



MAR 18 2011

Gerardo C. Rios, Chief  
Permits Office  
Air Division  
U.S. EPA - Region IX  
75 Hawthorne St  
San Francisco, CA 94105

Re: **Notice of Minor Title V Permit Modification**  
**District Facility # N-2107**  
**Project # N1110257**

Dear Mr. Rios:

Enclosed for you to review is an application for minor Title V permit modification for the facility identified above. Darling International Inc is proposing a Title V minor permit modification to incorporate the recently issued Authority to Construct N-2107-1-12 into the Title V operating permit. The facility had proposed to modify the boiler permit to limit the use of "liquid fuel" (yellow grease, yellow grease blended with No. 2 fuel oil) to 216 hours per calendar year. The reason for the modification was to comply with the requirements of Rule 4320 - Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/2008).

Enclosed is the engineering evaluation with the following attachments: proposed modified Title V permit, recently issued Authority to Construct N-2107-1-12, emission increases, application, and previous Title V permit. Please submit your written comments on this project within the 45-day comment period that begins on the date you receive this letter.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Rupi Gill at (209) 557-6400.

Sincerely,

David Warner  
Director of Permit Services

DW:JK/st

Enclosures

**Seyed Sadredin**  
Executive Director/Air Pollution Control Officer

**Northern Region**  
4800 Enterprise Way  
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34946 Flyover Court  
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MAR 18 2011

William McMurtry  
Darling International Inc  
P.O. Box 1607  
Turlock, CA 95381

**Re: Notice of Minor Title V Permit Modification  
District Facility # N-2107  
Project # N1110257**

Dear Mr. McMurtry:

Enclosed is the District's analysis of your application for minor Title V permit modification for the facility identified above. You proposed a Title V minor permit modification to incorporate recently issued Authority to Construct N-2107-1-12 into the Title V operating permit. The facility had proposed to modify the boiler permit to limit the use of "liquid fuel" (yellow grease, yellow grease blended with No. 2 fuel oil) to 216 hours per calendar year. The reason for the modification was to comply with the requirements of Rule 4320 - Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/2008).

Enclosed is the engineering evaluation with the following attachments: proposed modified Title V permit, recently issued Authority to Construct N-2107-1-12, emission increases, application, and previous Title V permit. This project will be subject to a 45-day EPA commenting period prior to the District taking final action.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Rupl Gill at (209) 557-6400.

Sincerely,

David Warner  
Director of Permit Services

DW:JK/st

Enclosures

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## **Title V APPLICATION REVIEW Minor Modification**

**Facility Number:** N-2107 **Date:** February 18, 2011  
**Facility Name:** Darling International Inc  
**Mailing Address:** P.O. Box 1608  
Turlock, CA 95381

**Contact Name:** William R McMurtry  
**Phone:** (972) 281-4409  
**Fax:** (972) 717-0763

**Responsible Official:** William R McMurtry  
**Title:** VP of Environmental Affairs

**Processing Staff:** Jagmeet Kahlon  
**Project Number:** N1110257

### **I. PROPOSAL**

Darling International Inc has proposed to incorporate Authority to Construct (ATC) N-2107-1-12 into the Title V operating permit. This ATC was issued without Certificate of Conformity (COC).

Permit to Operate (PTO) N-2107-1-11 covers the 48 MMBtu/hr boiler that can use either natural gas or a limited amount of liquid fuel (yellow grease or a blend of yellow grease and fuel oil no. 2). There is no restriction on as to when the facility should use the liquid fuel in this unit.

The facility had proposed to modify this permit to allow the use of liquid fuel only during the natural gas curtailment periods and to limit its use to only 216 hours in a calendar year. The reason for this modification was to comply with the requirements of Rule 4320 - Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/2008).

The purpose of this document is to identify all applicable requirements, determine if the facility will comply with the applicable requirements, and to provide the legal and factual basis for revising permit conditions that were established under Permit PTO N-2107-1-11.

### **II. FACILITY LOCATION**

This facility is located at 11946 Carpenter Road, Crows Landing, California.

### III. EQUIPMENT DESCRIPTION

48 MMBTU/HR NEBRASKA MODEL NS-C-53 BOILER WITH A TODD MODEL V651G LOW-NOX BURNER, A FLUE GAS RECIRCULATION SYSTEM (FGR), AND A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM

### IV. SCOPE OF EPA AND PUBLIC REVIEW

The proposed project is a Minor Modification to the Title V permit. Therefore, public review is not required.

### V. APPLICABLE REQUIREMENTS

Rule 2520 Federally Mandated Operating Permits (6/21/01)

### VI. DESCRIPTION OF PROPOSED MODIFICATIONS

This section details the modifications made to the permit conditions on PTO N-2107-1-11 during processing the project (N1101075) that resulted in ATC N-2107-1-12.

