

ENGINEERING EVALUATION REPORT
Banking Application Number 8481
Plant Number 15393 – Harbinger Independent Power Fund II

INTRODUCTION

This application is to bank emission reduction credits (ERCs) from the shutdown of the following sources at the facility in Antioch, CA that was previously operated as Gaylord Container (PN 2180). The sources for which Harbinger Independent Power Fund II (Harbinger) wishes to bank ERCs are:

- S-1 #1 Steam Generator Boiler**
- S-32 Silo, No. 1 Starch Storage with Feed System**
- S-33 Silo, No. 2 Starch Storage with Feed System**
- S-34 Silo, No. 3 Starch Storage with Feed System**
- S-46 Sandblast Pot**
- S-47 Paint Spray Area compressor with spray gun**
- S-50 #4 Paper Machine**

These sources were shutdown no later than September 20, 2002. Sources S-46 and S-47 did not operate for at least 3 years prior to that date. Therefore, no ERCs are available from S-46 or S-47, because ERCs are based on actual operation for a 3-year period prior to the completion date of the banking application.

This banking application was submitted on November 3, 2003. This application was complete on receipt of all information that the District requested in our incomplete letter. The date of completion is December 23, 2003.

EMISSION REDUCTION CREDIT SUMMARY

The District's ERC banking rule is Regulation 2, Rule 4. The emission calculation procedure in Section 2-4-601 refers to the emission calculation procedures in the New Source Review rule, which is Regulation 2, Rule 2. For emission reduction credits, the calculation procedure is described in Section 2-2-605. Per Section 2-2-605.1, the baseline period consists of the 3-year period immediately preceding the submittal of a *complete* banking application. Since this application was complete on December 23, 2003, and because the production and fuel usage data in this application has been provided in monthly increments, ***the baseline period for this application is January 2001 through December 2003.***

As part of this application, Harbinger provided summary tables of monthly fuel usage (S-1), material throughput (S-32, 33, 34), and production totals (S-50). Harbinger did not provide actual usage logs, or any other data to substantiate the monthly summaries. Therefore, the District compared the data provided in this application with Annual Update data submitted by Gaylord Container for calendar years 2001 and 2002. Data comparisons are summarized below for each source or set of sources. For any discrepancy, the District used the most conservative data (lower total), yielding the least amount of ERCs.

Table 1 summarizes all ERCs for this banking application.

Table 1 - ERC Summary (TPY)

Source	NOx	PM10	SO2	CO	POC
S-1	17.77	2.57	0.31	0.08	2.34
S-32-34		0.03			
S-50					40.52
Totals:	17.77	2.60	0.31	0.08	42.86

The general ERC calculation procedure, and specific calculations for each source are provided below.

ERC Calculation Procedure

ERCs are calculated using the procedure in Reg. 2-2-605, which is summarized as below.

2-2-605.1 Baseline Period:

The baseline period is the 3-year period immediately preceding the completion date of the banking application. As stated above, the baseline period for this application is Jan. 2001 through Dec. 2003.

2-2-605.2 Baseline Throughput:

The baseline throughput is the lesser of the actual throughput, or the permitted level during the baseline period.

2-2-605.3 Baseline Emission Rate:

The baseline emission rate is the actual emission rate during the baseline period, expressed in the units of mass emissions per unit of throughput (example: lbs per MMBTU, or lb/ton)

2-2-605.4 Baseline Throughput and Emission Rate for Fully Offset Source:

For a source that is fully offset (without using credits from the District's Small Facility Banking Account), the baseline throughput and emission rate are based on permitted levels contained in permit conditions, rather than actual levels during the baseline period. This section applies to source S-1, which was fully offset when permitted under application number 12835.

2-2-605.5 Adjusted Baseline Emission Rate:

The baseline emission rate must be adjusted downward, to meet the most stringent RACT, BARCT or district rules that are in effect, or are contained in the most recent Clean Air Plan.

2-2-605.6 ERC Calculation

ERCs are calculated by multiplying the adjusted baseline emission rate by the baseline throughput, and then subtracting the new permit limit (which is zero for a shutdown source).

