Attachment 2

Water Quality Calculations

Pinnacle Foods Corp., DE 0000000
Outfall 001
Reported in Application

Form 2C Number		Pollutant (26-Jun-08 01:13 PM)	Max. Ce (ppm)	Back-ground Conc., Cs (ppm)	Intake Conc. Ci (ppm)	WLA for Effluent Conc.,Ce, (ppm)	Limit or Monitoring Needed?	Limiting Criteria	Avg. Monthly Limit (ppm)	Max. Daily Limit (ppm)	Ce as % of WLA	Monthly Average Loading (lb/day)	Monthly Average Loading (kg/day)	Daily Maximum Loading (lb/day)	Daily Maximum Loading (kg/day)
a.	s	BOD	16			30	Monit.	Tech	30	45	53%	150.21	68.1337539	225.315	102.2006309
d.	s	TSS	25			30	Monit.	Tech	30	45	83%	150.21	68.1337539	225.315	102.2006309
e.	s	Ammonia (as N)	1.99												
f.	s	Flow (mgd)	0.588												
i.	s	pH, minimum (SU)	6.95			6.5	Limits	Tech			107%	----	#VALUE!	----	#VALUE!
i.	s	pH, maximum (SU)	8.03			9	Monit.	Tech			89%	----	#VALUE!	----	#VALUE!
f.	s	N, Nitrate-Nitrite	0.275												
g.	s	N, Total Organic Nitrogen	3.46												
i.	s	Phosphorous	1.42												

Note: "?" are assumed to be systemic toxicants since more restrictive dilution is used.

Data Storage Filename:	C:\MyFiles\Vlasic\2008PreNot\[VlasicSWQS.2003_Stds.xls]Facility_Info

SCREENS NPDES APPLICATIONS FOR POTENTIAL PROBLEM POLLUTANTS

26-Jun-08 01:17 PM

Facility	Pinnacle Foods Corp.
Outfall	001
NPDES Permit No.	DE 0000000
Water Quality Model Type:	Estuary

Choose criteria by entering a "1" in column "C" ("0" to delete criteria):

Federal ELG's	0	40 CFR 400-499
De. State Technology-based Limits	1	RGCWP, ¶8.03(b)
Fresh Acute	1	
Chronic	1	
Marine Acute	1	
Chronic	1	
Fish & Water Ingestion	1	
Fish Ingestion Only	1	
~~Fish & Shellfish Ingestion~~	~~1~~	
Water Hardness at End-of-pipe	100	as ppm of CaCO3
Water Hardness Instream	80	as ppm of CaCO3
pH at edge of acute mixing zone	7	SU (pH's needed here only if
pH at edge of chronic mixing zone	7	SU pentachloro-phenol is present)

Permitted Discharge Flow Rate (MGD)	0.60	Hardness @ emz
Dilution Factors:	No Decay	(ppm as CaCO3)
Acute Mixing Zone	1.00	100.00
Chronic Mixing Zone	1.41	94.18
Farfield, Systemic Pollutants	2.17	89.22
Farfield, Carcinogenic Pollutants	4.56	84.39

Default Values for Requiring Monitoring:

Number of Samples	1
Coefficient of Variation	0.60
Confidence Level	99%
Probability Basis	99%
Std. Deviation	0.555
Reasonable Potential Mult. Factor	13.2

Default Values for Calculating Limits:

No. of Samples for Compliance M	4	Z Score:
Coefficient of Variation	0.60	----------
Confidence Level for Calculating L	99%	2.326
Probability Basis, Avg. Limits	95%	1.645
Probability Basis, Max. Limits	99%	2.326
Std. deviation	0.555	

Outfall 001 Dilution Factors (Estuary)