\*\*\*Conditions 2 and 3 in PTO N-2107-1-11\*\*\*

2. The unit shall only be fired on PUC-regulated natural gas, denatured yellow grease, or yellow grease. [District NSR Rule and 4301, 5.2.1, and 40 CFR § 60.42c(d)]
3. Denatured yellow grease is yellow grease blended with fuel oil No. 2, not to exceed 1.0% fuel oil No.2 by volume. [District NSR Rule]

These conditions have been removed and replaced with the conditions that require the liquid fuel be used only during natural gas curtailment periods. This change was necessary to comply with the requirements of Rule 4320. Rule 4320 allows using fuel other than natural gas only during natural gas curtailment periods.

- The unit shall only be fired on PUC-regulated natural gas as the primary fuel and liquid fuel as a curtailment fuel. [District Rules 2201 and 4301, 5.2.1, and 40 CFR § 60.42c(d)]
- For the purposes of this permit, "liquid fuel" means either yellow grease or yellow grease blended with no more than 1.0% No. 2 fuel oil, by volume. The sulfur content of No. 2 fuel oil blended with yellow grease shall not exceed 15 ppm. [District Rules 2201 and 4320]

\*\*\*Conditions 5 and 13 in PTO N-2107-1-11\*\*\*

5. The maximum amount of denatured yellow grease and yellow grease burned (combined) shall not exceed 6,409 gallons in any given day and 2,231,678 gallons in any given calendar year. [District NSR Rule]
  
13. The NO<sub>x</sub> emissions from this unit shall not exceed 43.5 pounds during any one day. The NO<sub>x</sub> emissions shall be determined utilizing the following equation: [(cubic feet of natural gas burned during non-start-up and non-shutdown periods) x (7.3E-6) + (cubic feet of natural gas burned during start-up and shutdown periods) x (3.6E-5) + (combined number of gallons of yellow grease and denatured yellow grease burned) x (6.79E-3)]. [District NSR Rule]

Condition 5 has been removed. The daily liquid fuel use was limited by the daily NO<sub>x</sub> emission limit of 43.5 pounds per day (condition 13). The daily NO<sub>x</sub> emissions are required to be calculated using gallon of "liquid fuel" and a constant number; therefore, it is not necessary to retain 6,409 gallons per day limit in the permit. The maximum annual liquid fuel use would be 79,428<sup>1</sup> gallons per year provided that the boiler operates at 48 MMBtu/hr for 216 hour per year. This number is significantly less than the 2,231,678 gallons per year limit; therefore, this limit is not included in the permit. The condition 13 (above) is stated as follows in the proposed permit N-2107-1-13:

- The NO<sub>x</sub> emissions from this unit shall not exceed 43.5 pounds during any one day. The NO<sub>x</sub> emissions shall be determined utilizing the following equation: [(cubic feet of natural gas burned during non-start-up and non-shutdown periods) x (7.3E-06) + (cubic feet of natural gas burned during start-up and shutdown periods) x (3.6E-05) + (total gallons "liquid fuel" burned) x (6.79E-03)]. [District Rule 2201]

The condition limiting "liquid fuel" use is added in the permit as follows:

- The unit shall be fired on "liquid fuel" only during natural gas curtailment for no more than 168 cumulative hours in a calendar year plus 48 hours per calendar year for equipment testing. [District Rules 2201 and 4320]

\*\*\*Condition 6 in PTO N-2107-1-11\*\*\*

6. The boiler shall be equipped with a non-resettable, totalizing liquid fuel flow meter to measure the amount of denatured yellow grease and yellow grease burned, in gallons. [District NSR Rule]

This condition is revised to stay consistent with the terminology used in the ATC N-2107-1-12. This condition will be stated in the proposed permit N-2107-1-13:

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<sup>1</sup>48 MMBtu/hr x 216 hr/yr x gal/130,533 Btu x 10<sup>6</sup> Btu/MMBtu = 79,428 gal/yr

- The boiler shall be equipped with a non-resettable, totalizing liquid fuel flow meter to measure the amount of "liquid fuel" burned, in gallons. [District Rule 2201]

\*\*\*Condition 8 in PTO N-2107-1-11 \*\*\*

8. Except during start-up and shutdown, only when fired on natural gas, exhaust from this unit shall be controlled by the SCR system. [District NSR Rule]

The above condition was not included in the ATC N-2107-1-12.

This facility uses an SCR system when the boiler operates on natural gas fuel. The applicant states that it is possible to use an SCR system while using "liquid fuel" in the boiler. However, they have not tried this through the type of catalyst they have in this SCR system.