S-1 #1 Steam Generator Boiler

Baseline Period: Jan. 2001 through Dec. 2003

Baseline Throughput:

Year	Harbinger (MMBTU)	Annual Update (MMBTU)	Permitted Level (MMBTU)
2001	1716791	1684392	3810000
2002	1450098	1663022	3810000
2003	0	0	2536520*

* 2003 permitted throughput prorated for Jan. 1 through August 31, 2003 (243 days)

NOx and POC emissions from S-1 were fully offset when it was permitted under application number 12835. Therefore, the baseline throughput and emission rates for purposes of calculating NOx and POC ERCs are based on the permit limits (Cond. ID# 11264) that were in effect during the baseline period. The Permit to Operate (P/O) for S-1 was valid through August 31, 2003. On September 1, 2003, the P/O for S-1 lapsed. Therefore, the permitted level for the period Sept. 1 through Dec. 31, 2003 was zero.

NOx / POC Baseline:

$$(3810000 + 3810000 + 2536520 \text{ MMBTU}) / 3 \text{ years} = 3385507 \text{ MMBTU/yr}$$

The remaining pollutants were not offset, so the baseline throughput for calculating PM₁₀, SO₂ and CO ERCs is based on actual throughput.

PM₁₀ / SO₂ / CO Baseline:

$$(1684392 + 1450098 + 0 \text{ MMBTU}) / 3 \text{ years} = 1044830 \text{ MMBTU/yr}$$

Baseline Emission Rate:

Because NOx and POC emissions were fully offset, the emission rate for these pollutants is based on the permit limits in Condition ID# 11264.

For NOx, the emission limit is 9 ppm @ 3% O₂, which is equivalent to 0.0105 lb/MMBTU.

For POC, the permit condition limit is 0.003 lb/MMBTU. However, emission calculations were based on a POC emission factor of 1.4 lb/MM cubic feet, which is equivalent to 0.00138 lb/MMBTU. The amount of POC offsets provided for AN 12835 was based on this lower emission factor. Therefore, the lower emission factor will be used as the baseline emission rate.

Since CO, PM₁₀ and SO₂ emissions were not offset, we use the actual emission rates, rather than the permitted emission rates for these pollutants. Based on a source test that was conducted in 1995, the CO emissions were 0.2 ppmvd @3% O₂. This is equivalent to 1.46E-4 lb/MMBTU. PM₁₀ and SO₂ were not source tested. The emission factors that were used in AN 12835 were from EPA publication AP-42, *Compilation of Air Pollutant Emission Factors*, Table 1.4-1. These factors were 5 and 0.6 lb/MM ft³ for PM₁₀ and SO₂, respectively. These are equivalent to 0.00493 and 5.91E-4 lb/MMBTU for PM₁₀ and SO₂, respectively.

Adjusted Baseline Emission Rate:

Staff did not find any RACT or BARCT emission levels or other rules with more stringent emission limits than the emission rates discussed above. Therefore, the baseline adjusted emission rates are the same as the baseline emission rates above. No RACT-adjustment or BARCT-adjustment is necessary for S-1.

ERC Calculations:

ERCs are calculated by multiplying the baseline throughput by the adjusted baseline emission rate (which in this case is the same as the baseline emission rate).

NOx:

$$(3385507 \text{ MMBTU/yr}) (0.0105 \text{ lb/MMBTU}) / (2000 \text{ lb/ton}) = 17.77 \text{ tons/year NOx}$$

POC:

$$(3385507 \text{ MMBTU/yr}) (0.00138 \text{ lb/MMBTU}) / (2000 \text{ lb/ton}) = 2.34 \text{ tons/year POC}$$

CO:

$$(1044830 \text{ MMBTU/yr}) (0.000146 \text{ lb/MMBTU}) / (2000 \text{ lb/ton}) = 0.08 \text{ tons/year CO}$$

PM10:

$$(1044830 \text{ MMBTU/yr}) (0.00493 \text{ lb/MMBTU}) / (2000 \text{ lb/ton}) = 2.57 \text{ tons/year PM}_{10}$$

SO2:

$$(1044830 \text{ MMBTU/yr}) (5.91\text{E-}4 \text{ lb/MMBTU}) / (2000 \text{ lb/ton}) = 0.31 \text{ tons/year SO}_2$$