Pinnacle Foods Corp., NPDES #DE 0000736				
Water Hardness at End-of-pipe	80	as ppm of CaCO3		
Water Hardness at Edge of Mixing Zone	100	as ppm of CaCO3		
Qup, Upstream advective river flow (7Q10)	0.66	cfs		
Factor to convert 7Q10 to 30Q5	0.61	gives	1	cfs
Factor to convert 7Q10 to 50% Flow	0.20	gives	3	cfs
Chronc Mixing Zone				
Allocated Mixing Zone (% of stream width)	25%	%		
Qupc, Qup x (%Allocation)	0	cfs		
Qw, Effluent flow	0.600	MGD	0.9276	cfs
Qc = [Qupc] + [Qw x 1.546]	1	cfs		
E, Longitudinal dispersion coefficient	5.00	mi^2/day	--From US attainability document for estuaries	
A, Cross-sectional area of estuary	169,000	ft^2	Outfall Wetted Length	6 in
Stream width	6,600	ft	Outfall Wetted Width	6 in
Xchr, Distance to edge of chr. mix zone	1,650	ft	Outfall Wetted Area	36 in²
Outfall pipe diameter	6.77	in	<<==Equivalent Diameter	6.77 in
Outfall pipe diameter, d	0.56	ft		
Acute Mixing Zone				
Local water depth	15	ft		
Discharge Length Scale	0.5000	ft		
Distance to Edge of Chr. Mixing zone	1650	ft		
5 x Local Water Depth	75	ft		
50 x Discharge Length Scale	24.9990	ft		
1/10 Chr. Mixing zone	165	ft		
Xac, Distance to Edge of Acute Mixing zone	24.99897	ft		
Fraction of 7Q10 flow in Ac. Mixing zone	0.38%			
Qupa, Flow allocated to acute Mixing	0.0025	cfs		
Qa = [Qupa] + [Qw x 1.546]	0.9301	cfs		

Model	Max. Cw (mg/l)	Upstream Conc., Cup (mg/l)	Decay Rate, k (1/hr)	Concentration @ Edge of Mixing Zone: Aquatic Life Acute (mg/l)	Aquatic Life Chronic (mg/l)	Human Health Systemic (mg/l)	Human Health Carcinogen (mg/L)	Dilution Factor @ Edge of Mixing Zone: Aquatic Life Acute	Aquatic Life Chronic	Human Health Systemic	Human Health Carcinogen
Ac & Chr: turbulent jet	1	0	0	0.0728	0.0011	0.4616	0.2194	13.74	906.65	2.17	4.56
Ac & Chr: flood & ebb	1	0	0	0.9973	0.8490	0.4616	0.2194	1.00	1.18	2.17	4.56
Weighted avg.: slack, flood & ebb	1	0	0	0.8432	0.7077	0.4616	0.2194	1.19	1.41	2.17	4.56
Weighted avg.: slack, flood & ebb	1	0	0	0.8432	0.7077	0.4616	0.2194	1.19	1.41	2.17	4.56
Minimum Dilutions				0.0728	0.0011	0.4616	0.2194	1.00	1.18	2.17	4.56
Dilution Factors Used in Calculations:								**1.00**	**1.41**	**2.17**	**4.56**

Attachment 3

Nutrient Offset Plan Summary

Pinnacle Foods Corporation - Nutrient Offset Plan Summary (2003 - 2007)

Year	Total N			Total P		
	Annual Offset (lbs/year)	Annual Discharge (lbs/year)	Offset/Discharge Ratio	Annual Offset (lbs/year)	Annual Discharge (lbs/year)	Offset/Discharge Ratio
2003	8474	2142	3.956	1442	129	11.18
2004	8764	2508	3.494	2245	161	13.94
2005	6820	4032	1.691	1987	254	7.823
2006	6818	3511	1.942	1412	362	3.901
2007	6335	4873	1.3	2063	187	11.03
Average	7442.2	3413.2	2.4766	1829.8	218.6	9.5748

Nutrient Offset Plan Summary

Pinnacle Foods Corporation NPDES Permit

CY 2001 - 2008

NITROGEN

updated 2/14/08	Original Offset Goals	ACTUAL **2001**	ACTUAL **2002**	ACTUAL **2003**	ACTUAL **2004**	ACTUAL **2005**	ACTUAL **2006**	ACTUAL **2007**	ACTUAL **2008**	Avg
Special Condition #7										
a. Eliminate corn production	5495	5495	5495	5495	5495	5495	5495	5495	5495	5495 ✓
b. Plant & maintain reed canary grass	1950	1161	823	893	2059	1532	271	1551		1167 ✓
c. nutrient tx of groundwater via WWT	6164	3465	4443	4801	3988	3803	4849	4744		
deduct effluent discharge	1711	1217	1967	2125	2242	3327	3306	4814		
remediation	4453	2248	2476	2676	1746	476	1543	-70	0	1029
deduct cooling water sprayed		-470	-483	-590	-536	-683	-491	-641		
OVERALL NUTRIENT OFFSET	11898	8434	8311	8474	8764	6820	6818	6335	5495	7708 ✓