\*\*\*Conditions 16 and 18 in PTO N-2107-1-11\*\*\*

16. Source testing to measure denatured yellow grease-combustion for NOx and CO emissions from this unit shall be conducted within 60 days of initial firing on denatured yellow grease. [District NSR Rule, and District Rule 4102, 4305, 6.3.1, and 4306, 6.3.1]
18. Source testing to measure yellow grease combustion NOx and CO emissions from this unit shall be performed within 60 days of the combined amount of yellow grease and denatured yellow grease usage exceeding 29,877 gallons during any rolling 12-month period unless compliance with yellow grease NOx and CO emissions has been demonstrated within 12 months prior to the date of the exceedance. After demonstrating compliance on two (2) consecutive source tests when the unit is fired on yellow grease, the unit shall be tested within 60 days of the combined amount of yellow grease and denatured yellow grease usage exceeding 29,877 gallons during any rolling 12-month period unless compliance with yellow grease NOx and CO emissions has been demonstrated within 36 months prior to the date of the exceedance. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to the rolling 12-month period according to the requirements described above. [District NSR Rule, and District Rules 4102, 4305, 6.3.1, and 4306, 6.3.1]

This condition has been removed. The liquid fuel (denatured yellow grease) is no longer allowed to use as primary fuel; therefore, source testing is not required.

\*\*\*Condition 19 in PTO N-2107-1-11\*\*\*

19. Source testing to measure PM10 emissions shall be conducted each calendar year boiler fires 720 hours (264,761 gallons) or more on denatured yellow grease

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and/or yellow grease. Source testing shall be performed using EPA Method 201A or CARB Method 501. [District Rule 2520, 9.3.2]

The unit is not allowed to operate more than 216 hours per calendar year; therefore, this condition is not longer necessary in the permit.

\*\*\*Conditions 27 and 28 in PTO N-2107-1-11\*\*\*

27. Each denatured yellow grease and yellow grease fuel source shall be tested annually for sulfur content value by using ASTM methods D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. The tested fuel sulfur content shall be used to calculate sulfur compounds emissions by use of mass balance technique. [District Rule 2520, 9.3.2]
28. If fuel analysis is used to determine the sulfur content of denatured yellow grease and yellow grease, the fuel higher heating value for denatured yellow grease and yellow grease shall be determined by ASTM D 240 or D 2382 for liquid hydrocarbon fuels. [District Rule 2520, 9.3.2]

These conditions have not been included in the ATC N-2107-1-12. The "liquid fuel" is limited to use only during the natural gas curtailment periods; rather than, any time during the year.

\*\*\*Condition 39 in PTO N-2107-1-11\*\*\*

39. Daily and annual records of yellow grease (and denatured yellow grease) consumption consisting of the date the boiler operated on either of these fuels and the amount of either of these fuels that was combusted in the boiler (in gallons) shall be maintained. [District NSR Rule and District Rule 1070]

This condition has not been included in the ATC N-2107-1-12. This condition will be re-instated in the permit during this project. This condition is intended to verify compliance with the "liquid fuel" limits in condition 5 and is used to determine the daily NO<sub>x</sub> emissions in condition 13 of the PTO N-2107-1-11. Condition 5 has been removed; however, condition 13 is still in the permit. Therefore, it is necessary to have this condition in the permit. The condition will be re-worded to stay consistent with the terminology in the permit.

- Daily and annual records of "liquid fuel" consumption consisting of the date, the amount of fuel combusted (in gallons), and the reason of combusting "liquid fuel" shall be maintained. [District Rules 1070 and 2201]

\*\*\*Condition 41 in PTO N-2107-1-11\*\*\*

41. A record of the daily NO<sub>x</sub> emissions from this unit shall be kept for any day that yellow grease or denatured yellow grease is burned. [District NSR Rule]

This condition was not included in the ATC N-2107-1-12. This condition is intended to verify compliance with daily NO<sub>x</sub> emissions in condition 13 of the PTO N-2107-1-11. This condition will be re-instated in the proposed permit N-2107-1-13. The condition will be re-worded to stay consistent with the terminology in the permit.

- Records of the daily NO<sub>x</sub> emissions from this unit shall be kept for any day that the "liquid fuel" is burned. [District Rule 2201]

\*\*\*Condition 43 in PTO N-2107-1-11\*\*\*

43. Copies of all natural gas fuel invoices and test results to determine compliance with the conditions of this permit shall be maintained. [District Rule 2520, 9.3.2]

This condition was not included in the ATC N-2107-1-12. The intent of the condition may be to determine natural gas fuel use in this boiler. This condition will be re-instated in the proposed permit N-2107-1-13.

\*\*\*Permit conditions added during this project\*\*\*

- The permittee shall monitor and record the cumulative annual hours of operation on "liquid fuel" during periods of natural gas curtailment and equipment testing. [District Rule 4320, 6.1.1]
- The NO<sub>x</sub> emission concentration, expressed in ppmv or lb/MMBtu during periods of natural gas curtailment shall be recorded. [District Rule 4320, 6.1.1]
- If the unit is fired on "liquid fuel" for a period exceeding 48 cumulative hours in a calendar year, the permittee shall monitor and record the stack concentration of NO<sub>x</sub> at least once during that year using an APCO approved portable NO<sub>x</sub> analyzer. Monitoring for "liquid fuel" NO<sub>x</sub> emissions shall not be required when the unit is operating on primary fuel, i.e. the unit need not be fired on "liquid fuel" solely to perform monitoring. [District Rule 4320, 4.2]
- The "liquid fuel" NO<sub>x</sub> emission readings shall be taken with the unit operating either at conditions representative of normal operations. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4320, 5.8.4]

These conditions are consistent with other similar permits such as Darling International's permit C-406-3-11, where a similar backup fuel is included in the permit.