S-32 Silo, No. 1 Starch Storage with Feed System

S-33 Silo, No. 2 Starch Storage with Feed System

S-34 Silo, No. 3 Starch Storage with Feed System

Baseline Period: Jan. 2001 through Dec. 2003

Baseline Throughput:

Year	Harbinger (tons)	Annual Update (tons)
2001	2742.3	2730
2002	2022.5	N/A
2003	0	0

N/A – not available

Sources S-32, 33 and 34 were not fully offset when permitted. Therefore, the baseline throughput is the actual throughput. Using the lower of either the Harbinger data or the District's Annual Update data for each calendar year, the baseline throughput is:

$$(2730 + 2022.5 + 0 \text{ tons}) / 3 \text{ years} = 1584.2 \text{ tons/year}$$

Baseline Emission Rate:

Source test data is not available, and AP-42 does not contain an emission factor for these sources. Therefore, staff used the emission factor that was used in the District's emission inventory as the baseline emission rate for S-32, 33 and 34. This factor is 0.04 lb PM (assumed to be 100% PM₁₀) per ton of starch.

Adjusted Baseline Emission Rate:

Staff did not find any RACT or BARCT emission levels or other rules with more stringent emission limits than the emission rate discussed above. Therefore, the baseline adjusted

emission rate is the same as the baseline emission rates above. No RACT-adjustment or BARCT-adjustment is necessary for S-32, 33 or 34.

ERC Calculations:

ERCs are calculated by multiplying the baseline throughput by the adjusted baseline emission rate (which in this case is the same as the baseline emission rate).

PM10:

$$(1584.2 \text{ tons/year}) (0.04 \text{ lb/ton}) / (2000 \text{ lb/ton}) = 0.03 \text{ tons/year PM}_{10}$$

S-46 Sandblast Pot

ERCs are not available for this source, because this source did not operate during the baseline period.

S-47 Paint Spray Area compressor with spray gun

ERCs are not available for this source, because this source did not operate during the baseline period.

S-50 #4 Paper Machine

Baseline Period: Jan. 2001 through Dec. 2003

Baseline Throughput:

Year	Harbinger (MDTFP)	Annual Update (MDTFP)
2001	372956	372953
2002	270020	283326
2003	0	0

MDTFP – machine dried tons finished product

Source S-50 was permitted as a “grandfathered” source under App. No. 2346, and therefore, was not fully offset. Therefore, the baseline throughput is the actual throughput. Using the lower of either the Harbinger data or the District’s Annual Update data for each calendar year, the baseline throughput is:

$$(372953 + 270020 + 0 \text{ MDTFP}) / 3 \text{ years} = 214324 \text{ MDTFP/year}$$

Baseline Emission Rate:

The baseline emission rate for POC is 0.37 lbs per Air Dried Ton of Finished Product. This factor was established in a 1997 study entitled *Volatile Organic Compound Emissions from Non-Chemical Pulp and Paper Mill Sources, Part V, Bulletin No. 740*, by the National Council of the Paper Industry for Air and Stream Improvement (NCASI), Research Triangle Park, NC. This is the same emission factor that the District used to calculate emissions from S-50 in App. No. 2346.

Note that the emission rate above is expressed in terms of *Air* Dried Tons of Finished Product (ADTFP). The baseline throughput data from Harbinger and in the Annual Update submittals is expressed in units of *Machine* Dried Tons of Finished Product (MDTFP). To convert from MDTFP to ADTFP, multiply MDTFP by 1.022.

Adjusted Baseline Emission Rate:

Staff did not find any RACT or BARCT emission levels or other rules with more stringent emission limits than the emission rate discussed above. Therefore, the baseline adjusted emission rate is the same as the baseline emission rates above. No RACT-adjustment or BARCT-adjustment is necessary for S-50.

ERC Calculations:

ERCs are calculated by multiplying the baseline throughput by the adjusted baseline emission rate (which in this case is the same as the baseline emission rate).

POC:

$(214324 \text{ MDTFP/yr}) (1.022 \text{ ADTFP / MDTFP}) (0.37 \text{ lb POC/ADTFP}) / 2000 \text{ lb/ton}$
= 40.52 tons/yr POC

STATEMENT OF COMPLIANCE

Reg. 2-2-605, Emission Calculation Procedures, Emission Reduction Credits:

The ERC calculations were performed in accordance with the procedures outlined in Reg. 2-2-605. ERCs are calculated based on natural gas usage, material throughput or production rates over the 3-year baseline period of January 2001 through December 2003.