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PHOSPHORUS

Original Offset Goals	ACTUAL **2001**	ACTUAL **2002**	ACTUAL **2003**	ACTUAL **2004**	ACTUAL **2005**	ACTUAL **2006**	ACTUAL **2007**	ACTUAL **2008**	Avg
1225	1225	1225	1225	1225	1225	1225	1225	1225	1225
420	348	247	268	1022	847	429	853		573 ~~442~~
78	129	109	103	144	157	123	187		
196	82	209	154	139	227	346	174		(-) 76
-118	47	-100	-51	5	-70	-223	13	0	
					-15	-19	-28	-27	
1527	1526	1372	1442	2252	1987	1412	2063	1198	1722

Pinnacle Foods Corporation - Nutrient Offset Plan Summary (Effluent Nutrient Loads vs. Nutrient Offset)

	Date	NO3 Load Ave Daily	NO2 Load Ave Daily	TKN Load Ave Daily	Total N Load Ave Daily	Total N Load Ave Monthly	Total N Annual Offset
2003	1/31/2003	0.061	0.03	1.559	1.65	51.15	
	2/28/2003	0.06	0.06	3.936	4.056	113.568	
	3/31/2003	0.696	0.07	4.109	4.875	151.125	
	4/30/2003	0.088	0.045	4.436	4.569	137.07	
	5/31/2003	0.184	0.092	2.949	3.225	99.975	
	6/30/2003	0.101	0.101	3.08	3.282	98.46	
	7/31/2003	0.404	0.239	14.72	15.363	476.253	
	8/31/2003	0.391	0.196	9.423	10.01	310.31	
	9/30/2003	0.245	0.123	6.424	6.792	203.76	
	10/31/2003	0.244	0.122	7.844	8.21	254.51	
	11/30/2003	0.13	0.065	2.86	3.055	91.65	
	12/31/2003	0.136	0.068	4.772	4.976	154.256	
					Annual Total	2142.087	8474
2004	1/31/2004	0.244	0.087	7.06	7.391	229.121	
	2/29/2004	0.065	0.033	2.57	2.668	74.704	
	3/31/2004	0.078	0.039	2.273	2.39	74.09	
	4/30/2004	0.198	0.099	6.7	6.997	209.91	
	5/31/2004	0.294	0.147	9.23	9.671	299.801	
	6/30/2004	0.277	0.138	6.645	7.06	211.8	
	7/31/2004	0.348	0.174	8.14	8.662	268.522	
	8/31/2004	0.273	0.136	9.981	10.39	322.09	
	9/30/2004	0.261	0.131	10.31	10.702	321.06	
	10/31/2004	0.122	0.122	5.718	5.962	184.822	
	11/30/2004	0.185	0.093	5.388	5.666	169.98	
	12/31/2004	0.172	0.086	4.312	4.57	141.67	
					Annual Total	2507.57	8764
2005	1/31/2005	0.179	0.09	7.33	7.599	235.569	
	2/28/2005	0.082	0.041	3.089	3.212	89.936	
	3/31/2005	0.215	0.108	12.33	12.653	392.243	
	4/30/2005	0.161	0.041	4.93	5.132	153.96	
	5/31/2005	0.277	0.138	10.3	10.715	332.165	
	6/30/2005	0.394	0.245	12.623	13.262	397.86	
	7/31/2005	1.551	0.155	10.587	12.293	381.083	
	8/31/2005	1.344	0.134	15.326	16.804	520.924	
	9/30/2005	1.341	0.134	12.405	13.88	416.4	
	10/31/2005	1.102	0.085	23.937	25.124	778.844	
	11/30/2005	0.617	0.062	6.94	7.619	228.57	
	12/31/2005	0.314	0.031	3.01	3.355	104.005	
					Annual Total	4031.559	6820