## **VII. COMPLIANCE**

In accordance with Rule 2520, 3.20, the proposed project:

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;
2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
  - a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and
  - b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
6. Do not seek to consolidate overlapping applicable requirements.

In accordance with Rule 2520, the application meets the procedural requirements of section 11.4 by including;

1. A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs (Appendix IV) ;
2. The source's suggested draft permit (Appendix I); and
3. Certification by a responsible official that the proposed modification meets the criteria for use of minor permit modification procedures and a request that such procedures be used (Appendix III).

Compliance is expected with this Rule.

**APPENDICES**

Appendix I: Proposed Title V Operating Permit No. N-2107-1-13

Appendix II: Authority to Construct N-2107-1-12

Appendix III: Permit Application

Appendix IV: Emissions Change

Appendix V: Title V Permit to Operate N-2107-1-11

Appendix I  
Proposed Title V Operating Permit No. N-2107-1-13

# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: N-2107-1-13

EXPIRATION DATE: 08/31/2009

## EQUIPMENT DESCRIPTION:

48 MMBTU/HR NEBRASKA MODEL NS-C-53 BOILER WITH A TODD MODEL V651G LOW-NOX BURNER, A FLUE GAS RECIRCULATION SYSTEM (FGR), AND A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM

## PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
2. The unit shall only be fired on PUC-regulated natural gas as the primary fuel and "liquid fuel" as a curtailment fuel. [District Rules 2201 and 4301, 5.2.1, and 40 CFR § 60.42c(d)] Federally Enforceable Through Title V Permit
3. For the purposes of this permit, "liquid fuel" means either yellow grease or yellow grease blended with no more than 1.0% No. 2 fuel oil, by volume. The sulfur content of No. 2 fuel oil blended with yellow grease shall not exceed 15 ppm. [District Rules 2201 and 4320, 5.4.2] Federally Enforceable Through Title V Permit
4. The unit shall be fired on "liquid fuel" only during natural gas curtailment for no more than 168 cumulative hours in a calendar year plus 48 hours per calendar year for equipment testing. [District Rules 2201 and 4320, 4.2.2] Federally Enforceable Through Title V Permit
5. The boiler shall be equipped with a non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of natural gas combusted in the unit. [District Rule 2201] Federally Enforceable Through Title V Permit
6. The boiler shall be equipped with a non-resettable, totalizing liquid fuel flow meter to measure the amount of "liquid fuel" burned, in gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The NOx emissions from this unit shall not exceed 43.5 pounds during any one day. The NOx emissions shall be determined utilizing the following equation: [(cubic feet of natural gas burned during non-start-up and non-shutdown periods) x (7.3E-06) + (cubic feet of natural gas burned during start-up and shutdown periods) x (3.6E-05) + (gallons of "liquid fuel" burned) x (6.79E-03)]. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Except during start-up and shutdown, emissions from natural gas combustion shall not exceed any of the following limits: 6 ppmv NOx @ 3% O2 or 0.0073 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 50 ppmv CO @ 3% O2 or 0.037 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 5.1, 4306, 5.1 and 4320, 5.2] Federally Enforceable Through Title V Permit
9. During start-up and shutdown periods, emissions from natural gas combustion shall not exceed any of the following limits: 30 ppmv NOx @ 3% O2 or 0.036 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 50 ppmv CO @ 3% O2 or 0.037 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 5.5.6, 4306, 5.3 and 4320, 5.6] Federally Enforceable Through Title V Permit
10. When fired on "liquid fuel" during curtailment episodes, emissions from this boiler shall not exceed any of the following limits: 40 ppmv NOx @ 3% O2 or 0.052 lb-NOx/MMBtu, 0.0062 lb-SOx/MMBtu, 0.005 lb-PM10/MMBtu, 142 ppmv CO @ 3% O2 or 0.1049 lb-CO/MMBtu, or 0.0056 lb-VOC/MMBtu. [District Rules 2201, 4305, 5.1, 4306, 5.1 and 4320, 5.4.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

