San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

OCT 28 2013

Steven Sylvester
G-3 Enterprises - Label Division
2612 Crows Landing Road
Modesto, CA 95358

**Re: Notice of Preliminary Decision - Authority to Construct**
**Facility Number: N-3309**
**Project Number: N-1133139**

Dear Mr. Sylvester:

Enclosed for your review and comment is the District's analysis of G-3 Enterprises - Label Division's application for an Authority to Construct for the installation of a printing press, at 2612 Crows Landing Road in Modesto, CA.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. After addressing all comments made during the 30-day public notice and 45-day EPA notice comment periods, the District intends to issue the Authority to Construct. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Mark Schonhoff of Permit Services at (209) 557-6448.

Sincerely,

David Warner
Director of Permit Services

DW:MJS

Enclosures

cc: Mike Tollstrup, CARB (w/ enclosure) via email
cc: Gerardo C. Rios, EPA (w/ enclosure) via email

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# Authority to Construct
# Application Review

Facility Name: G-3 Enterprises

Date: October 16, 2013

Mailing Address: 2612 Crows Landing Road
Modesto, CA 95358

Contact Person: Mr. Feije Slauerhoff
Telephone: (209) 341-3082

Engineer: Mark Schonhoff
Application #: N-3309-25-0
Project #: N-1133139

Deemed Complete: September 30, 2013

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## I. Proposal

The applicant has proposed to receive an Authority to Construct Permit authorizing the installation of a non-heatset, UV type flexographic printing press.

## II. Applicable Rules

2201 New and Modified Stationary Source Review Rule (4/21/11)
2520 Federally Mandated Operating Permits (6/21/01)
4001 New Source Performance Standards (4/14/99)
4002 National Emission Standards for Hazardous Air Pollutants (5/20/04)
40 CFR Part 63 Subpart KK (National Emission Standards for the Printing and Publishing Industry)
4101 Visible Emissions (2/17/05)
4102 Nuisance (12/17/92)
4607 Graphic Arts (12/18/08)
California Environmental Quality Act (CEQA)
CH&SC 41700
CH&SC 42301.6

## III. Project Location

2612 Crows Landing Road
Modesto, CA

The equipment will not be located within 1,000 feet of a K-12 school.

## IV. Process Description

Paper, plastic and other substrates will be web fed into the proposed press where UV curable inks and coatings will be applied. Following their application, the inks and coatings will be cured by exposure to UV light.

## V. Equipment Listing

**N-3309-25-0:**

GRAPHIC ARTS PRINTING OPERATION SERVED BY A NILPETER FA-4 11-COLOR FLEXOGRAPHIC TYPE PRINTING PRESS AND A UV CURING STATION

## VI. Emission Control Technology Evaluation

The applicant is proposing the use of inks and coatings that will cure when exposed to ultraviolet light. Such materials are commonly called "UV curable" and cure by a mechanical reaction as opposed to the more traditional VOC evaporation method. VOC emissions are minimized by all but eliminating evaporative losses.

## VII. General Calculations

### A. Assumptions

Assumptions will be stated as they are made.

### B. Emission Factors

| | |
|---|---|
| $EF_{VOC}$ (inks): | 0.031 lb/gal |
| $EF_{VOC}$ (coatings): | 0.07 lb/gal |
| $EF_{VOC}$ (solvent): | 0.184 lb/gal |

### C. Potential to Emit (PE)

#### 1. Daily PE

| | |
|---|---|
| Ink: | 100 gal/day (applicant) |
| Coatings: | 80 gal/day (applicant) |
| Solvent: | 7 gal/day (applicant) |

| | |
|---|---|
| $EF_{VOC}$ (inks): | 0.031 lb/gal |
| $EF_{VOC}$ (coatings): | 0.07 lb/gal |
| $EF_{VOC}$ (solvent): | 0.184 lb/gal |

$PE_{VOC}$ = (100 gal/day)(0.031 lb/gal) + (80 gal/day)(0.07 lb/gal)
+ (7 gal/day)(0.18 lb/gal) = 10.0 lb/day

### 2. Annual PE

$PE_{VOC}$ = [(100 gal/day)(0.031 lb/gal) + (80 gal/day)(0.07 lb/gal) + (7 gal/day)(0.18 lb/gal)](365 days/yr) = 3,635 lb/yr

## D. Increase in Permitted Emissions (IPE)

### 1. Quarterly IPE

Annual PE: 3,635 lb/yr (908.75 lb/qtr)

The emission profile will include the following:

| | NOx (lb) | SOx (lb) | PM10 (lb) | CO(lb) | VOC (lb) |
|---|---|---|---|---|---|
| Annual PE | 0 | 0 | 0 | 0 | 3,635 |
| Daily PE | 0 | 0 | 0 | 0 | 10.0 |
| Δ PE (Qtr 1) | 0 | 0 | 0 | 0 | 908 |
| Δ PE (Qtr 2) | 0 | 0 | 0 | 0 | 909 |
| Δ PE (Qtr 3) | 0 | 0 | 0 | 0 | 909 |
| Δ PE (Qtr 4) | 0 | 0 | 0 | 0 | 909 |

### 2. Adjusted Increase in Permitted Emissions (AIPE)

AIPE is used to determine whether or not Best Available Control Technology (BACT) is required for modified units. The unit currently under consideration is new, therefore AIPE calculations are not necessary.