Date	Total P Load Ave Daily	Total P Load Ave Monthly	Total P Annual Offset
1/31/2003	0.11	3.41	
2/28/2003	0.215	6.02	
3/31/2003	0.348	10.788	
4/30/2003	1.291	38.73	
5/31/2003	0.24	7.44	
6/30/2003	0.77	23.1	
7/31/2003	0.367	11.377	
8/31/2003	0.196	6.076	
9/30/2003	0.184	5.52	
10/31/2003	0.152	4.712	
11/30/2003	0.156	4.68	
12/31/2003	0.245	7.595	
	Annual Total	129.448	1442
1/31/2004	0.436	13.516	
2/29/2004	0.208	5.824	
3/31/2004	0.094	2.914	
4/30/2004	0.85	25.5	
5/31/2004	1.15	35.65	
6/30/2004	0.665	19.95	
7/31/2004	0.254	7.874	
8/31/2004	0.303	9.393	
9/30/2004	0.193	5.79	
10/31/2004	0.44	13.64	
11/30/2004	0.592	17.76	
12/31/2004	0.096	2.976	
	Annual Total	160.787	2245
1/31/2005	0.305	9.455	
2/28/2005	0.041	1.148	
3/31/2005	0.215	6.665	
4/30/2005	0.231	6.93	
5/31/2005	1.44	44.64	
6/30/2005	0.671	20.13	
7/31/2005	0.969	30.039	
8/31/2005	1.143	35.433	
9/30/2005	0.402	12.06	
10/31/2005	2.245	69.595	
11/30/2005	0.201	6.03	
12/31/2005	0.384	11.904	
	Annual Total	254.029	1987

2006	1/31/2006	0.61	0.076	6.074	6.76	209.56		1/31/2006	0.824	25.544	
	2/28/2006	0.033	0.033	2.315	2.381	66.668		2/28/2006	0.14	3.92	
	3/31/2006	0.123	0.062	6.83	7.015	217.465		3/31/2006	0.716	22.196	
	4/30/2006	0.163	0.081	11.254	11.498	344.94		4/30/2006	0.374	11.22	
	5/31/2006	0.264	0.132	15.466	15.862	491.722		5/31/2006	1.507	46.717	
	6/30/2006	0.305	0.153	10.684	11.142	334.26		6/30/2006	2.838	85.14	
	7/31/2006	0.409	0.205	16.38	16.994	526.814		7/31/2006	2.58	79.98	
	8/31/2006	0.324	0.162	11.55	12.036	373.116		8/31/2006	0.265	8.215	
	9/30/2006	0.345	0.173	7.734	8.252	247.56		9/30/2006	0.173	5.19	
	10/31/2006	0.184	0.184	12.321	12.689	393.359		10/31/2006	0.625	19.375	
	11/30/2006	0.154	0.077	4.73	4.961	148.83		11/30/2006	1.03	30.9	
	12/31/2006	0.163	0.081	4.814	5.058	156.798		12/31/2006	0.764	23.684	
					Annual Total	3511.092	6818		Annual Total	362.081	1412
2007	1/31/2007	0.094	0.047	4.09	4.231	131.161		1/31/2007	0.245	7.595	
	2/28/2007	0.139	0.07	8.078	8.287	232.036		2/28/2007	0.808	22.624	
	3/31/2007	0.091	0.091	7.486	7.668	237.708		3/31/2007	0.587	18.197	
	4/30/2007	0.144	0.072	2.366	2.582	77.46		4/30/2007	0.133	3.99	
	5/31/2007	0.259	0.129	16.65	17.038	528.178		5/31/2007	0.238	7.378	
	6/30/2007	0.146	0.146	23.76	24.052	721.56		6/30/2007	0.607	18.21	
	7/31/2007	0.404	0.202	10.737	11.343	351.633		7/31/2007	0.283	8.773	
	8/31/2007	0.475	0.237	31.7	32.412	1004.772		8/31/2007	0.569	17.639	
	9/30/2007	0.344	0.172	33.5	34.016	1020.48		9/30/2007	0.269	8.07	
	10/31/2007	0.159	0.079	8.14	8.378	259.718		10/31/2007	0.239	7.409	
	11/30/2007	0.084	0.084	5.75	5.918	177.54		11/30/2007	0.159	4.77	
	12/31/2007	0.114	0.048	4.04	4.202	130.262		12/31/2007	2.02	62.62	
					Annual Total	4872.508	6335		Annual Total	187.275	2063
2008	1/31/2008	0.153	0.077	9.806	10.036			1/31/2008	0.353		
	2/29/2008	0.147	0.073	8.09	8.31			2/29/2008	0.264		
	3/31/2008	0.145	0.073	13.05	13.268			3/31/2008	0.406		