11. The total duration of startup and shutdown time shall not exceed any of the following limits: 2.0 hours startup per day, 2.0 hours shutdown per day, or 730 hours total startup and shutdown time per year. [District Rules 2201, 4305, 5.5.6, 4306, 5.3 and 4320, 5.6] Federally Enforceable Through Title V Permit
12. The ammonia emission rate shall not exceed 5.0 ppmvd @ 3% O<sub>2</sub> over a 15 minute averaging period. [District Rule 4102]
13. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. [District Rule 4801 and Stanislaus County Rule 407] Federally Enforceable Through Title V Permit
14. Source testing to measure natural gas combustion NO<sub>x</sub>, CO, and NH<sub>3</sub> emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests when unit is fired on natural gas, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201, 4102, 4305, 6.3.1, 4306, 6.3.1 and 4320, 6.3.1] Federally Enforceable Through Title V Permit
15. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5, 4306, 5.5.5 and 4320, 5.8.2] Federally Enforceable Through Title V Permit
16. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5, 4306, 5.5 and 4320, 5.8.1] Federally Enforceable Through Title V Permit
17. NO<sub>x</sub> emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 6.2, 4306, 6.2 and 4320, 6.2] Federally Enforceable Through Title V Permit
18. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 6.2, 4306, 6.2 and 4320, 6.2] Federally Enforceable Through Title V Permit
19. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 6.2, 4306, 6.2 and 4320, 6.2] Federally Enforceable Through Title V Permit
20. Source testing for ammonia slip shall be conducted utilizing BAAQMD method ST-1B. [District Rule 1081] Federally Enforceable Through Title V Permit
21. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
23. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4, 4306, 5.4 and 4320, 5.7.1, 5.7.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

24. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4, 4306, 5.4 and 4320, 5.7.1] Federally Enforceable Through Title V Permit
25. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4, 4306, 5.4 and 4320, 5.7.1] Federally Enforceable Through Title V Permit
26. The permittee shall monitor and record the stack concentration of ammonia (NH3) at least once during each month in which a source test is not performed. NH3 monitoring shall be conducted utilizing "short term" tubes or a District approved equivalent method. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within one day of restarting the unit unless monitoring has been performed within the last month. [District Rule 4102]
27. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2, 4306, 5.5.2 and 4320, 5.8.2] Federally Enforceable Through Title V Permit
28. The portable analyzer shall be calibrated as recommended by the manufacturer. All instrument calibration data shall be kept on file including the date of calibration. The calibration date shall not exceed 6 months prior to the date the stack concentrations are measured and recorded. [District Rule 4305] Federally Enforceable Through Title V Permit
29. Concentration measurements shall not be taken until the sample acquisition probe has been exposed to the stack gas for at least 150% of the response time. Measurements shall be taken in triplicate. [District Rule 4305] Federally Enforceable Through Title V Permit
30. If water vapor is not removed prior to measurement, the absolute humidity in the gas stream must be determined so that the gas concentrations may be reported on a dry basis. [District Rule 4305] Federally Enforceable Through Title V Permit
31. If water vapor creates an interference with the measurement of any component, then the water vapor must be removed from the gas stream prior to concentration measurements. [District Rule 4305] Federally Enforceable Through Title V Permit
32. The NOx emission concentration, expressed in ppmv or lb/MMBtu during periods of natural gas curtailment shall be recorded. [District Rule 4320, 6.1.1] Federally Enforceable Through Title V Permit
33. If the unit is fired on "liquid fuel" for a period exceeding 48 cumulative hours in a calendar year, the permittee shall monitor and record the stack concentration of NOx at least once during that year using an APCO approved portable NOx analyzer. Monitoring for "liquid fuel" NOx emissions shall not be required when the unit is operating on primary fuel, i.e. the unit need not be fired on "liquid fuel" solely to perform monitoring. [District Rule 4320, 4.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

34. The "liquid fuel" NOx emission readings shall be taken with the unit operating either at conditions representative of normal operations. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4320, 5.8.4] Federally Enforceable Through Title V Permit
35. Daily and annual records of "liquid fuel" consumption consisting of the date, the amount of fuel combusted (in gallons), and the reason of combusting "liquid fuel" shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
36. Records of the daily NOx emissions from this unit shall be kept for any day that the "liquid fuel" is burned. [District Rule 2201] Federally Enforceable Through Title V Permit
37. Copies of all natural gas fuel invoices and test results to determine compliance with the conditions of this permit shall be maintained. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. Daily and annual records of start-up and shutdown durations and number of occurrences of each shall be kept. [District Rules 2201, 4305, 5.5.6, 4306, 5.3 and 4320, 6.1.4] Federally Enforceable Through Title V Permit
39. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1, 4306, 6.1 and 4320, 6.1] Federally Enforceable Through Title V Permit
40. The permittee shall monitor and record the cumulative annual hours of operation on "liquid fuel" during periods of natural gas curtailment and equipment testing. [District Rule 4320, 6.1.1] Federally Enforceable Through Title V Permit
41. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, 4306, 6.1 and 4320, 6.1] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

DRAFT

**Appendix II**  
**Authority to Construct N-2107-1-12**



**COPY**

## AUTHORITY TO CONSTRUCT

**PERMIT NO:** N-2107-1-12

**ISSUANCE DATE:** 08/18/2010

**LEGAL OWNER OR OPERATOR:** DARLING INTERNATIONAL, INC.

**MAILING ADDRESS:** PO BOX 1608  
TURLOCK, CA 95381

**LOCATION:** 11946 CARPENTER RD  
CROWS LANDING, CA 95313

**EQUIPMENT DESCRIPTION:**

48 MMBTU/HR NEBRASKA MODEL NS-C-53 NATURAL GAS FIRED BOILER WITH A TODD MODEL V651G LOW-NOX BURNER WITH A FLUE GAS RECIRCULATION SYSTEM AND SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM. MODIFICATIONS FOR RULE 4320 COMPLIANCE.