## E. Facility Emissions

### 1. Pre Project Stationary Source Potential to Emit (SSPE1)

The following SSPE1 contributions are from the Application Review Document for project N-1121433.

| SSPE1 (lb/yr) | | | | | |
|---|---|---|---|---|---|
| | NOx | CO | VOC | SOx | PM10 |
| N-3309-1-2 | 0 | 0 | 35,933 | 0 | 0 |
| N-3309-14-0 | 0 | 0 | | 0 | 0 |
| N-3309-20-0 | 0 | 0 | | 0 | 0 |
| N-3309-21-0 | 0 | 0 | | 0 | 0 |
| N-3309-22-0 | 0 | 0 | | 0 | 0 |
| N-3309-23-0 | 0 | 0 | | 0 | 0 |
| N-3309-17-0 | 862 | 186 | 70 | 10 | 61 |
| N-3309-24-0 | 6,570 | 5,519 | 34,180 | 187 | 499 |
| ERC | 0 | 0 | 0 | 0 | 0 |
| Total | 7,432 | 5,705 | 70,183 | 197 | 560 |

2. **Post Project Stationary Source Potential to Emit (SSPE2)**

The press currently under consideration will be included in the SLC for the graphic arts equipment.

| SSPE1 (lb/yr) | | | | | |
|---|---|---|---|---|---|
| | NOx | CO | VOC | SOx | PM10 |
| N-3309-1-2 | 0 | 0 | 35,933 | 0 | 0 |
| N-3309-14-0 | 0 | 0 | | 0 | 0 |
| N-3309-20-0 | 0 | 0 | | 0 | 0 |
| N-3309-21-0 | 0 | 0 | | 0 | 0 |
| N-3309-22-0 | 0 | 0 | | 0 | 0 |
| N-3309-23-0 | 0 | 0 | | 0 | 0 |
| N-3309-17-0 | 862 | 186 | 70 | 10 | 61 |
| N-3309-24-0 | 6,570 | 5,519 | 34,180 | 187 | 499 |
| N-3309-25-0 | 0 | 0 | 3,635 | 0 | 0 |
| ERC | 0 | 0 | 0 | 0 | 0 |
| Total | 7,432 | 5,705 | 73,818 | 197 | 560 |

3. **Stationary Source Increase in Permitted Emissions (SSIPE)**

SSIPE = SSPE2 – SSPE1

The SSPE1 and SSPE2 balances are from sections VII.E.1 and VII.E.2 of this document.

| | SSPE2 (lb/yr) | SSPE1 (lb/yr) | SSIPE (lb/yr) |
|---|---|---|---|
| NOx | 7,432 | 7,432 | 0 |
| CO | 5,705 | 5,705 | 0 |
| VOC | 73,818 | 70,183 | 3,635 |
| SOx | 197 | 197 | 0 |
| PM10 | 560 | 560 | 0 |

4. **Baseline Emissions**

The unit currently under consideration is new and it will not be part of a Specific Limiting Condition. Therefore, the Baseline Emissions are zero.

## F. Major Source Determination

**Rule 2201 Major Source Determination:**

The Major Source thresholds, the facility potentials to emit and whether or not the facility is a Major Source are shown on the following table. The Major Source thresholds are from Section 3.24.1 of Rule 2201 and the facility PE's are from section VII.E.2 of this document.

| Pollutant | Threshold (lb/yr) | Facility PE (lb/yr) | Major Source |
|---|---|---|---|
| NOx | 20,000 | 7,432 | No |
| CO | 200,000 | 5,705 | No |
| VOC | 20,000 | 73,818 | Yes |
| SOx | 140,000 | 197 | No |
| PM10 | 140,000 | 560 | No |

**Rule 2410 Major Source Determination:**

The Major Source thresholds, the facility potentials to emit and whether or not the facility is currently a Major Source are shown on the following table.

| Pollutant | Threshold (tons/yr) | Current Facility PE (tons/yr) | Major Source |
|---|---|---|---|
| NOx | 250 | 3.72 | No |
| CO | 250 | 2.85 | No |
| VOC | 250 | 35.1 | No |
| SOx | 250 | 0.10 | No |
| PM10 | 250 | 0.28 | No |
| PM | 250 | 0.28 | No |
| $CO_2e$ | 100,000 | 3,836.75 – see below | No |

**Premodification $CO_2e$ Calculations:**

The facility operates a 279 bhp diesel fired emergency fire pump under Permit to Operate N-3309-17 and a 2.5 MMBtu/hr natural gas fired oven and a 5.0 MMBtu/hr natural gas fired thermal oxidizer under Permit to Operate N-3309-24.

**N-3309-17:**

$EF_{GHG}$: 0.000187 metric tons/bhp-hr (CARB greenhouse gas emission factor)
Rating: 279 bhp
Schedule: 100 hr/yr

$PE_{GHG}$ = (0.000187 MT/bhp-hr)(279 bhp)(100 hr/yr)(2,205 lb/MT)
x (ton/2000 lb) = 5.75 tons/yr

**N-3309-24:**

EF: 52.9 kg/MMBtu (CARB GHG Emission Factor)
Rating (oven): 2.5 MMBtu/hr
Rating (thermal oxidizer): 5.0 MMBtu/hr

$PE_{CO2e}$ = (2.5 MMBtu/hr + 5.0 MMBtu/hr)(8,760 hr/yr)(52.9 kg/MMBtu) x (lb/0.4536 kg)(ton/2000 lb) = 3,831.1 ton/yr

Total $CO_2e$ = 5.75 tons/yr + 3,831.1 tons/yr = 3,836.85 tons/yr

## G. Major Modification Determination

**SB-288 Major Modification:**

The purpose of SB-288 Major Modification calculations is to determine the following:

If Best Available Control Technology (BACT) is required for a Major Source pollutant from a new or modified emission unit involved in a permitting action that is a Major Modification (District Rule 2201, §4.1.3); and

If a public notification is triggered (District Rule 2201, §5.4.1).

Per section 3.36 of Rule 2201 and the District's draft policy titled Implementation of Rule 2201 (as amended on 12/18/08 and effective on 6/10/10) for SB288 Major Modifications and Federal Major Modifications, a permitting action is an SB-288 Major Modification if the Net Emission Increase (NEI) for the new and modified units involved in the project exceed the thresholds shown on the following table. The equipment currently under consideration will emit only VOC, therefore, only VOC will be addressed.

| Pollutant | Threshold (lb/yr) |
|---|---|
| VOC | 50,000 |

As shown in section VII.C.1 of this document, the potential to emit of VOC is less than its SB-288 Major Modification threshold. Therefore, this permitting action is not an SB-288 Major Modification.

