Regional Water Quality Control Board
Central Valley Region

Response to Written Comments for California Dairies, Inc., Los Banos Foods, Inc., Merced County,
20 April 2007 Tentative Waste Discharge Requirements

Regional Water Quality Control Board, Central Valley Region (Regional Water Board) staff circulated on 20 April Tentative Waste Discharge Requirements (NPDES Permit No. CA0082082) (TWDRs) for California Dairies, Inc., Los Banos Foods, Inc (CDI). This document contains responses to written comments on the TWDRs received on 21 May 2007 from Quad Knopf, consultant for California Dairies, Inc., and on 19 May 2007 from California Sportsfishing Protection Alliance (CSPA).

Comments from the CDI and CSPA are summarized below followed by the responses of the Regional Water Board staff.

(CDI) COMMENTS

CDI – COMMENT NO. 1: CDI notes that in Section IV, A, 2 Table 7, the units for chromium VI and copper are incorrect.

RESPONSE: The units have been corrected.

CDI – COMMENT NO. 2. CDI notes that in Section VI, C, 1, c and Attachment F, V, B, 1, a., are inconsistent with respect to the constituents included in the pollution prevention plan.

RESPONSE: The Fact Sheet has been corrected.

CDI – COMMENT NO. 3. CDI requests that the progress reports associated with the compliance schedule for achieving compliance with final effluent limitations for chromium VI and copper be required annually, not semi-annually.

RESPONSE: The change has not been made. The task is not burdensome and the reporting frequency is appropriate to keep Regional Water Board staff apprised of CDI's progress.

CDI – COMMENT NO. 4. CDI requests that daily monitoring of settleable solids and weekly monitoring of total suspended solids be reduced to once a month.

RESPONSE: The change has not been made. Both tests are inexpensive and provide an indication of whether or not slimes and other materials are being generated in the cooling process and then sloughing off and entering the discharge. Settleable solids can easily be performed by CDI staff. The Monitoring and Reporting Program (MRP) now allows CDI, after one year of monitoring for these constituents, to request a reduction in monitoring frequency that could be approved by the Executive Officer.

CDI – COMMENT NO. 5: CDI requests minor changes to the Fact Sheet Facility Description.

RESPONSE: The requested changes have been made.

CALIFORNIA SPORTSFISHING PROTECTION ALLIANCE (CSPA) COMMENTS

CSPA COMMENT NO. 1: CSPA states that proposed permit interim limitations for chromium VI and copper are extraordinarily high and unacceptable.

RESPONSE. See Response to CDI – Comment No. 1.

CSPA COMMENT NO. 2: CSPA states that, even if the proposed interim limitations for chromium VI and copper represent a typographical error, the corrected limits will cause toxicity to aquatic organisms. CSPA goes on to state chromium and copper are likely additives to the cooling towers for corrosion and algae growth control and the use of these chemicals can be eliminated. The Discharger can comply immediately, without the need for toxic discharges to continue, by eliminating the use of the toxic chemicals or by ceasing the discharge.

RESPONSE: As described in Fact Sheet section II, Facility Description, the discharge is comprised solely of single-pass, non-contact cooling waters from pasteurizing processes and evaporators; the discharge is not associated with cooling tower discharges. CDI does not add algal growth control chemicals to the cooling water. Self-monitoring data (Attachment 1) indicates that chromium, copper, and zinc originate from the CDI's source water well. Absent cessation of discharge, immediate compliance is infeasible. Requiring CDI to immediately cease this ongoing discharge without first providing it a reasonable opportunity to comply with final effluent limitations for copper and chromium VI would require CDI to shut down operations or discharge to the City of Los Banos sanitary sewer. Discharge to the City would incur daily fines, as the City has prohibited discharge of this "clean" water to its sanitary sewer system. The *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP) allows the use of interim limits when a discharger submits a justification that demonstrates immediate compliance is not feasible; CDI has submitted such a justification. While policy allows more time, CDI has looked into the matter and recently notified Regional Water Board staff that it intends to eliminate the cooling water discharge within the next few months by installing a recirculating cooling tower.

