosecution Team asserts that the EPA's BOD loading rate for facultative municipal wastewater ponds is not appropriate to use in this circumstance.

If Morning Star's RWD had stated that organic matter would be consistently discharged to the Cooling Pond, then the WDRs would have contained a limit for BOD and established monitoring requirements for the pond to ensure that the underlying groundwater is protected and not further degraded by this discharge of waste. Morning Star has not proposed such a limit in its response to the Tentative CDO. It is noted that there is approximately 5 feet³ between the bottom of the pond and the shallow groundwater, and therefore wastewater percolating from the Cooling Pond has the potential to immediately impact groundwater; there is little opportunity for transformation or breakdown in the soil column.

³ Prosecution Team Exhibit 47.

Revised Tentative CDO Options

The Tentative CDO states that no organic waste may be discharged into the Cooling Pond. Based on Morning Star's objection to this requirement, the Prosecution Team will amend the CDO to provide Morning Star with a choice: (a) either stop the discharge of organic waste or (b) comply with an interim BOD effluent limit that will minimize the discharge of organic waste and be protective of the underlying groundwater.

If Morning Star chooses to continue discharging organic waste, then it will need to conduct the sampling described in the "Expansion of the Cooling Pond and Settling Pond" section. It will also need to meet a BOD pond limit of 20 mg/l, as measured opposite the inlet (i.e., the northwest corner of the pond). This value is below the average value of 32.5 mg/L that was measured when the new evaporators were inappropriately discharging into the Cooling Pond, and reflects Morning Star's statement that "normal" BOD loadings are expected to be considerably less. In the absence of any data as to a BOD value appropriate to protect the groundwater directly beneath the Cooling Pond, the Prosecution Team believes that 20 mg/L is a reasonable value to ensure that Morning Star does not discharge more BOD than it has in the past, while it collects that data necessary for the development of new WDRs. It is noted that because this interim limit will be measured opposite the inlet, Morning Star may discharge more than 20 mg/L of BOD into the Cooling Pond, but the BOD must be reduced to 20 mg/L by the time a sample is collected. BOD is reduced through natural aeration, and in addition, Morning Star has proposed to install "supplemental aeration" within the pond (see below). If Morning Star finds that the "normal" organic matter entering the pond is greater than anticipated, and that it cannot meet the 20 mg/L BOD pond limit, then it can install additional aeration beyond that which it has already proposed.

4. Supplemental Aeration for the Cooling Pond and Settling Pond

As described in the Tentative CDO, Morning Star did not comply with the 2013 WDR's dissolved oxygen (DO) limit in the Cooling Pond or Settling Pond for periods of time during the 2015 processing season. The Tentative CDO would require that Morning Star prepare a *Dissolved Oxygen Compliance Feasibility Study* to evaluate the improvements needed to comply with the limit.

Morning Star's Exhibit K states: "Due to the high vacuum and temperature in the final condenser loop, the condensate water sent to the Cooling Pond likely has inherently low dissolved oxygen" and recommends that a floating brush aerator, or similar type of aerator, be installed in the Cooling Pond. With respect to the Settling Pond, Exhibit K states "In 2015, the dissolved oxygen levels in the Settling Pond likely was depressed due to the increased wastewater strength (2.5 times the 2014 concentration) and increased hydraulic retention time due to water conservation." Morning Star also recommends increasing the aeration for the Settling Pond, and recommends a variable elevation outlet to reduce the retention time. The document further states that it may not be possible to install the new outlet prior to the 2016 processing season.

Revised Tentative CDO

The revised Tentative CDO replaces the requirement for the *Dissolved Oxygen Compliance Feasibility Study* with the requirement to install at least one additional aerator in each pond prior to the 2016 processing season. The revised Tentative CDO will also state that if Morning Star does not comply with the DO limit in 2016, then it must install the variable elevation outlet prior to the 2017 processing season. In addition, to ensure that the new equipment is functioning as

expected, and the potential for odors from the ponds are minimized, the revised tentative CDO will require daily DO monitoring for each pond. Per the recommendation in Morning Star's Exhibit L, the revised Tentative CDO will also require that the ponds be monitored for oxygen reduction potential.

5. Off-Site Odors

The 2013 WDRs state, in general, that objectionable odors due to Morning Star's wastewater operations shall not be perceivable beyond the limits of the facility at an intensity that creates nuisance conditions. As documented in the Tentative CDO, there were a number of public odor complaints related to Morning Star for the 2015 season. The Tentative CDO requires Morning Star to evaluate the odor potential of each wastewater component, make upgrades, and implement an odor monitoring program for 2016.