**Federal Major Modification:**

Per section 3.18 of Rule 2201 and the District's draft policy titled Implementation of Rule 2201 (as amended on 12/18/08 and effective on 6/10/10) for SB288 Major Modifications and Federal Major Modifications, a permitting action is a Federal Major Modification if the Net Emission Increase (NEI) for the new and modified units involved in the project exceed the thresholds shown on the following table. The equipment currently under consideration will emit only VOC, therefore, only VOC will be addressed.

| Pollutant | Threshold (lb/yr) |
|---|---|
| VOC | 0 |

NEI = PE – BAE

Where: PE is the potential to emit (3,635 lb/yr – section VII.C.2 of this document)
BAE is zero for new units

NEI = 3,635 lb/yr – 0 lb/yr = 3,635 lb/yr

As can be seen, the NEI of VOC is in excess of its Major Source threshold. Therefore, this permitting action is a Federal Major Modification.

## VIII. Compliance

### Rule 2201 New and Modified Stationary Source Review Rule

#### A. BACT

##### 1. BACT Applicability

**New or Relocated Units:**

Except for CO, BACT is required for each pollutant with a PE of greater than 2.0 pounds per day. For CO, BACT is triggered if the PE of CO is greater than 2.0 pounds per day and the SSPE2 of CO is 200,000 pounds per year or greater.

**Modified Units:**

Except for CO, BACT is required for each pollutant with an AIPE of greater than 2.0 pounds per day. For CO, BACT is triggered if the AIPE of CO is greater than 2.0 pounds per day and the SSPE2 of CO is 200,000 pounds or greater.

**Major Modifications:**

BACT is required for each Major Source Pollutant for which the permitting action is an SB-288 or Federal Major Modification.

**Applicability:**

The proposed unit is new and as shown in section VII.C.1 of this document, the PE of VOC will be greater than 2.0 pounds per day and as shown in section VII.G of this document, this permitting action is a Federal Major Modification. Therefore, BACT is required for VOC.

### 2. BACT Analysis

As shown in the Top-Down BACT analysis that is in Appendix C of this document, BACT will be the use of UV cured inks with VOC contents not exceeding 0.031 lb/gal (less water and exempt compounds), UV cured coatings with VOC contents not exceeding 0.07 lb/gal (less water and exempt compounds) and evaporative loss minimization.

## B. OFFSETS

### 1. Offset Applicability

Per Rule 2201, Section 4.5.3, offsets are examined on a pollutant by pollutant basis and are triggered for any pollutant with an SSPE2 equal to or greater than the value on the following table:

| Pollutant | SSPE2 (lb/yr) |
|---|---|
| NOx | 20,000 |
| CO (in CO attainment areas) | 200,000 |
| VOC | 20,000 |
| SOx | 54,750 |
| PM10 | 29,200 |

As shown in section VII.E.2 of this document, the SSPE2 of each pollutant is:

| Pollutant | SSPE2 (lb/yr) | Offsets Triggered |
|---|---|---|
| NOx | 7,432 | No |
| CO | 5,705 | No |
| VOC | 73,818 | Yes |
| SOx | 197 | No |
| PM10 | 560 | No |

### 2. Quantity of Offsets Required

For pollutants with a pre-project SSPE (SSPE1) of greater than the offset threshold levels of Rule 2201 offsets must be provided for all increases in Stationary Source emissions, calculated as the sum of the difference between the post-project Potential to Emit and the Baseline Emissions of all new and modified emission units. The unit currently under consideration falls into this category.

BE (new & modified units): 0 lb/yr (Section VII.E.4)
PE (new & modified units): 3,635 lb/yr (VII.C.1)

Offset = 3,635 lb/yr – 0 lb/yr = 3,635 lb/yr

The offset analysis that is in Appendix D of this document shows that sufficient offsets have been identified.

## C. PUBLIC NOTIFICATION

### 1. Applicability

District Rule 2201, Section 5.4 requires a public notification for the affected pollutants from the following types of projects:

a. New Major Sources
b. Major Modifications
c. New emission units with a PE > 100 lb/day of any one pollutant (IPE Notifications)
d. Modifications with SSPE1 below an offset threshold and SSPE 2 above an offset threshold on a pollutant by pollutant basis (Existing Facility Offset Threshold Exceedence Notification)
e. New stationary sources with SSPE2 exceeding offset thresholds (New Facility Offset Threshold Exceedence Notification)
f. Any permitting action with a SSIPE exceeding 20,000 lb/yr for any one pollutant. (SSIPE Notice)

#### a. New Major Source Notice Determination:

The facility is not new, therefore, a New Major Source Determination notice is not required.

#### b. Major Modification Notice:

The facility is a Major Source for VOC and as shown in section VII.G of this document, this permitting action is a Federal Major Modification. Therefore, a Major Modification Notice is required.

c. **PE Notification:**

As shown in section VII.C.1 of this document, the PE of each pollutant will be less than 100 pounds per day. Therefore, a notification is not required.

d. **Existing Facility Offset Threshold Exceedence Notification**

The SSPE of no pollutant will go from below to above an offset threshold. Therefore, a public notification is not required.

e. **New Facility Offset Threshold Exceedence Notification**

This is an existing facility. This section does not require a public notification.

f. **SSIPE Notification:**

A notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/yr of any affected pollutant. As shown in section VII.E.3 of this document, the SSIPE of each pollutant will be less than 20,000 pounds per year. An SSIPE notification is not required.

2. **Public Notice**

As shown above, a public notification is required because the permitting action is a Federal Major Modification.

## D. DAILY EMISSION LIMITS

The VOC emissions shall not exceed 10.0 pounds during any one day.