CSPA COMMENT NO. 3: CSPA states the proposed Permit lacks mass based effluent limitations, as required by Federal Regulations and technical advice of EPA, citing 40 CFR 122.45(f). The regulation requires that all pollutants in NPDES permits have limits, standards, or prohibitions expressed in terms of mass with three exceptions, including one for pollutants that cannot be expressed appropriately by mass. CSPA knows mass-based limits can be calculated and believes them critically important to this industrial facility which can control the mass of added chemicals to the cooling tower waste stream.

RESPONSE: As described above, there is no cooling tower waste stream associated with the proposed discharge. CDI does not add chemicals containing copper and chromium IV to its discharge. Further, 40 CFR 122.45 (f) states:

> *Mass limitations.* (1) All pollutants limited in permits shall have limitations, standards or prohibitions expressed in terms of mass except:
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> ***
>
> (ii) When applicable standards and limitations are expressed in terms of other units of measurement; …

In the case of chromium VI and copper, the appropriate California Toxics Rule criteria are expressed in terms of concentration. Mass limits for these constituents are not necessary have not been added.

CSPA COMMENT NO. 4: CSPA states the proposed permit contains an effluent limitation for electrical conductivity (EC) that has no technical or regulatory basis and is not protective of the beneficial uses of the receiving stream contrary to the Basin Plan and Federal Regulations. CSPA states the effluent limits violate the Chemical Constituent Water Quality Objective in the Basin Plan because the proposed limit of 1074 exceeds drinking water Secondary MCLs for EC and the 700 umhos/cm recommended in *Ayers R.S. and D.W. Westcott, Water Quality for Agriculture, Food and Agriculture Organization of the United Nations – Irrigation and Drainage Paper No. 29, Rev. 1, Rome (1985*) as protective of salt sensitive crops. CSPA states the discharge increases EC to levels adversely affecting the agricultural beneficial use.

CSPA suggests that the Basin Plan Salt and Boron TMDL definition of low priority NPDES point discharges is applicable to municipal discharges with less control of the salt concentrations in their influent waste stream, not industrial dischargers where control and compliance is immediately achievable. CSPA states that CDI can control the EC levels in the discharge by limiting recirculation of cooling tower flows and by controlling chemical additives.

RESPONSE: As described on page 5 of the Fact Sheet, the proposed EC effluent limitation was calculated using the methodology employed by USEPA to develop national technology-based effluent limits for point source categories. The limit caps CDI's effluent EC at current levels. The proposed limit does not increases the EC of the discharge. Existing Order No. 5-01-131 limits the EC of the discharge to that of the source water, a combination of well #1 and poorer quality well #3. As well # 3 is no longer used for source water, the proposed performance based limit is more stringent than the limit in Order No. 5-01-131.

The Secondary MCLs for EC do not apply to the discharge as the San Luis Canal, listed in the Basin Plan, does not have a designated beneficial use of MUN.

As described on Fact Sheet page F-5, Regional Water Board staff do not have enough information (e.g., the types of crops grown downstream of the discharge, irrigation methods, the quality and quantity of water in the San Luis Canal) to formulate a water quality based effluent limitation for EC. Regardless, the Basin Plan contains a Salt and Boron TMDL that CDI will have to meet. Given this, the proposed TWDRs contain the performance based EC limit and require CDI to submit work plans to initiate a Salinity Evaluation and Minimization Study and later to conduct a TMDL Compliance Study.

The Basin Plan Salt and Boron TMDL does not differentiate between municipal and industrial users. There are no cooling tower discharges associated with the CDI discharge.

CSPA COMMENT NO. 5: CSPA states the proposed Permit does not contain an effluent limitation for zinc in violation of federal Regulations and the California Water Code. CSPA notes a maximum concentration for zinc exceeded the water quality standard and attributes it to cooling tower chemical additives and galvanized metals.

RESPONSE: Again, the discharge is not from a cooling tower. The zinc in the discharge is in the same range as the facility's source water, which makes it the primary if not the sole source. Post-modification effluent sampling for zinc has been well below the water quality standard except for the single result, which is an order of magnitude higher than other measurements taken from the effluent and source water, both pre- and post- modification. Nonetheless, the proposed Order requires CDI to monitor its effluent monthly for zinc and includes a reopener that allows the Regional Water Board to reconsider the need for effluent zinc limits.

CSPA COMMENT NO. 6: CSPA states the proposed TWDRs contain an inadequate antidegradation analysis.