Morning Star states that (a) the odors were the result of the start-up of the expanded facility and water conservation measures, (b) the Tentative CDO should only list the odor complaints by the public, not those self-reported by Morning Star, and (c) the facility does not have a history of odor issues. Nevertheless, Morning Star proposes its own odor monitoring program (Exhibit L).

The Prosecution Team has reviewed Morning Star's Exhibit L, *Odor Monitoring and Mitigation Plan*. Staff's comments, and changes to the Tentative CDO, are discussed below:

- It is Board staff's experience that the public is not generally aware that it should report odor complaints to the Water Quality Control Board. Therefore, by the time that Board staff is alerted to odor complaints, odors have been occurring for some time. Morning Star asserts that there were no odor problems prior to 2015. While the Board has no record of complaints before this time, neither party can demonstrate either the presence or absence of odors.
- Morning Star states that source of odors was probably stagnant water in the irrigation ditches, the rice field, and Cooling Pond, and that due to its small size, the Settling Pond is less likely to be a source. However, Morning Star does not propose any odor mitigation measures to address stagnant water in the irrigation ditches.
- Exhibit L proposes odor mitigation measures to be completed prior to the 2016 season. These are: adding aeration to the Cooling Pond, predicting wastewater BOD prior to application (discussed in the "Overloading of BOD on the Cropland" section), improved screening to prevent tomatoes from entering the irrigation ditches, and the installation of sprinkler systems to more evenly apply wastewater to the cropland.
- Exhibit L also proposes adding the sodium chlorite compound ADOX 750, an oxidizing agent, to the ponds and irrigation system to mitigate "unpredictable upsets". The use of ADOX 750 is not discussed in the 2013 WDRs; however, the Prosecution Team has learned that Morning Star has used this compound for some time. In 2015, Morning Star introduced almost 19,000 gallons of this chemical to the ponds and irrigation ditches⁴. The 2013 WDRs contain a mass loading limit for fixed dissolved solids (FDS) and state that groundwater has been degraded because of the discharge of salt in the wastewater. The use of ADOX 750 will increase the salinity of the wastewater. In addition, in 2015,

⁴ Prosecution Team CDO Exhibit 113.

approximately 65% of the chemical was added directly to the irrigation ditches and therefore not included in Morning Star's calculations to determine compliance with the FDS mass loading limit. The compliance point for determining these calculations is at Settling Pond Station 1.

- It is not clear that Morning Star's proposed improvements will prevent objectionable off-site odors. Therefore, the Tentative CDO requires that Morning Star install a real-time odor monitoring system and take immediate action if odors were detected. Morning Star does not wish to install this system and instead proposes a different odor monitoring program. In summary, it includes a "manual odor assessment" (i.e., a Morning Star employee) smelling for odors at nine locations in the morning and afternoon, one time per week; use of two different hand-held instruments during the one time per week manual odor assessment; installation of a continuous and automated OdaLog at two locations; and air sampling. Morning Star also states that if the mitigation measures taken for the 2016 season do not resolve the odors, then it will install a real-time odor monitoring system (as currently required by the Tentative CDO) for the 2017 season. However, Morning Star also cautions that this type of system requires "substantial calibration" prior to use.
- The Prosecution Team is not certain that Morning Star's odor mitigation methods will be sufficient to result in compliance with the 2013 WDRs, and therefore a more robust odor monitoring program is necessary. With respect to Morning Star's "manual odor assessment" and hand-held monitoring, a frequency of one time per week is insufficient, as the wastewater strength, pond conditions, and application to land vary throughout the season. All of these actions affect odor generation. In addition, sensitivity to odors varies between individuals, and someone who works at the Morning Star plant will probably have lost sensitivity to the odors at question. It is unlikely that a manual odor assessment will not provide quantitative or reproducible information regarding odors. The Prosecution Team believes that continuous odor monitoring is necessary, especially given that atmospheric conditions also affect odor generation. It is also Board staff's experience that odors tend to be the worst in the late evening or early morning hours, as compared to Morning Star's proposed manual odor monitoring times of morning and afternoon.
- The Prosecution Team is not certain of the value of the air sampling program proposed by Morning Star. The Discharger may conduct this if it desires, but it will not be required by the CDO.