## E. Ambient Air Quality Impact Analysis

Section 4.14 of this rule requires that an ambient air quality analysis (AAQA) be conducted to determine whether the operation of the proposed equipment will cause or make worse a violation of an air quality standard. The only emissions from this operation will be VOC. Since there is not an air quality standard for VOC, an AAQA is not required.

## F. Alternative Siting Analysis

Section 21002 of the Public Resources Code states that projects should not be approved as proposed if there are feasible alternatives or feasible mitigation measures that would substantially lessen the environmental impacts associated with that project. This section also states that in the event of specific economic, social or other conditions would make such a project infeasible then the project may be approved in spite of the significant effects. The proposed printing unit is being combined with an existing stationary source, therefore, requiring the press to be

located at an alternative location would require the relocation of the entire stationary source. Such a relocation would cause a significant financial hardship and per § 21002 of the Public Resources Code, locating the equipment at an alternative site will not be required.

## G. Compliance by Other Owned, Operated or Controlled Sources

This section requires that the owner of a New Major Source or the owner of a facility undergoing a Federal Major Modification demonstrate, to the satisfaction of the District, that all Major Sources it owns, operates or controls, are located in California and are subject to emission limits be in compliance with, or on schedule to be in compliance with all applicable emission limits or standards. The current modification is a Federal Major Modification so these requirements apply. G-3 Enterprises consists of a closure division (facility ID N-2028) and the facility undergoing this modification (label division, facility ID N-3309). The closure division is not a Major Source for any pollutant and the label division is in compliance with all applicable emission limitations and standards.

## H. Compliance Assurance

### 1. Source Testing

As they apply to the equipment currently under consideration, no District rule or policy requires source testing.

### 2. Monitoring

As they apply to the equipment currently under consideration, no District rule or policy requires monitoring.

### 3. Record Keeping

To enforce the daily emission limits, records of the daily graphic arts material usage and of the material VOC contents will be necessary. Such records will be required.

### 4. Reporting

As they apply to the equipment currently under consideration, no District rule or policy requires reporting.

## Rule 2410 Prevention of Significant Deterioration

Rule 2410 applies to pollutants for which the District is in attainment or for unclasssified pollutants. The pollutants addressed in the PSD applicability determination are listed as follows:

- NO2 (as a primary pollutant)
- SO2 (as a primary pollutant)
- CO
- PM
- PM10
- Greenhouse gases (GHG): CO2, N2O, CH4, HFCs, PFCs, and SF6

The first step of this PSD applicability evaluation consists of determining whether the facility is an existing PSD Major Source. This facility is not an existing PSD Major source (See Section VII.F of this document).

In the case that the facility is NOT an existing PSD Major Source, the second step of the PSD evaluation is to determine if the project, by itself, would be a PSD major source.

**Potential to Emit for All Emission Units at the Facility vs PSD Major Source Thresholds:**

As a screening tool, the potential to emit from all new and modified units in the project may be compared to their PSD major source thresholds and if those potentials to emit are below their respective thresholds, no futher analysis will be needed.

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds are applicable.

| PSD Major Source Determination: Potential to Emit (tons/year) | | | | | | | |
|---|---|---|---|---|---|---|---|
| | $NO_2$ | VOC | $SO_2$ | CO | PM | $PM_{10}$ | $CO_2e$ |
| Total PE from New and Modified Units | 0 | 1.82 | 0 | 0 | 0 | 0 | 0 |
| PSD Major Source threshold | 250 | 250 | 250 | 250 | 250 | 250 | 100,000 |
| New PSD Major Source? | N | N | N | N | N | N | N |

As shown in the table above, the project potential to emit, by itself, does not exceed any of the PSD major source thresholds. Therefore, Rule 2410 is not applicable and no further discussion is required.

## Rule 2520 Federally Mandated Operating Permits

The facility does not yet have a Title V permit, therefore, no discussion of this rule is necessary.

## Rule 4001 New Source Performance Standards

No 40 CFR Part 60 subparts apply to the proposed equipment.

## Rule 4002 National Emission Standards for Hazardous Air Pollutants

### 40 CFR Part 60 Subpart KK (National Emission Standards for the Printing and Publishing Industry)

As it applies to flexographic printing operations, this subpart regulates only Wide-Web type units. Wide Web Flexographic Presses are defined in section 63.822 as units capable of printing on substrates greater than 18 inches in width. The proposed press will have the capability of printing on substrates with widths of 16 inches or less, therefore it is not a Wide Web Flexographic Press and it is not subject to this subpart.

## Rule 4101 Visible Emissions

As long as the equipment is properly maintained and operated, the visible emissions are not expected to exceed 20% opacity for a period or periods aggregating more than 3 minutes in any one hour. Compliance with the provisions of this rule is expected.

## Rule 4102 Nuisance

### A. California Health & Safety Code 41700 (Risk Management Review)

A Risk Management Review (RMR) was conducted by the Technical Services Division of the SJVAPCD and the prioritization score was shown to be zero. Such scores are indicative of emissions that will not pose a significant health risk and the project is therefore approvable.

### B. Toxics BACT (T-BACT)

As shown on the RMR summary that is included in Appendix B of this document, T-BACT is not required.

**Rule 4607 Graphic Arts**

This rule applies to graphic arts printing operations, digital printing operations and paper, film, foil & fabric coating operations as well as to the organic solvent type cleaning processes associated with such operations unless they are exempt per section 4.0. This facility does not qualify for any of the section 4.0 exemptions so this rule applies.

The rule includes VOC content limits, solvent cleaning requirements, material application method requirements, evaporative loss minimization requirements, work practice requirements and record keeping requirements.