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RESPONSE: Compliance with State and federal antidegradation requirements is described on page F-10 of the Fact Sheet, Section III.C.3. Due to process modifications, the discharge authorized by the proposed Order is of better quality with respect to concentration and mass emission rates and of lower volume than that previously authorized by the Regional Water Board as consistent with State and federal antidegradation policies. Thus, a detailed antidegradation analysis is not necessary. The exception may be for pollutants specifically addressed as potential or future problems elsewhere in this document (chromium VI, copper, selenium, toxicity, EC, and boron). Regardless of whether these may be less in concentration or mass than previously discharged, either (1) they threaten to cause exceedance or to contribute to an exceedance of a water quality objective or (2) available data is currently inadequate to establish with a reasonable degree of certainty that they do not. The proposed TWDRs require monitoring and studies in accordance with time schedules to address the lack of data and resolve the uncertainty of the impact of these pollutants. Further, it contains provisions to reopen the TWDRs and modify the effluent limitations if determined to be necessary.

CSPA COMMENT NO. 7: CSPA states the proposed TWDRs are based on an incomplete Report of Waste Discharge (RWD) and the permit should not be issued until the discharge is fully characterized and a protective permit can be written. The reasonable potential analysis Summary does not contain a complete list of California Toxics Rule (CTR), National Toxics Rule (NTR), drinking water maximum contaminate levels (MCLs) and other pollutants, which would provide evidence to prove that the Regional Water Board is basing the proposed TWDRs on adequate information.

RESPONSE: CDI submitted a RWD for renewal of NPDES Permit No. CA0082082 on 22 December 2005. The RWD included a complete State Form 200 and complete NPDES Form 1 and 2C for the proposed discharge of non-process, non-contact cooling water. CDI

previously submitted on 29 July 2001, and 22 April 2002 priority pollutant data for its combined process water and non-contact cooling water discharge. It again submitted priority pollutant data for its combined discharge on 5 July 2005, as required by MRP No. 5-01-131. CDI also submits monthly chromium VI data and quarterly zinc and copper data, as required by MRP No. 5-01-2001.

Attached tables display data that staff considered in drafting the proposed Order; For priority pollutants, only detectable results are displayed. The Fact Sheet now describes in more detail the data used to conduct the reasonable potential analysis for the discharge. The data is sufficient for the Regional Water Board to adopt the proposed TWDRs.

Table 1. Post Modification Data				
	Copper (ug/L)		Zinc (ug/L)	
Date	Roger's Sump (Effluent)	Well # 1	Roger's Sump (Effluent)	Well # 1
4/3/2006	100	<100	1030	110
7/24/2006	100	<100	100	<100
10/3/2006	100	<100	100	<100
1/22/2007	150	20	60	30

Table 2. Post Modification Data		
Chromium (VI) (ug/L)		
Date	Well # 1	Roger's Sump (Effluent)
3/1/2006		29
4/1/2006	36	29
5/1/2006		29
6/1/2006		28
7/6/2007	26	18
8/1/2006		2.3
9/1/2006		2.4
10/1/2006	28	3.2
11/1/2006		4.1
12/1/2006		4
1/1/2007	26	8
2/1/2007		26

Table 3. EC Data (umhos /cm)

Date	Roger's Sump (Effluent)
7/1/2005	1,020
8/1/2005	1,087
9/1/2005	1,053
10/3/2005	1,078
11/1/2005	990
12/1/2005	1,076
1/5/2006	1,002
3/1/2006	1,056
4/1/2006	983
5/1/2006	1,012
6/1/2006	1,000
7/6/2006	998
8/1/2006	1,050
9/1/2006	1,009
10/1/2006	940
11/1/2006	993
12/1/2006	850
1/1/2007	981
2/1/2007	713