Section 2-2-605.5 requires the ERCs to be adjusted for RACT, BARCT or any other District rules in effect or contained in the most recent version of the Clean Air Plan. The District does not currently have a rule that would limit emissions to less than emission rates used to calculate these ERCs. The most recent *plans* are the 2000 Clean Air Plan, and the 2001 Ozone Attainment Plan. Neither of these plans contains a control measure to reduce emissions from paper production facilities. Therefore, it is not necessary to RACT-adjust or BARCT-adjust these ERCs. Staff also reviewed the National Emission Standard for Hazardous Air Pollutants (NESHAP) rule in 40 CFR 63, Subpart S for the Pulp and Paper Industry. This rule does not contain any emission limits for mechanical pulping operations that do not include bleaching.

Reg. 2-4-303, Limitations on Deposits:

Reg. 2-4-303.2 prohibits the banking of ERCs, if the emissions would shift to another source within the District. These emission reductions result from the shutdown of sources at a paper production facility in Antioch, CA. It is unknown if paper production will shift to any other facility located in the Bay Area. District staff requested this information from Harbinger in a letter dated November 26, 2003 (questions 13 – 15). Harbinger did not provide a response to these questions. Without evidence to the contrary, the District will assume that it is possible for the emissions from the shutdown of these sources to shift to another location in the District.

Rather than prohibit these ERCs entirely, the District proposes to restrict these ERCs to be used only to offset emission increases at new or modified paper production facility. This is allowed under Reg. 2-4-302.1. A new or modified paper plant is subject to the new source review requirements of Regulation 2, Rule 2, including Best Available Control Technology (BACT) and

offsets. Since these ERCs may only be used to offset another paper plant, the “net emissions” from paper production will not increase as a result of the approval of these ERCs. Furthermore, a new or modified paper plant will be subject to BACT requirements, which would be at least as restrictive as the emission rates used in this banking application.

If during the Public Comment period for this application, Harbinger provides information confirming that emissions will not shift to another facility located in the District, the District will not impose the permit condition restricting the use of these ERCs to other paper production facilities.

Reg. 2-4-303.5 requires emission reduction credits that were provided from the District’s Small Facility Banking Account (SFBA, previously Small Facility Emissions Bank) to be reimbursed before allowing the banking of ERCs. Staff has searched the District’s Data Bank for a NOx or POC withdrawal from the SFBA for Gaylord Container (PN 2180) and Harbinger (PN 15393). There were no SFBA withdrawals; therefore, no reimbursements are required.

California Environmental Quality Act (CEQA):

ERC banking applications are categorically exempt from CEQA per Reg. 2-1-312.10. The applicant has provided an Environmental Information Form (Appendix H) to satisfy CEQA requirements.

Public Notice and Comment:

Prior to approving ERCs totaling more than 40 tons of a single pollutant, Section 2-4-405 requires the District to publish a Public Notice in a local newspaper indicating our preliminary decision to approve the ERCs. The date of publication begins a 30-day public comment period. The District will consider all comments prior to making a final decision on this application.

CONDITIONS

As discussed in the preceding section of this report, these ERCs will be restricted to be used only to provide offsets for new or modified paper production facilities. The following condition will be imposed on these ERCs:

Condition ID# 21277
Conditions for Banking Application Number 8481
Harbinger Independent Power Fund II

1. Emissions that are banked from the shutdown of sources S-1, S-32, S-33, S-34 and S-50 at Plant No. 15393 (previously Plant No. 2180, Gaylord Container Corp.) shall be used solely as emission offsets for a new or modified source at a paper production facility. (Basis: Reg. 2-4-303.2 demand shift prohibition)

RECOMMENDATION

Staff recommends that the District go out for Public Comment with our Preliminary Decision to issue ERCs to Harbinger Independent Power Fund II in the amounts indicated below. These ERCs will be subject to Condition ID# 21277.

NOx	17.77	Tons per Year
CO	0.08	Tons per Year
PM10	2.60	Tons per Year
SO2	0.31	Tons per Year
POC	42.86	Tons per Year

By: _____
Supervising Air Quality Engineer

March 15, 2004