**VOC Content Limits:**

Per Table 1 of Rule 4607, the VOC content limits for flexographic inks are:

| | |
|---|---|
| Ink (Non-Porous Substrates): | 2.5 lb/gal (less water and exempt compounds) |
| Ink (Porous Substrates): | 1.88 lb/gal (less water and exempt compounds) |
| Coatings (all): | 2.5 lb/gal (less water and exempt compounds) |

Solvent will be utilized for repair and maintenance cleaning as well as for the cleaning of the ultraviolet ink and coating application equipment. The following table shows the table 7 categories that are applicable to this project and the VOC content limits associated with the solvents.

| Description | Table 7 Category | VOC Content Limit (lb/gal) |
|---|---|---|
| Repair and Maintenance Cleaning | B | 0.21 |
| Cleaning of Coating or Adhesive Application Equipment | C | 0.21 |
| Ultraviolet Ink/Electron Beam Ink Application Equipment (except screen printing) | D.7 | 0.83 |

A listing of the proposed materials, their VOC contents and whether or not they will comply with the VOC limits of this rule are presented on the following table.

| Product Identification | Proposed Material VOC Content, lb/gal | Compliant |
|---|---|---|
| Inks | | |
| Wikoff SCUV-8979 UVF PC | 0.017 | Yes |
| Wikoff SCUV-8980 UVF PC | 0.02 | Yes |
| Wikoff SCUV-8981 UVF PC | 0.029 | Yes |
| Wikoff SCUV-8982 UVF PC | 0.031 | Yes |
| Coatings | | |
| Wikoff UVC-12197 UV FXO Matte 12316 | 0.07 | Yes |
| Wikoff UVC-1925 Fast Cure | 0.07 | Yes |
| Solvent | | |
| Citrus Safe Yellow Magic Solvent | 0.18 | Yes |

**Solvent Cleaning Requirements:**

Per section 5.8.2, operators who perform any of the solvent cleaning operations listed in Table 7 using solvents with VOC contents in excess of 25 g/l are subject to sections 5.8.3 through 5.8.5. Section 5.8.3 regulates solvent application methods for solvents with VOC contents of greater than 25 g/l. To ensure compliance with the solvent cleaning requirements of this rule, the following condition will be included on the Authorities to Construct and the Permits to Operate:

> *The VOC content of solvents utilized shall comply with table 7 of District Rule 4607. For a permittee using any solvent containing more than 25 g/L of VOC for organic solvent cleaning, cleaning activities shall be by one of the following methods: (1) wipe cleaning; or (2) application of solvent from hand-held spray bottles from which solvents are dispensed without a propellant-induced force; or (3) non-atomized solvent flow method in which the cleaning solvent is collected in a container or a collection system which is closed except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container; or (4) solvent flushing method in which the cleaning solvent is discharged into a container that is closed except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container. The discharged solvent from the equipment must be collected into containers without atomizing into the open air. The solvent may be flushed through the system by air or hydraulic pressure, or by pumping. [District Rule 4607] N*

**Material Application Methods:**

Section 5.7 specifies the acceptable application methods for coatings. The coatings will be applied flexographically, which is roll type method. This method is allowed by section 5.7.2.

**Evaporative Loss Minimization:**

Section 5.9 states that storage and disposal of VOC containing materials including paper and cloth shall be conducted inside of closed, non-absorbent and non-leaking containers. Such a condition will be placed on the Authorities to Construct and Permits to Operate.

**Work Practices:**

Section 5.10 of this rule requires that all graphic arts materials and all graphic arts material application equipment be utilized in accordance with the manufacturer's instructions. Such a condition will be placed on the Authorities to Construct and the Permits to Operate.

**Record Keeping:**

Section 6.1.1 requires the operator to maintain a current file that includes a material safety data sheet or product data sheet showing the material name, manufacturer's

name, the VOC content as applied, specific mixing instructions and the density of each ink, coating and solvent in use. Such a file will be required by the Authorities to Construct and the Permits to Operate.

Section 6.1.2.1.4 requires monthly records of each ink and pantone ink used and of the VOC content and density of each. Such records will be required by the Authorities to Construct and the Permits to Operate.

Section 6.1.2.2 requires the operator to record, on a monthly basis, the type and amount of each coating, adhesive, wash primer and solvent used. Such records will be required by the Authorities to Construct and the Permits to Operate.

**California Environmental Quality Act (CEQA)**

The California Environmental Quality Act (CEQA) requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The San Joaquin Valley Unified Air Pollution Control District (District) adopted its Environmental Review Guidelines (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities;
- Identify the ways that environmental damage can be avoided or significantly reduced;
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

**Greenhouse Gas (GHG) Significance Determination**

It is determined that no other agency has or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project.

The District's engineering evaluation (this document) demonstrates that the project would not result in an increase in project specific greenhouse gas emissions. The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change.

**District CEQA Findings**

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities),

and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

**California Health & Safety Code 42301.6 (School Notice)**

The equipment will not be located within 1,000 feet of a K-12 school, therefore, a school notice is not required.

## IX. Recommendation

Issue an Authority to Construct with the conditions on the attached draft Authority to Construct.

## X. Billing Information

| Permit # | Description | Fee Schedule |
|---|---|---|
| N-3309-25-0 | 20 hp | 3020-1-A |

**Appendices**

Appendix A: Draft ATC's
Appendix B: RMR Summary
Appendix C: BACT Guideline and BACT Analysis
Appendix D: Offset Analysis

# Appendix A
# Draft ATC

San Joaquin Valley
Air Pollution Control District

# AUTHORITY TO CONSTRUCT

DRAFT

**PERMIT NO:** N-3309-25-0

**ISSUANCE DATE:** DRAFT

**LEGAL OWNER OR OPERATOR:** G-3 ENTERPRISES, LABEL DIVISION
**MAILING ADDRESS:** 2612 CROWS LANDING RD
MODESTO, CA 95358-9400

**LOCATION:** 2612 CROWS LANDING RD
MODESTO, CA 95358-9400

**EQUIPMENT DESCRIPTION:**
GRAPHIC ARTS PRINTING OPERATION SERVED BY A NILPETER FA-4 11-COLOR FLEXOGRAPHIC TYPE PRINTING PRESS AND A UV CURING STATION

