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BEFORE THE CALIFORNIA WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

In the Matter of:)	
ADMINISTRATIVE CIVIL LIABILITY)	ADVISORY TEAM REQUEST FOR
COMPLAINT NO. R5-2012-0561)	INFORMATION ON 15 JULY 2013 RE:
_____)	EXHIBIT 26, "AVOIDED MANURE
)	MANAGEMENT COSTS"

The Prosecution Team for the California Regional Water Quality Control Board, Central Valley Region ("Prosecution Team") hereby submits the following response to the Advisory Team's 15 July 2013 request for additional information.

Advisory Team Question 1: Does Exhibit 26 estimate the economic benefit of avoided manure management costs assuming that the Discharger avoided manure management costs from January 1, 1996 until December 31, 2012? If so, how does this estimate of economic benefit meet or conflict with the Enforcement Policy's definition of economic benefit, which is "any savings or monetary gained derived from the act or omission that constitutes the violation." (Enforcement Policy, at p. 20). The Advisory Team notes that the earliest violation alleged in the administrative civil liability complaint began on September 20, 2010.

1 **Prosecution Team Response to Question 1:** The avoided manure management figure
2 in Exhibit 26 reflects the costs associated with the failure to remove piles of manure which
3 accumulated over a period of time at the Henry Tosta Dairy (Dairy). Board staff observed
4 during its initial inspection on 1 May 2012 that the Dairy had no containment capacity for
5 the day-to-day dairy operations. The sheer amount of manure at the facility including in
6 the corrals, settling basins, lagoons and in the unlined and uncontained 3-4 acre area
7 indicated to staff that the accumulation of manure occurred over a period of years. Board
8 staff have evidence of the Dairy's potential to impact groundwater as far back as 1996
9 when a letter sent by Louis Pratt to Mr. Tosta noted that the "facility [Tosta Dairy] is not
10 prepared for manure, storm water and waste water management." The Discharger's
11 Annual Report submissions from 2007 through 2011 acknowledge the removal of small
12 amounts of manure off-site, however, where the reports fail to account for the destination
13 of a majority of the manure generated every year, it is reasonable to conclude that the
14 unidentified quantity of manure remained on-site accumulating year after year. With a
15 depth of less than seven feet to groundwater and as confirmed by groundwater samples,
16 Board staff reasonably concluded that the Dairy's waste management operations violated
17 Prohibition A.4 of the Waste Discharge Requirements General Order for Existing Milk
18 Cow Dairies, Order No. R5-2007-0035 (Dairy General Order), adopted 3 May 2007.
19 Under the Dairy General Order, dairy operators have an ongoing requirement to manage
20 waste in a manner that does not violate the specific requirements and prohibitions in the
21 Order including the prohibition of the "collection, treatment, storage, discharge or disposal
22 of waste . . . that results in (1) discharge of waste constituents in a manner which could
23 cause degradation of surface water or groundwater . . . (2) contamination or pollution of
24 surface water or groundwater." (Dairy General Order, Prohibition A.4). Here, the Dairy
25 failed to collect, store, discharge and dispose of waste where the accumulation of manure
26 resulted in discharges in a manner that had the potential to cause degradation to or that
27 resulted in the contamination or pollution of groundwater.

1 The 1 May 2012 inspection date is a conservative estimate for calculating the start
2 date for violating Prohibition A.4 where the conditions observed on that particular day
3 were a product of many years worth of accumulated manure. However, the “act or
4 omission” constituting the violation of Prohibition A.4 is the accumulation of manure over
5 time at the Dairy. Each year that manure accumulated beyond the facility’s capacity or
6 stored in an unauthorized location resulted in a violation of the Dairy General Order and
7 Dairy’s Waste Management Plan.

8 Consistent with the Enforcement Policy’s definition, the economic benefit
9 calculated is the savings or monetary gain derived from noncompliance with Prohibition
10 A.4 of the Dairy General Order. Calculating the economic benefit from the 1 May 2012
11 inspection date ignores the benefit derived from the failure to manage manure over time
12 which resulted in discharges in a manner that posed a threat to or resulted in the
13 contamination and/or pollution of groundwater. Exhibit 26 reflects the avoided manure
14 management costs from 1 January 1996 through 31 December 2012, where Board staff
15 have evidence that the Dairy operation was not equipped to handle the dairy waste. The
16 Prosecution Team recognizes that the act that constitutes a violation of Prohibition A.4
17 dates back many years but, upon consideration, has revised the initial date of
18 noncompliance from 1 January 1996 to the date of adoption of the Dairy General Order, 3
19 May 2007, for the calculation of the economic benefit. The Prosecution Team has
20 provided the revised economic benefit calculation reflecting a start date of 3 May 2007, as
21 detailed further in the attached BEN Result calculation.

22
23 **Advisory Team Question 2:** Does the estimation of economic benefit of avoided manure
24 management assume that the manure is removed as it is generated as opposed to stored
25 and then removed from storage? If so, please explain how the estimated volumes of
26 trucked waste would change if the loss of water from the wastes while in storage is taken
27 into account.