Revised Tentative CDO Options

The revised Tentative CDO will give Morning Star the option of either (a) installing a real-time odor monitoring system currently described in the Tentative CDO or (b) conducting twice daily "manual odor assessment" and hand-held meter monitoring, installing the OdoLog at multiple locations, and installing a real-time odor monitoring system and using the 2016 processing season to calibrate it. Regardless of which option is chosen, the revised Tentative CDO will retain the requirements to be ready to implement additional physical improvements during the 2016 processing season if the improvements discussed above are insufficient to prevent objectionable off-site odors.

With regard to mitigation measures, the revised Tentative CDO will require that three of Morning Star's proposed actions (adding aeration to the Cooling Pond, predicting wastewater BOD prior

to application, and improved screening to prevent tomatoes from entering the irrigation ditches) be completed prior to the 2016 season. With respect to installation of sprinkler systems, the Prosecution Team understands that Morning Star is not ready to commit to this action for any of its fields in 2016. The revised Tentative CDO will require that Morning Star submit a report evaluating when and how sprinkler irrigation can be used on its cropland. The revised Tentative CDO will also require Morning Star to take actions to prevent stagnant water in the irrigation ditches and to cease using wastewater to irrigate rice fields.

The revised Tentative WDRs will state that use of ADOX 750 is to be considered a last resort to mitigate objectionable odors, that the chemical must be added to the wastewater disposal system prior to the location at which effluent samples are collected, and a sample must be collected and analyzed for TDS and FDS each time ADOX is added to the wastewater disposal system.

6. Overloading of BOD on the Cropland

The WDRs contain a BOD loading limit of 100 pounds BOD/acre/day as an irrigation cycle average. The Tentative CDO lists the fields to which Morning Star over-applied BOD in violation of the WDRs, and states that the overloading was due to the Morning Star's application of higher strength wastewater to less cropland. Morning Star has responded that the Tentative CDO overstates the number of times in which the BOD loading rate was exceeded, and that the BOD overloading resulted from "increased production, water conservation, and anomalous startup conditions, and the fact that BOD concentration levels cannot be confirmed for several weeks, due to testing time."

Morning Star submitted Exhibit J, *Land Application Loading Rates* (referred to as "Technical Report"). The Prosecution Team's review of the document, and changes to the Tentative CDO in response to the document, are as follows:

- The Tentative CDO used the BOD loading rates reported by Morning Star in its monthly monitoring reports. However, according to the Technical Report, the monthly monitoring reports contained incorrect results. Morning Star's errors included reporting by individual checks instead of by field, flows taken from a different cycle than reported, BOD taken from a different cycle period than reported, and cycle periods calculated by check and not application field.
- Table 1 of the Technical Report lists the rolling average BOD concentrations used in the loading calculations. Morning Star states that the 23 July 2015 sample is considered an outlier as it was not analyzed within holding times. Because that result cannot be used, Board staff understands that Morning Star used the previous week's BOD value in its place. It is noted that it would have been more appropriate to average the BOD concentrations for the week before and the week after the outlier sample. This would have resulted in a higher BOD concentration than Morning Star used.
- Morning Star states that the 10 September 2015 sample is an outlier because it was collected while solids were being removed from the Settling Pond. However, Board staff does not consider it an outlier because it is indicative of the BOD at that point in time. It is appropriate to use this value in the BOD loading calculations.

- Section 2.1 of the Technical Report discusses how the land application area should be operated, and with respect to surface irrigation, states "*The [wastewater] application period varies by field and ranges from 2 to 6 days. The drying time ranges from 6 to 8 days. The total cycle of irrigation ranges from 8 to 14 days. Drying is a critical part of the total cycle and cycle times less than 8 days should be avoided.*" A review of the 2015 monitoring reports shows that Morning Star did not follow this advice, especially during the month of September when many fields only had a drying time of 1-2 days. A reduced drying time reduces the opportunity for BOD to break down within the soil column, and increases the potential for groundwater impacts.
- It can take up to a month to receive BOD results, and by the time the results are received, the wastewater has already been applied to the cropland. Therefore, the Tentative CDO required that Morning Star propose a method to determine in real time whether BOD loading is occurring or has the potential to occur. The Technical Memo proposes two surrogates for managing BOD loadings before BOD concentrations are known: in the early season, a correlation with the tonnage of tomatoes processed, and for most of the season, a correlation to the brix (sugar) content of the wastewater.
- Morning Star states that it has determined that it is inappropriate to apply wastewater to rice, as it has a low nitrogen uptake rate, high BOD loading rate, and the potential to create odors due to anaerobic conditions.