### CONDITIONS

1. Authority to Construct (ATC), ATC N-2107-1-8 shall be implemented prior to or concurrently when this ATC is implemented into a Permit to Operate. [District Rule 220] Federally Enforceable Through Title V Permit
2. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
3. 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. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
6. The unit shall only be fired on PUC-regulated natural gas as the primary fuel and liquid fuel as a curtailment fuel. [District Rules 2201 and 4301, 5.2.1, and 40 CFR § 60.42c(d)] Federally Enforceable Through Title V Permit
7. For the purposes of this permit, "liquid fuel" means either yellow grease or yellow grease blended with no more than 1.0% No. 2 fuel oil, by volume. The sulfur content of No. 2 fuel oil blended with yellow grease shall not exceed 15 ppm. [District Rules 2201 and 4320]

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

DAVID WARNER, Director of Permit Services

N-2107-1-12 Aug 18 2010 10:50AM - CRUZP - Joint Inspection NOT Required

8. The unit shall be fired on "liquid fuel" as a backup fuel only during natural gas curtailment for no more than 168 cumulative hours in a calendar year plus 48 hours per calendar year for equipment testing. [District Rules 2201 and 4320]
9. The boiler shall be equipped with a non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of natural gas combusted in the unit shall be installed, utilized and maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The boiler shall be equipped with a non-resettable, totalizing liquid fuel flow meter to measure the amount of yellow grease burned, in gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The NO<sub>x</sub> emissions from this unit shall not exceed 43.5 pounds during any one day. The NO<sub>x</sub> emissions shall be determined utilizing the following equation: [(cubic feet of natural gas burned during non-start-up and non-shutdown periods) x (7.3E-6) + (cubic feet of natural gas burned during start-up and shutdown periods) x (3.6E-5) + (gallons of liquid fuel burned) x (6.79E-3)]. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Except during start-up and shutdown, emissions from natural gas combustion shall not exceed any of the following limits: 6 ppmv NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.0073 lb-NO<sub>x</sub>/MMBtu, 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.0076 lb-PM<sub>10</sub>/MMBtu, 50 ppmv CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 5.1, 4306, 5.1 and 4320, 5.2] Federally Enforceable Through Title V Permit
13. During start-up and shutdown periods, emissions from natural gas combustion shall not exceed any of the following limits: 30 ppmv NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.036 lb-NO<sub>x</sub>/MMBtu, 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.0076 lb-PM<sub>10</sub>/MMBtu, 50 ppmv CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 5.5.6, 4306, 5.3 and 4320, 5.6] Federally Enforceable Through Title V Permit
14. When fired on "liquid fuel" during curtailment episodes, emissions from this boiler shall not exceed any of the following limits: 40 ppmv NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.052 lb-NO<sub>x</sub>/MMBtu, 0.0062 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, 142 ppmv CO @ 3% O<sub>2</sub> or 0.1049 lb-CO/MMBtu, or 0.0056 lb-VOC/MMBtu. [District Rules 2201, 4305, 5.1, 4306, 5.1 and 4320, 5.4.2] Federally Enforceable Through Title V Permit
15. The total duration of startup and shutdown time shall not exceed any of the following limits: 2.0 hours startup per day, 2.0 hours shutdown per day, or 730 hours total startup and shutdown time per year. [District Rules 2201, 4305, 5.5.6, 4306, 5.3 and 4320, 5.6] Federally Enforceable Through Title V Permit
16. The ammonia emission rate shall not exceed 5.0 ppmvd @ 3% O<sub>2</sub> over a 15 minute averaging period. [District Rule 4102]
17. Sulfur compound emissions shall not exceed 2000 ppmv as SO<sub>2</sub>. [District Rule 4801] Federally Enforceable Through Title V Permit
18. Source testing to measure natural gas combustion NO<sub>x</sub>, CO, and NH<sub>3</sub> emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests when unit is fired on natural gas, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201, 4102, 4305, 6.3.1, 4306, 6.3.1 and 4320, 6.3.1] Federally Enforceable Through Title V Permit
19. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5, 4306, 5.5.5 and 4320, 5.82] Federally Enforceable Through Title V Permit
20. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5, 4306, 5.5 and 4320, 5.81] Federally Enforceable Through Title V Permit
21. NO<sub>x</sub> emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 6.2, 4306, 6.2 and 4320, 6.2] Federally Enforceable Through Title V Permit
22. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 6.2, 4306, 6.2 and 4320, 6.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 6.2, 4306, 6.2 and 4320, 6.2] Federally Enforceable Through Title V Permit
24. Source testing for ammonia slip shall be conducted utilizing BAAQMD method ST-1B. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
26. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4, 4306, 5.4 and 4320, 5.7.2] Federally Enforceable Through Title V Permit
28. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4, 4306, 5.4 and 4320, 5.7.1] Federally Enforceable Through Title V Permit
29. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4, 4306, 5.4 and 4320, 5.7.1] Federally Enforceable Through Title V Permit
30. The permittee shall monitor and record the stack concentration of ammonia (NH<sub>3</sub>) at least once during each month in which a source test is not performed. NH<sub>3</sub> monitoring shall be conducted utilizing "short term" tubes or a District approved equivalent method. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within one day of restarting the unit unless monitoring has been performed within the last month. [District Rule 4102]
31. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2, 4306, 5.5.2 and 4320, 5.8.2] Federally Enforceable Through Title V Permit
32. The portable analyzer shall be calibrated as recommended by the manufacturer. All instrument calibration data shall be kept on file including the date of calibration. The calibration date shall not exceed 6 months prior to the date the stack concentrations are measured and recorded. [District Rule 4305] Federally Enforceable Through Title V Permit
33. Concentration measurements shall not be taken until the sample acquisition probe has been exposed to the stack gas for at least 150% of the response time. Measurements shall be taken in triplicate. [District Rule 4305] Federally Enforceable Through Title V Permit
34. If water vapor is not removed prior to measurement, the absolute humidity in the gas stream must be determined so that the gas concentrations may be reported on a dry basis. [District Rule 4305] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