## CONDITIONS

1. Prior to operating equipment under this Authority to Construct, the permittee shall surrender VOC emission reduction credits for the following quantities of emissions: 1st quarter - 908 lb, 2nd quarter - 909 lb, 3rd quarter - 909 lb, and fourth quarter - 909 lb. Offsets shall be provided at the applicable offset ratio specified in Section 4.8.1 of Rule 2201 (as amended 4/21/2011). [District Rule 2201]
2. ERC Certificate S-3807-1 or a certificate split from that certificate shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District. Following the revisions, this Authority to Construct permit shall be reissued administratively to specify the new offsetting proposal. Original public noticing requirements shall be duplicated prior to the reissuance of this Authority to Construct Permit. [District Rule 2201]
3. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. Only UV curable inks and coatings shall be utilized. The VOC content of the inks utilized shall not exceed 0.031 lb/gal (less water and exempt compounds) and the VOC content of the coatings utilized shall not exceed 0.07 lb/gal (less water and exempt compounds). [District Rules 2201 and 4607]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director/APCO

DRAFT

DAVID WARNER, Director of Permit Services
N-3309-25-0 : Oct 17 2013 2:25PM - ECHONHOM : Joint Inspection NOT Required

6. The VOC content of solvents utilized shall comply with table 7 of District Rule 4607. For a permittee using any solvent containing more than 25 g/L of VOC for organic solvent cleaning, cleaning activities shall be by one of the following methods: (1) wipe cleaning; or (2) application of solvent from hand-held spray bottles from which solvents are dispensed without a propellant-induced force; or (3) non-atomized solvent flow method in which the cleaning solvent is collected in a container or a collection system that is closed except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container; or (4) solvent flushing method in which the cleaning solvent is discharged into a container that is closed except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container. The discharged solvent from the equipment must be collected into containers without atomizing into the open air. The solvent may be flushed through the system by air or hydraulic pressure, or by pumping. [District Rule 4607]
7. VOC emissions from this unit shall not exceed 10.0 pounds during any one day. [District Rule 2201]
8. The operator shall store and dispose of fresh solvents, spent solvents, waste solvent cleaning materials, coatings, adhesives, catalysts, thinners, and inks in closed, non-absorbent, non-leaking containers. The containers shall remain closed at all times except when depositing or removing their contents or when they are empty. [District Rules 2201 and 4607]
9. The operator shall utilize all graphic arts materials and graphic arts material application equipment in accordance with their manufacturer's instructions. [District Rule 4607]
10. The operator shall maintain a file that includes a material safety data sheet or product data sheet showing the material name, the manufacturer's name, the VOC content as applied, the specific mixing instructions and the density of each ink, coating and solvent in use. [District Rules 2201 and 4607]
11. The operator shall record, on a monthly basis, the quantity, the VOC content and the density of each ink, coating and solvent used. Separate records shall be kept for pantone and non-pantone inks. [District Rules 2201 and 4607]
12. The operator shall keep a daily record of the VOC emissions from this unit. [District Rule 2201]
13. All records shall be retained for a period of at least 5 years and shall be made available to APCO, ARB and EPA upon request. [District Rule 4607]

# Appendix B
# RMR Summary

# San Joaquin Valley Air Pollution Control District
# Risk Management Review

| | |
|---|---|
| To: | Mark Schonhoff – Permit Services |
| From: | Ester Davila – Technical Services |
| Date: | October 1, 2013 |
| Facility Name: | G-3 Enterprises, Label Division |
| Location: | 2612 Crows Landing Road, Modesto CA |
| Application #(s): | N-3309-25-0 |
| Project #: | N-1133139 |

## A. RMR SUMMARY

| RMR Summary | | | |
|---|---|---|---|
| **Categories** | **Flexographic Printing Press (Unit 25-0)** | **Project Totals** | **Facility Totals** |
| **Prioritization Score** | 0.0[1] | 0.0 | >1 |
| **Acute Hazard Index** | N/A[1] | N/A[1] | 0.41 |
| **Chronic Hazard Index** | N/A[1] | N/A[1] | 0.26 |
| **Maximum Individual Cancer Risk ($10^{-6}$)** | N/A[1] | N/A[1] | 0.0006 |
| **T-BACT Required?** | **No** | | |
| **Special Permit Conditions?** | **No** | | |

[1]Copper only HAP found. Per engineer, assume 100% retention of metals in ink. Effective prioritization score is 0.

### Proposed Permit Conditions

To ensure that human health risks will not exceed District allowable levels; the following permit conditions must be included for:

Unit # 25-0

1. No special conditions required.

## B. RMR REPORT

### I. Project Description

Technical Services received a request on September 30, 2013 to perform a Risk Management Review for the installation of a new flexographic printing press. Inks and coatings will be UV curable.

## II. Analysis

Toxic emissions for this proposed unit were calculated after review of the MSD sheets provided by the facility. The MSD sheets for some of the inks contained copper; however the District assumes 100% retention of PM emissions from ink applied, therefore copper emissions will not be entrained into the atmosphere. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905, March 2, 2001), the effective prioritization score for this proposed unit was 0 (see RMR Summary Table). No further analysis was necessary.

The following parameters were used for the review:

| Analysis Parameters<br>Unit 25-0 | | |
|---|---|---|
| **INK VOC Emissions** | **lb/hr** | **lb/yr** |
| **SCUV-8979 UVF PC BLK INK** | 0.07 | 620.5 |
| **SCUV-8980 UVF PC CYAN INK** | 0.08 | 730 |
| **SCUV-8981 UVF PC MAGENTA INK** | 0.12 | 1,058.5 |
| **SCUV-8982 UVF PC YELLOW INK** | 0.13 | 1,131.5 |
| **UVC-12197 UV FXO MATTE 12316 COATING** | 0.23 | 2,044 |
| **UVC-1925 UV FAST CURE FLEXIBLE COATING** | 0.23 | 2,044 |
| **CITRUS SAFE YELLOW MAGIC SOLVENT** | 0.05 | 459.9 |
| **Closest Receptor (m)** | | 30 |

## III. Conclusion

The effective prioritization score is 0. **In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).**

To ensure that human health risks will not exceed District allowable levels; the permit conditions listed on page 1 of this report must be included for this proposed unit.