Revised Tentative CDO

The Tentative CDO will be revised to reflect that Morning Star's reported inaccurate BOD loading rates in its monthly monitoring reports, and will require that Morning Star resubmit its July, August, and September 2015 monitoring reports with correct calculations and an explanation of how loading rates will be calculated correctly in the future. The Tentative CDO's Finding listing the BOD loading violations will be revised to reflect those violations listed in Exhibit J.

The revised Tentative CDO will require that Morning Star follow its recommendations regarding wastewater application periods and cycle drying times for fields irrigated by surface irrigation. Specifically, the total irrigation cycle shall range from 8 to 14 days, of which 6 to 8 days shall be the drying time.

With respect to a surrogate for BOD monitoring, the revised Tentative CDO will incorporate Morning Star's proposal (described above) with the exception that BOD and brix shall be measured twice per week until a correlation between the two is determined. After that, BOD sampling may revert to the normal once per week. In addition, all BOD samples shall be used in determining BOD loading rates. Finally, the revised Tentative CDO will incorporate Morning Star's recommendation that rice not be planted on the land application area.

7. Impacts to Groundwater

The 2013 WDRs contain Groundwater Limitations for several constituents, including manganese. The Tentative CDO lists the three monitoring wells for which groundwater exceeds the manganese groundwater limit, and requires Morning Star to take actions to prevent groundwater pollution by manganese. Morning Star has responded stating that it disagrees with

the Tentative CDO's implication that the reduction in cropland and the BOD loading violations have created the manganese violations, and that other factors may be influencing manganese concentrations. Morning Star states that the Prosecution Team has "failed to present evidence that the alleged violations have had or are likely to have an adverse impact on groundwater quality."

The Prosecution Team has reviewed Morning Star's Exhibit N, *Groundwater Manganese in Land Application Areas*. The document reviews the manganese data for the same three monitoring wells (MWs 7, 8, and 9) that are discussed in the Tentative CDO as violating the Groundwater Limitation. Our review of the document is as follows:

- Morning Star states that manganese concentrations in all three wells exhibit an increasing trend beginning in 2013;
- The 2013 WDRs do not provide a specific groundwater limitation for MWs 7 and 8; instead they say the limit is "current groundwater quality". At the time that the Tentative CDO was issued, Morning Star had never calculated this value, so the Prosecution Team did so, and stated that the value was an approximation. Exhibit N contains Morning Star's calculated the groundwater limitation for MWs 7 and 8. These values are similar to those calculated by Board staff; however, the revised Tentative CDO will incorporate the values found in Exhibit N. The use of the new background values does not change the listing of manganese violations.
- Morning Star proposes a different groundwater limit for MW-9. However, neither the Prosecution Team nor Morning Star can change the limit established in the 2013 WDRs. It is also noted that this limit is only two years old (i.e., developed for the 2013 WDRs). Morning Star may wish to collect additional data and propose a change when it submits its RWD in three years. Until -and if- the WDRs are revised, Morning Star must comply with the current groundwater limits.
- Morning Star states that the Prosecution Team hasn't made its point that the BOD overloading in 2015 caused the manganese increases in the three wells. However, we point out that BOD overloading has taken place since prior to the 2005 CDO.
- Morning Star states that drought and rice farming may be the cause for the manganese in the three wells violates the Groundwater Limitation. However, the Prosecution Team contends that the data submitted (Figure 5) does not show a strong decline in water levels.

Revised Tentative CDO

Exhibit N confirms that the manganese in wells MW 7, 8, and 9 exceed the Groundwater Limitation. The revised Tentative CDO will contain updated values for the groundwater limits for MW 7 and MW 8. The language regarding the *Groundwater Pollution Mitigation Report* will be updated to allow Morning Star an opportunity to show that factors other than its wastewater disposal have resulted in manganese pollution in the groundwater. If Morning Star chooses to make this showing, then it is recommended that it install additional groundwater monitoring wells, as the information presented in Exhibit N does not lead to this conclusion.

It is noted that Morning Star's tabulated groundwater monitoring results do not reflect the method detection limit used for analysis of iron or manganese. Morning Star reports "0.0" when

iron or manganese is not detected. This is not appropriate because the groundwater limitation for these constituents is close to the detection limit, and a value of "0.0" does not allow Board staff to determine if an appropriate method was used or if the detection limit was elevated. The revised Tentative CDO will require that Morning Star update is tabulated groundwater monitoring results to include the method detection limit.

