ECONOMIC BENIFIT CALCULATIONS

The Morning Star Packing Company, Williams, Colusa County CA. Cooling Pond

Compliance Action (Determine the actions required to comply or to prevent the violation)	One-Time Nondepreciable Expenditure			Annual Cost		Non-Compliance Date[7]	Compliance Date[7]	Penalty Payment Date	Benefit of Noncompliance
	Amount	Date[1]	Delayed?[2]	Amount	Date[1]				
1. File Amended Report of Waste Discharge[3]	$100,000	1/1/2015	N	$0	1/1/2014	10/1/2014	2/18/2016	2/18/2016	**$64,483**
2. Install & Operate 1 DAF Unit[4]	$660,000	11/13/2015	Y	$21,239	1/1/2014	1/1/2015	12/31/2015	2/18/2016	**$31,797**
3. Install & Operate Cooling Tower[5]	$81,930	11/13/2015	Y	$6,907	8/1/2014	1/1/2015	12/31/2015	2/18/2016	**$6,617**
4. Install & Operate 20 Areators[6]	$307,830	11/13/2015	Y	$37,137	1/1/2014	1/1/2015	12/31/2015	2/18/2016	**$32,185**
Totals	**$1,149,760**			**$65,283**					**$135,083**

Cost Index for Inflation:		ECI		ECI	Date of run: 12/20/2015 10:36
Income Tax Schedule:	For-Profit				
Discount/Compound Rate:	6.7%				
Source: USEPA BEN Model:	Version 5.4.0		Status:		
Analyst:	Ghorner				

[1] Date of the cost estimate.

[2] Enter "y" if delayed, and "n" if avoided.

[3] Required 9 month prior to expansion of cooling pond. (M. Okamoto, email to G. Horner 12/18/2015)

[4] ($460,000 per unit) + ($200,000 control unit) = $660,000. (http://www.ecologixsystems.com/system-v-series-daf.php) Electricity for DAF unit: Convert 123 HP to kilowatt = 91.7 Kilowatts x 24 hours perday x 92 days of operation = 202,274 kilowatts hours x $0.1049. (http://www.electricitylocal.com/states/california/sacramento/). (M. Okamoto, email to G. Horner 12/18/2015)

[5] Cooling tower cost is $81,930. Includes all associated freight charges and complete field assembly by CTS factory personnel at the Colusa County job site facility. Electricity for cooling tower: 40 HP converts to 29.82 kilowatts = 29.82 kilowatts x 92 days x 24 hours of operation = 65,843 kilowatt hours x $0.1049. (M. Okamoto, email to G. Horner 12/18/2015)

[6] 20 Aerators x 20 HP = 400 hp = {298 kilowatts x 12 hours (assumes 1/2 operating at one time) x 99 days (Last DO value below 1)*** = 354,024 kilowatt hours x $1049. (M. Okamoto, email to G. Horner 12/18/2015)

[7] Annual costs must be stated as a total for the year even if they occur for only a portion of the year. The time frame stated must then be for a 12 month period even though the costs occur at irregular intervals. BEN calulcates annual cost by multiplying the amount times the interval between the noncompliance date and the complioance date.

The Morning Star Packing Company, Williams, Colusa County CA. Settling Pond

Compliance Action (Determine the actions required to comply or to prevent the violation)	One-Time Nondepreciable Expenditure			Annual Cost		Non-Compliance	Compliance	Penalty Payment	Benefit of Noncompliance
	Amount	Date[1]	Delayed?[2]	Amount	Date[1]	Date[7]	Date[7]	Date	
1. File Report of Waste Discharge[3]	$100,000	1/1/2015	N	$0	1/1/2014	1/1/2011	2/18/2016	2/18/2016	**$75,621**
2. Install & Operate 2 DAF Units[4]	$1,320,000	11/13/2015	y	$160,331	1/1/2014	1/1/2012	12/31/2015	2/18/2016	**$585,409**
3. Install & Operate Rotary Screen[5]	$120,000	11/13/2015	Y	$19,598	8/1/2014	1/1/2012	12/31/2015	2/18/2016	**$66,251**
4. Install & Operate 2 Areators[6]	$22,990	11/13/2015	Y	$13,054	1/1/2014	1/1/2012	12/31/2015	2/18/2016	**$38,104**
Totals	**$1,562,990**			**$192,983**					**$765,385**

Cost Index for Inflation:		ECI		ECI	Date of run: 12/20/2015 10:33
Income Tax Schedule:	For-Profit				
Discount/Compound Rate:	6.4%				
Source: USEPA BEN Model:	Version 5.4.0		Status:		
Analyst:	Ghorner				

[1] Date of the cost estimate.

[2] Enter "y" if delayed, and "n" if avoided.

[3] Required 9 month prior to expansion of settling pond. Howard Hold email to G Horner, 11/18/15.

[4] 2 x ($460,000 per unit) +2 X($200,000 control unit) = $1,320,000. Energy cost: Convert 2X 123 HP to kilowatt = 183 Kilowatts x 24 hours perday x 348 days of operation = 1,510,848 kilowatts/hours x $.1049. Mayumi Okamoto email to G Horner, 12/18/15.

[5] Cost is $120,000 for one Rotoscreen (ScreenMaster RT). Energy Cost: [30 HP converts to Kilowatts] {(22.37 kilowatts)] x (24 hours per day operating) x (348 days of operation) = 186,834 kilowatts/hour hours x $0.1049 = $19,598. Mayumi Okamoto email to G Horner, 12/18/15.

[6] $22,990 for two 10 HP aerators. Energy cost:10 HP x 2 = 20 hp = 14.9 kilowatts x (24 hours per day) x (348 days of operation)= 124,445 kilowatt hours x $0.1049 = $13,054. Mayumi Okamoto email to G Horner, 12/18/15.

[7] Annual costs must be stated as a total for the year even if they occur for only a portion of the year. The time frame stated must then be for a 12 month period even though the costs occur at irregular intervals. BEN calulcates annual cost by multiplying the amount times the interval between the noncompliance date and the complioance date.