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

## IV. Attachments

A. RMR request from the project engineer
B. Additional information from the applicant/project engineer
C. Toxic emissions summary
D. Prioritization score
E. Facility Summary

# Appendix C
# BACT Guideline and BACT Analysis

Per » B A C T » Bact Guideline.asp?category Level1=4&category Level2=7&category Level3=14&last Update=11 » 9 :

Back

**Best Available Control Technology (BACT ) Guideline 4.7.14**
**Last Update: 11/9/2004**

**Flexographic UV Printing - High End Printing of Labels, Tags, and Forms****

| Pollutant | Achieved in Practice or in the SIP | Technologically Feasible | Alternate Basic Equipment |
|---|---|---|---|
| VOC | use of materials with VOC content (less water and exempt compounds) as indicated, or lower: - for UV-cured inks: 1% by weight - for UV-cured coatings: 8% by weight and evaporative minimization methods, which include keeping all solvents and solvent-laden cloths/papers, not in active use, in closed containers | 1. VOC capture and control with incineration (98% overall control efficiency) 2. VOC capture and control with carbon adsorption (95% overall control efficiency) | |

** *The substrates, covered by this guideline, are low-porosity papers, plastic films, and metalized paper/foil*

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in s a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is requried for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

**This is a Summary Page for this Class of Source. For background information, see Permit Specific BACT Determinations on Details Page.**

As shown in section VIII (Rule 2201 Compliance) of this document, BACT is required for the VOC emissions from the proposed printing press. District BACT guideline 4.7.14 applies to the proposed equipment.

**Step 1: List Practically Applicable Emission Control Options**

1. VOC capture and control with incineration (98% overall control efficiency) – Technologically Feasible
2. VOC capture and control with carbon adsorption (95% overall control efficiency) – Technologically Feasible
3. Use of materials with VOC contents (less water and exempt compounds) as indicated – Achieved-in-Practice:
   -for UV cured inks: ≤ 1% by weight
   -for UV cured coatings: ≤ 8% by weight

   And evaporative loss minimization methods, which include keeping all solvents and solvent –laden cloth/paper, not in active use, in closed containers.

   As part of its ongoing effort to bring the San Joaquin Valley Air Basin into compliance with state and federal ozone standards, the District is revising its BACT policy, in part, to account for the fact that locally, NOx reductions are much more important in reducing ozone formation than are VOC reductions. In recognition of this fact, the District has developed the Environmental Benefit Index (EBI) method for ranking emission control options during Step 3 of the top-down BACT determination process. In practice, an EBI is determined separately for each control option, with the results being utilized to rank control options in order of environmental benefit. The EBI method will be further explained in Step 3 but to ensure that the Step 3 ranking includes all possible VOC control options, the District will include the applicant's proposed UV curable inks and coatings in this analysis:

4. UV curable inks with VOC contents of 0.031 lb/gal (less water and exempt compounds)

   and

   UV curable coatings with VOC contents of 0.07 lb/gal (less water and exempt compounds)

**Step 2: Eliminate Technologically Infeasible Emission Control Options**

None of the emission control options listed in step 1 is technologically infeasible.

**Step 3: Rank Remaining Emission Control Options**

As stated above, the District's EBI method of ranking emission control options will be utilized. This method utilizes weighting factors that when applied to Target Pollutant reductions and Non-Target-Pollutant and Collateral Pollutant increases, yields a number that make it possible to rank control options in order of overall environmental benefit, not just target pollutant control.

The higher the EBI, the more environmentally beneficial a control option would be, therefore, control options are ranked in the order of descending EBI's.

**EBI Method:**

The following equation is from the most current version of the draft BACT policy.

$$EBI = \sum(\text{Target Pollutant Reductions})(SF) + \sum(\text{Non-Target Pollutant Reductions})(SF) - \sum(\text{Collateral Pollutant Increases})(SF)$$

Where:

Target-Pollutants are the process pollutant(s) for which BACT is required.

Non-Target-Pollutants are the process pollutants, for which BACT is not required.

Collateral Pollutants are air contaminants that would be emitted by a control device that controls Target Pollutants.

SF is the pollutant specific Significance Factor:

| | |
|---|---|
| $SF_{NOx}$: | 7 |
| $SF_{VOC}$: | 1 |
| $SF_{PM10/2.5}$: | 1 |
| SOx: | 1 |

A Significance Factor has not been developed for CO.

**District Standard Emissions:**

The Target Pollutant reductions are the reductions that would occur should control be applied to the District Standard Emissions. District Standard Emission, in this case are the emissions that would occur should the facility utilize materials with the VOC contents allowed by the applicable prohibitory rule, which is Rule 4607 (Graphic Arts and Paper, Film, Foil and Fabric Coatings):

| Material Type | Material Use Gal/day (gal/yr) | District Standard VOC Content – from Rule 4607 (lb/gal) | District Standard Emissions (lb/yr) |
|---|---|---|---|
| Ink | 100 (36,500) | 2.5 | 91,250 |
| Coating | 80 (29,200) | 2.5 | 73,000 |
| Solvent | 7 (2,555) | 0.21 | 537 |
| Total | | | 164,787 |

*Rule 4607 limits the VOC content of flexographic inks that are applied to porous substrates to 1.88 lb/gal and limits the VOC content of all other flexographic inks to 2.5 lb/gal. Since the inks will be applied to non-porous substrates such as glossy paper and foil, the District Standard Emissions were calculated utilizing an ink VOC content of 2.5 lb/gal*