Table 4. Source Water Priority Pollutant Data

		3/13/2002	6/4/2001	1/8/2002	7/1/2002	10/7/2002	1/6/2003	4/7/2003	10/6/2003	10/6/2003	7/25/2003	1/5/2004	4/5/2004	7/6/2004	10/4/2004	1/3/2005	4/4/2005	7/5/2005
Inorganics																		
Analyte	**Units**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Arsenic (As)	ug/L	4	4	5	11	25	10			9	10	10	10	10	10	10	14	
Chromium-Hexavalent (Cr+6)	ug/L	2.8	0.5															
Chromium-Total (Cr)	ug/L	2	16	15	27	38	34			26	27	29	31	27	27	31	28	
Mercury	ug/L	ND	0.2															
Nickel	ug/L	ND	20															
Selenium (Se)-Total	ug/L	0.73 DNQ	ND															
Copper (Cu)	ug/L	ND	9	< 50	200	100	< 50		60	70	60	< 10	< 10	< 10	< 10	< 10	10	< 100
Zinc	ug/L			< 50	300	200	140		130	300	130	100	70	< 10	50	260	170	< 100
Flow	mgd	12.9	39.1															
Hardness	mg/L	280	180															
pH	STD	7.8	7.6	7.3	7.5	7.8	7.8	7.7	8	8	7.9	8	7.9	7.8	8	7.9	8	7.8
Conductivity	umhos/cm			998	923	937		970	929	914	950	958	965	994	999	980	962	950
Nitrate as NO3	mg/L			22.1	18.9	20.3	21.7	17.8	19.5	20.2	19.4	18.7	18.9	19	21.2	18.1	21.1	
Ammonia-N	mg/L			< 0.5	< 0.1	< 0.1	< 0.1	0.3	0.7	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	
Sulfate	mg/L			103	99.2	95.3	87.7	94.6	92.7	85.6	92	86.4	94.5	< 0.3	76.3	82.4	85	
TDS	mg/L			648	672	625	638	630	646	638	630	608	625	645	650	609	624	
TSS	mg/L								< 0.1							< 0.1		
BOD									< 1									
Total Alkalinity	mg/L			252	214	212	212	215	175	222	224	214	228	222	228	209	223	216
Chloride	mg/L			152	130	130	125		122	126	131	125	131	133	131	123	133	134
Boron	mg/L			0.9	0.6	1.1	0.65	1.9	2	2	2.2	2.3	1.6	72.2	0.56	0.62	0.71	0.6
Calcium (Ca)	mg/L	57		69.7	73	72.5	64.4	70.5	70.4	70.2	74.2	71	73.8	67.5	72.6	79.4	72.8	70.4
Magnesium (Mg)	mg/L	34		29.5	42.3	40.1	37.7	39	41	39.8	43	41.4	43.3	78.8	41.9	44.5	42.1	40.5
Sodium	mg/L			68.5	84.5	88.9	74.8	80.3	87.4	80.6	83.3	79.9	81.3	73.4	76	83.5	80.9	76.3
Potassium	mg/L			2.1	2.2	14	< 0.05	4.2	4.7	4	< 0.01	3.2	2.3	30.1	2.6	3	3.3	2.7
Total Phosphorus	mg/L			0.04	0.1	0.3	< 0.01	< 0.01	0.1	0.13		< 0.01	< 0.01	2.6	< 0.01	< 0.01	0.05	0.1

Table 5. Receiving Water Priority Pollutant Data

Inorganics		Date Sampled: 3/13/2002			Date Sampled: 6/04/01			Date Sampled: 3/13/2002			Date Sampled: 6/04/01		
Analyte	**Units**	**Result**	**MDL**	**ML**	**Result**	**MDL**	**ML**	**Result**	**MDL**	**ML**	**Result**	**MDL**	**ML**
Arsenic (As)	ug/L	4	0.2	2	4	0.2	2	4	0.2	2	4	0.2	2
Chromium-Hexavalent (Cr+6)	ug/L	2.8	0.2	0.2	0.5	0.2	1	2.8	0.2	0.2 T	0.5	0.2	1
Chromium-Total (Cr)	ug/L	2	0.1	1	16	0.1	1	2	0.1	1	16	0.1	1
Mercury	ug/L	ND		0.0005	0.2	0.0002	0.0005	ND		0.0005	0.2	0.0002	0.0005
Nickel	ug/L	ND	0.05	10	20	0.5	10	ND	0.05	10	20	0.5	10
Selenium (Se)-Total	ug/L	0.73 DNQ	0.452	5	ND	0.5	2	0.73 DNQ	0.452	5	ND	0.5	2
Copper (Cu)	ug/L	ND	0.5	5	9	0.5	5	ND	0.5	5	9	0.5	5
Zinc	ug/L												
Flow	mgd	12.9			39.1			12.9			39.1		
Hardness	mg/L	280		1	180			280		1	180		
pH	STD	7.8			7.6			7.8			7.6		
Conductivity	umhos/cm												
Nitrate as NO3	mg/L												
Ammonia-N	mg/L												
Sulfate	mg/L												
TDS	mg/L												
TSS	mg/L												
BOD													
Total Alkalinity	mg/L												
Chloride	mg/L												
Boron	mg/L												
Calcium (Ca)	mg/L	57	0.01	0.1				57	0.01	0.1			
Magnesium (Mg)	mg/L	34	0.025	0.1				34	0.025	0.1			