8. Management of Solid Waste

The Tentative CDO lists several solid waste violations. With respect to the tomato solids in the ditches of the land application areas, Morning Star states that it will "implement measures to reduce the potential for this condition to reoccur." However, it is unclear what those conditions are. Therefore, the revised Tentative CDO will not change regarding the requirements for (a) a report describing the improvements to the tomato screening process, and (b) daily monitoring of the ditches and immediate removal of any tomato solids.

With respect to the unpermitted silage operation, Morning Star submitted Exhibit M, the *Silage Process Management Plan*. The Tentative CDO prohibits the production of silage because silage leachate contains high concentrations of BOD (12,000 to 90,000 mg/l)⁵ and can therefore impact groundwater or surface water quality. Morning Star did not discuss silage production in its RWD, and therefore the 2013 WDRs do not contain any specifications to prevent groundwater or surface water impacts from this activity. However, Morning Star has requested that the Tentative CDO be amended to allow it to continue creating silage.

Tentative CDO Options

The revised Tentative CDO will offer Morning Star a choice: either (a) stop producing silage and remove the current silage, or (b) construct a silage leachate and storm water collection system such that this waste is collected, contained, and disposed of in a manner that protects water quality. The current system of discharging the leachate and storm water to ditches does not provide this protection; it is more appropriate to construct a system that mimics the expectations for silage management in the Dairy General WDRs or the Statewide General WDRs for Composting⁶. If Morning Star chooses to continue to produce silage, then it would also be required to monitor the leachate and other silage-related activities, and then submit a RWD in three years to request revised WDRs that would allow silage production. It is noted however, that even though the CDO would allow for silage production in the short term, this would not guarantee that the revised WDRs would allow silage production under the same conditions.

Exhibit N contains an aerial site map (Figure 1) that depicts the silage operations. The aerial photo was taken during the tomato processing season, as evidenced by the water contained in the Settling Pond. Board staff notes that this aerial photo also shows that there is water in the storm water pond located next to the Settling Pond. It is not clear why there is water in a storm water pond in the middle of the summer, and Morning Star staff could not explain its presence when asked. The WDRs do not allow any process water to enter the storm water pond. The tentative CDO will be revised to include daily monitoring of the storm water pond, and will

⁵ Prosecution Team CDO Exhibit 114

⁶ General Waste Discharge Requirements/NPDES Permit for Existing Milk Cow Dairy Concentrated Animal Feeding Operations Within The Central Valley Region, Order R5-2010-0118 and State Water Resources Control Board Order WQ-2015-0121-DWQ, General Waste Discharge Requirements for Composting Operations.

require that Morning Star investigate and stop discharges of anything other than storm water into that pond.

9. pH Violation

Morning Star points out that there was one pH violation, which they attribute to a probe that wasn't calibrated correctly. The revised Tentative CDO will remove reference to a pH violation. In addition, the language regarding the Sampling and Analysis Plan will be updated to specifically reference the pH meter, and will remind the Discharger that the Monitoring and Reporting Program requires that calibration records for hand held meters be submitted with the monthly monitoring reports.

10. Storm Water Requirements

The 2013 WDRs state that Morning Star is not required to obtain coverage under the statewide General Permit for Industrial Storm Water Discharges Associated with Industrial Activities. However, the Tentative CDO questions whether this is still the case, given the expanded facility and the recently renewed Industrial Permit. The Tentative CDO requires that Morning Star review the renewed Industrial Permit and determine whether it needs coverage.

Morning Star has responded by submitted a two-page Notice of Non Applicability (NONA), stating that they do not need permit coverage. The Board's Storm Water staff reviewed the document and find that it is incomplete⁷. Therefore, the revised Tentative CDO requires Morning Star to update its NONA, and if not approved, then file for coverage under the Industrial Permit.

Conclusion

The Prosecution Team will prepare a revised Tentative CDO incorporating the above information for the Board's consideration. We continue to recommend that the Central Valley Water Board issue a Cease and Desist Order requiring Morning Star and Fred Gobel to take actions to comply with WDRs Order R5-2013-0144 and/or complete monitoring and other steps to allow it to submit a RWD within three years.

For the Prosecution Team:



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⁷ Memo from Robert Ditto (Prosecution Team Rebuttal Evidence 1).