1 **Prosecution Team Response to Question 2:** The estimation of economic benefit of the
2 avoided manure management assumes that manure generated from the dairy cows is
3 stored in the settling basins and lagoons of a dairy facility as the manure is generated. A
4 settling basin allows solids to settle out of the liquid. From the settling basin or lagoon the
5 manure can either be applied as fertilizer or exported off-site. Manure from the settling
6 basin or lagoon is typically dried by removing the material to a stacking area before it is
7 land applied but the manure may also be directly applied from the settling basin or lagoon
8 to the fields using a vacuum truck or piping infrastructure.

9 Relying on USDA's RK Hubbard and RR Lowrance article titled, *Management of*
10 *Dairy Cattle Manure* (1998), the liquid content of manure is approximately 30% by weight.
11 At the request of the Advisory Team, the Prosecution Team has prepared a revised
12 calculation of the quantity of manure on-site, multiplying the wet weight of manure by 70%
13 to remove the liquid fraction. Based on the adjusted volume, the number of truckloads
14 required to remove the manure to apply to the Dairy's cropland is reduced from 8,000 to
15 4,932. Therefore, the annual cost for manure management would be reduced from
16 \$36,800 to \$22,687. This is reflected in the attached BEN Result calculation. Note,
17 however, that observations made during numerous staff inspections indicate that the
18 water content of manure at the Dairy varies considerably depending on where the manure
19 is located and much of the manure at the dairy is wetter than the modified calculation
20 would suggest.

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22 **Advisory Team Question 3:** Does the calculated economic benefit for avoided manure
23 management assume that all liquid wastes generated at the site must be trucked away? If
24 so, please explain how the calculation is or is not consistent with Finding 12 of the ACL
25 Complaint, which states that, from 2007 to 2011, "3,332 tons of manure was reportedly
26 applied to the Tosta Dairy cropland and a total of 10,445 tons of manure was exported
27 offsite."
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1 **Prosecution Team Response to Question 3:** The calculated economic benefit for
2 avoided manure management in Exhibit 26 assumes that all manure will be land applied
3 to dairy cropland. As explained above, the Prosecution Team has provided a revised
4 volume calculation that removes the liquid content of the manure. Although other options
5 involving the application of manure in slurry form to cropland are often used at dairies, the
6 Nutrient Management Plan for the Dairy calls for the manure to be applied in solid form.

7 The calculation in Exhibit 26 does not take into consideration the manure
8 reportedly applied or exported from 2007 to 2011. The Prosecution Team has revised the
9 compliance action cost to reduce the amount of manure to be removed by 12,987 cubic
10 yards, which is the quantity of manure identified in the 2007-2011 Annual Reports as the
11 combined amount of manure exported and land applied to dairy cropland. This update is
12 reflected in the attached BEN Result calculation.

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14 **Advisory Team Question 4:** Should all of the manure management costs be considered
15 avoided costs as opposed to delayed costs (see Enforcement Policy, at p. 20), or should
16 the management cost of the manure that remains onsite be considered a delayed cost if
17 the Discharger remains responsible for managing that manure according to the terms of
18 the Dairy General Order and the Cleanup and Abatement Order? If the costs should be
19 considered delayed costs, please provide an economic benefit estimate for those delayed
20 costs, as well as the estimated on-site waste amounts assumed by the economic benefit
21 estimate, along with an estimate of the avoided costs, if any.

22 **Prosecution Team Response to Question 4:** The BEN model considers annual costs
23 as avoided costs by default. The reason is that the activity and the costs associated with
24 the activity need to be incurred in that time period to comply with environmental
25 regulations. The Dairy General Order sets forth specific requirements and prohibitions so
26 that the collection, treatment, storage or disposal of waste does not result in a discharge
27 that could cause degradation of surface water or groundwater or that results in the
28 contamination or pollution of surface or groundwater (Dairy General Order Prohibition

1 A.4). A frequent argument is made by Dischargers that annual costs can be delayed if the
2 costs are eventually incurred. In the case of removing accumulated manure in
3 subsequent years compliance is not achieved where Dischargers have an ongoing
4 requirement to manage waste, including regularly removing manure, usually more
5 frequently than annual removal, to apply as fertilizer or to haul off-site, in compliance with
6 the Dairy General Order. The removal of accumulated manure in subsequent years
7 cannot be considered as “delayed.” The BEN Help System is very clear on this point,
8 “[c]redit is given only for annually recurring cost savings that are both documented and
9 directly related to compliance.”¹ Therefore, the management cost of manure is not a
10 delayed cost.

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12 Dated: 19 July 2013

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14 [originally signed by Vanessa Young]
15 Vanessa Young
16 Attorney for Regional Water Quality Control
17 Board, Central Valley Region Prosecution Team
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27 _____
28 ¹ The BEN Help System, Working with Runs, Compliance Costs Components, Annually Recurring Costs.