35. If water vapor creates an interference with the measurement of any component, then the water vapor must be removed from the gas stream prior to concentration measurements. [District Rule 4305] Federally Enforceable Through Title V Permit
36. Daily and annual records of start-up and shutdown durations and number of occurrences of each shall be kept. [District Rules 2201, 4305, 5.5.6, 4306, 5.3 and 4320, 6.1.4] Federally Enforceable Through Title V Permit
37. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1, 4306, 6.1 and 4320, 6.1] Federally Enforceable Through Title V Permit
38. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, 4306, 6.1 and 4320, 6.1] Federally Enforceable Through Title V Permit

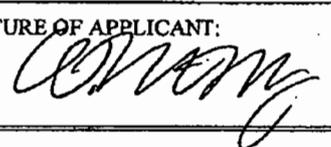
**Appendix III  
Permit Application**

# San Joaquin Valley Air Pollution Control District

[www.valleyair.org](http://www.valleyair.org)

## Permit Application For:

ADMINISTRATIVE AMENDMENT   
  MINOR MODIFICATION   
  SIGNIFICANT MODIFICATION

1. PERMIT TO BE ISSUED TO: <b>Darling International Inc.</b>	
2. MAILING ADDRESS: <b>PO Box 1608</b>	
STREET/P.O. BOX: _____	
CITY: <b>Turlock</b>	STATE: <b>CA</b> 9-DIGIT ZIP CODE: <b>95381</b>
3. LOCATION WHERE THE EQUIPMENT WILL BE OPERATED:	INSTALLATION DATE:
STREET: <b>11946 Carpenter Road</b> CITY: <b>Crows Landing</b>	<b>ASAP</b>
_____% SECTION      _____ TOWNSHIP      _____ RANGE	
4. GENERAL NATURE OF BUSINESS: <b>Food Processing Byproduct Recycling</b>	
5. DESCRIPTION OF EQUIPMENT OR MODIFICATION FOR WHICH APPLICATION IS MADE (include Permit #'s if known, and use additional sheets if necessary)	
<b>Convert ATC N-2107-1-12 into a Title V Permit.</b>	
6. TYPE OR PRINT NAME OF APPLICANT: <b>William R. McMurtry</b>	TITLE OF APPLICANT: <b>VP of Environmental Affairs</b>
7. SIGNATURE OF APPLICANT: 	DATE: <b>2/2/11</b>
	PHONE: (972) 281-4409 FAX: (972) 717-0763 EMAIL: <a href="mailto:bmcmurtry@darlingii.com">bmcmurtry@darlingii.com</a>

*For APCD Use Only:*

<p><b>RECEIVED</b></p> <p>DATE STAMP</p> <p style="text-align: center;"><b>FEB 02 2011</b></p> <p style="text-align: center;">SJVAPCD NORTHERN REGION</p>	<p>FILING FEE RECEIVED: \$ <b>0</b>      CHECK#: _____</p> <p>DATE PAID: _____</p> <p>PROJECT NO: <b>N1110257</b>      FACILITY ID: <b>N-2107</b></p>
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### San Joaquin Valley Unified Air Pollution Control District

#### TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

**I. TYPE OF PERMIT ACTION** (Check appropriate box)

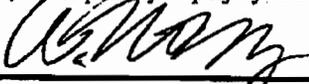
- SIGNIFICANT PERMIT MODIFICATION
- MINOR PERMIT MODIFICATION
- ADMINISTRATIVE AMENDMENT

COMPANY NAME: <b>Darling International Inc.</b>	FACILITY ID: <b>N - 2107</b>
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name: <b>Darling International Inc.</b>	
3. Agent to the Owner:	

**II. COMPLIANCE CERTIFICATION** (Read each statement carefully and initial all circles for confirmation):

- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).
- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.
- Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.
- Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

  
 Signature of Responsible Official

2/2/11  
 Date

William R. McMurtry  
 Name of Responsible Official (please print)

VP of Environmental Affairs  
 Title of Responsible Official (please print)

**Appendix IV  
Emissions Change**

## Emissions Change

The following table is taken from the application review under project N-1101075 that resulted in an ATC N-2107-1-12.