Table 6. Roger's Sump Effluent Priority Pollutant Data

		3/13/2002	6/4/2001	1/8/2002	7/1/2002	10/7/2002	1/6/2003	4/7/2003	10/6/2003	7/25/2003	1/5/2004	4/5/2004	7/6/2004	10/4/2004	1/3/2005	7/5/2005
Inorganics																
Analyte	**Units**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Arsenic (As)	ug/L	8	9													
Chromium-Hexavalent (Cr+6)	ug/L	23	27	26	27		25			18		12		6.8	16	
Chromium-Total (Cr)	ug/L	24	28													
Mercury	ug/L	ND	0.02													
Nickel	ug/L	ND	ND													
Selenium (Se)-Total	ug/L	4	ND													
Copper (Cu)	ug/L	ND	ND	< 50	< 100	100	< 50		60	80	< 10	40	< 10	< 10	50	< 100
Zinc	ug/L			< 50	400	200	390		130	200	130	80	< 10	270	280	< 100
Flow	mgd	0.655	0.676													
Hardness	mg/L	390	380													
pH	STD	7.4	7.7	7.3	7.5	7.9	8.1	7.8	8	7.9	8.1	8.1	8	8.1	8	8
Conductivity	umhos/cm			976	938	998		980	929	1030	1002	999	1032	1049	1047	1020
Nitrate as NO3	mg/L			18	17.7	20.3	23.6	18.8	19.5	19.8	19.4	18.5	19.1	22.5	20.9	
Ammonia-N	mg/L			< 0.5	< 0.1	< 0.1	< 0.1	0.4	0.7	< 0.1	< 0.1	0.1	< 0.1	0.1	< 0.1	
Sulfate	mg/L			85	100	98.8	93.8	106	92.7	101	95.2	91.7	< 0.3	99.8	85.8	
TDS	mg/L			664	687	635	670	670	646	680	640	643	673	680	668	
TSS	mg/L				4.5	1	1	6	< 0.1	< 0.1	< 0.1	< 0.1	3	< 0.1	< 0.1	
BOD					< 1	< 1	< 1	< 1	< 1		< 1				ND	< 1
Total Alkalinity	mg/L			226.8	223	219	222	227	175	240	237	234	235	239	234	237
Chloride	mg/L			115	134	132	124		122	136	130	131	133	135	135	138
Boron	mg/L			0.9	0.7	1.1	0.78	2	2	2.2	2.1	1.6	72.4	0.64	0.66	0.59
Calcium (Ca)	mg/L	80		72.2	74.5	68.8	74.1	76	70.4	80.1	71.2	74.8	69.2	79.7	75.4	74.2
Magnesium (Mg)	mg/L	46		38	43.1	38	38.9	40.9	41	46.5	40.8	42.9	85.5	46.6	42.7	41.9
Sodium	mg/L			76	85	81.1	80	92.5	87.4	96.1	83.5	88.1	80.3	87.5	89.1	82.3
Potassium	mg/L			1.5	4.6	15.7	< 0.05	4.1	4.7	< 0.01	3.2	3.5	30.8	2.8	4	2.9
Total Phosphorus	mg/L			0.06	0.1	0.3	< 0.01	< 0.01	0.1		< 0.01	< 0.01	2.5	< 0.01	< 0.01	0.2
Iron	mg/L			< 0.1												
Manganese	mg/L			< 0.01												
OH Alkalinity	mg/L			< 1												
CO3 Alkalinity	mg/L			< 1												
HCO3 Alkalinity	mg/L			276.7												