**EBI (Enclosure/RTO w/98% capture and control) – Technologically Feasible:**

District Standard Emissions = 164,787 lb/yr

Target Pollutant Reductions = (164,787 lb/yr (0.98)) = 161,491 lb/yr

Non-Target Pollutant Reductions = 0

Collateral Pollutant Emissions:

1.5 MMBtu/hr RTO (Previously provided by G-3 for a similar press)
Assume 30 ppm NOx
Assume AP-42 EF's for VOC and PM10

NOx: (1.5 MMBtu/hr)(0.036 lb/MMBtu)(8,760 hr/yr) = 473 lb/yr
VOC: (1.5 MMBtu/hr)(0.0055 lb/MMBtu)(8,760 hr/yr) = 72 lb/yr
SOx= (1.5 MMBtu/hr)(0.00285 lb/MMBtu)(8,760 hr/yr) = 37 lb/yr
PM10 = (1.5 MMBtu/hr)(0.0076 lb/MMBtu)(8,760 hr/yr) = 100 lb/yr

EBI = 161,491(1)+ 0 – [473(7) + 72(1) + (37)(1) + 100(1)] = 157,971

**EBI (Enclosure/carbon w/ 95% capture and control) – Technologically Feasible:**

District Standard Emissions = 164,787 lb/yr

Target Pollutant Reductions = (164,787 lb/yr)(0.95) = 156,548 lb/yr

Non-Target Pollutant Reductions = 0

Collateral Pollutant Increases = 0

EBI = 156,548(1) + 0 - 0 = 156,548

**EBI (Low VOC options from Guideline 4.7.14) – Achieved-in-Practice:**

District Standard Emissions = 164,787 lb/yr

PE (low VOC option):

VOC Content (Ink) = 1% by weight (achieved-in-practice BACT level)
Density (Ink) = 9.8 lb/gal (assumed a material density equal to that of the applicant's highest density ink).

VOC Content (Coating) = 8% by weight (achieved-in-practice BACT level)
Density = 10.4 lb/gal (assumed a material density equal to that of the applicant's highest density coating)

BACT was not addressed for solvents, so the Rule 4607 level will be applied to the applicant's proposed usage.

PE (Low-VOC Inks) = (36,500 gal/yr)(9.8 lb/gal)(1/100)
+ (29,200 gal/yr)(10.4 lb/gal)(8/100)
+ (2,555 gal/yr)(0.21 lb/gal) = 28,408 lb/yr

Target Pollutant Reductions = 164,787 lb/yr – 28,408 lb/yr = 136,379 lb/yr

Non-Target Pollutant Reductions = 0

Collateral Pollutant Increases = 0

EBI = 136,379(1) + 0 – 0 = 136,379

**EBI (G-3's proposal):**

| Material | Proposed Usage (gal/yr) | Proposed VOC (lb/gal) | Potential to Emit (lb/yr) |
|---|---|---|---|
| Ink | 36,500 | 0.031 | 1,131.5 |
| Coating | 29,200 | 0.07 | 2,044.0 |
| Solvent | 2,555 | 0.18 | 459.9 |
| Total | | | 3,635.4 |

District Standard Emissions: 164,787 lb/yr

Target Pollutant Reductions = 164,787 lb/yr – 3,635.4 lb/yr = 161,152 lb/yr

Non-Target Pollutant Reductions = 0

Collateral Pollutant Reductions = 0

EBI = 161,152(1) + 0 – 0 = 161,152

The control option rankings are:

1. G-3's proposed materials, EBI = 161,152
2. Enclosure/RTO w/ 98% capture and control, EBI = 157,971
3. Enclosure/carbon adsorption w/ 95% capture and control, EBI = 130,468
4. Low VOC BACT Level, EBI = 112,756

Section 3.10 of District Rule 2201 states that BACT is the most stringent of the following:

Achieved-in-Practice Controls
Technologically Feasible Controls (must be cost effective also)
Alternate Basic Equipment or Process (must be cost effective also)

As shown above, G-3 is proposing the most stringent emission control technique under consideration.

**Step 4: Cost Effectiveness Analysis**

The applicant's proposal is the highest ranking control option from Step 3. Therefore, a cost effectiveness analysis is not required.

**Step 5: Select BACT**

BACT will be the use of UV curable inks and coatings with the following VOC contents and evaporative loss minimization:

Inks: ≤ 0.031 lb/gal (less water and exempt compounds)
Coatings: ≤ 0.07 lb/gal (less water and exempt compounds)

To enforce the BACT requirements, the following conditions will be placed on the Authority to Construct and the PTO:

*Only UV curable inks and coatings shall be utilized. The VOC content of the inks utilized shall not exceed 0.031 lb/gal (less water and exempt compounds) and the VOC contents of the coatings utilized shall not exceed 0.07 lb/gal (less water and exempt compounds).*

*The operator shall store and dispose of fresh solvents, spent solvents, waste solvent cleaning materials, coatings, adhesives, catalysts, thinners, and inks in closed, non-absorbent, non-leaking containers. The containers shall remain closed at all times except when depositing or removing their contents or when they are empty.*

# Appendix D
# Offset Analysis

VOC Offset Quantity: 3,635 lb/yr (Section VIII, Rule 2201 Compliance)
Certificate Number: S-3807-1
Offset Ratio: 1.5:1 (> 15 miles)

Offsets Required = (3,635 lb/yr)(1.5) = 5,453 lb/yr (1,363.25 lb/qtr)

Liabilities will be identified as negative numbers and credits will be identified as positive numbers.

| | Quarter 1 | Quarter 2 | Quarter 3 | Quarter 4 |
|---|---|---|---|---|
| Offset Liability (lb) | -1,363 | -1,363 | -1,363 | -1,364 |
| ERC S-3807-1 (lb) | 11,431 | 11,424 | 11,417 | 11,417 |
| Extra VOC (lb) | 10,068 | 10,061 | 10,054 | 10,053 |

As can be seen, sufficient offsets will be provided.