Quarterly IPE for Permit N-2107-1-12			
Pollutant	Annual PE2 (lb/yr)	Annual PE1 (lb/yr)	Quarterly IPE (lb/qtr)
NOx	4,539	17,093	-3,138.50
CO	16,262	35,331	-4,767.25
VOC	2,314	2,342	-7.00
PM <sub>10</sub>	3,196	3,196	0
SOx	1,233	2,174	-235.25

**Appendix V**  
**Title V Permit to Operate N-2107-1-11**

# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** N-2107-1-11

**EXPIRATION DATE:** 08/31/2009

**EQUIPMENT DESCRIPTION:**

48 MMBTU/HR NEBRASKA MODEL NS-C-53 NATURAL GAS, DENATURED YELLOW GREASE, OR YELLOW GREASE-FIRED BOILER WITH A TODD MODEL V651G LOW-NOX BURNER, A FLUE GAS RECIRCULATION SYSTEM (FGR), AND A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM

## PERMIT UNIT REQUIREMENTS

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1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
2. The unit shall only be fired on PUC-regulated natural gas, denatured yellow grease, or yellow grease. [District NSR Rule and 4301, 5.2.1, and 40 CFR § 60.42c(d)] Federally Enforceable Through Title V Permit
3. Denatured yellow grease is yellow grease blended with fuel oil No. 2, not to exceed 1.0% fuel oil No.2 by volume. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Permittee shall maintain records of the gallons of fuel oil and yellow grease blended to make the denatured yellow grease fuel. [District NSR Rule] Federally Enforceable Through Title V Permit
5. The maximum amount of denatured yellow grease and yellow grease burned (combined) shall not exceed 6,409 gallons in any given day and 2,231,678 gallons in any given calendar year. [District NSR Rule] Federally Enforceable Through Title V Permit
6. The boiler shall be equipped with a non-resettable, totalizing liquid fuel flow meter to measure the amount of denatured yellow grease and yellow grease burned, in gallons. [District NSR Rule] Federally Enforceable Through Title V Permit
7. The boiler shall be equipped with a non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of natural gas combusted in the unit. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Except during start-up and shutdown, only when fired on natural gas, exhaust from this unit shall be controlled by the SCR system. [District NSR Rule] Federally Enforceable Through Title V Permit
9. Except during start-up and shutdown, when fired on natural gas, emissions from this boiler shall not exceed any of the following emission limits: 6 ppmv NOx @ 3% O2 or 0.0073 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 50 ppmv CO @ 3% O2 or 0.037 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule, and District Rules 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
10. When fired on denatured yellow grease and yellow grease, emissions from this boiler shall not exceed any of the following limits: 40 ppmv NOx @ 3% O2 or 0.052 lb-NOx/MMBtu, 0.0062 lb-SOx/MMBtu, 0.005 lb-PM10/MMBtu, 142 ppmv CO @ 3% O2 or 0.1049 lb-CO/MMBtu, or 0.0056 lb-VOC/MMBtu. [District NSR Rule, and District Rules 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
11. During start-up and shutdown, when fired on natural gas, emissions from this boiler shall not exceed any of the following emission limits: 30 ppmv NOx @ 3% O2 or 0.036 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 50 ppmv CO @ 3% O2 or 0.037 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule, and District Rules 4305, 5.5.6, and 4306, 5.3] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

12. The total duration of startup and shutdown time shall not exceed any of the following limits: 2.0 hours startup per day, 2.0 hours shutdown per day, or 730 hours total startup and shutdown time per year. [District NSR Rule, and District Rules 4305, 5.5.6, and 4306, 5.3] Federally Enforceable Through Title V Permit
13. The NOx emissions from this unit shall not exceed 43.5 pounds during any one day. The NOx emissions shall be determined utilizing the following equation: [(cubic feet of natural gas burned during non-start-up and non-shutdown periods) x (7.3E-6) + (cubic feet of natural gas burned during start-up and shutdown periods) x (3.6E-5) + (combined number of gallons of yellow grease and denatured yellow grease burned) x (6.79E-3)]. [District NSR Rule] Federally Enforceable Through Title V Permit
14. The ammonia emission rate shall not exceed 5.0 ppmvd @ 3% O2 over a 15 minute averaging period. [District Rule 4102]
15. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. [District Rule 4801 and Stanislaus County Rule 407] Federally Enforceable Through Title V Permit
16. Source testing to measure denatured yellow grease-combustion for NOx and CO emissions from this unit shall be conducted within 60 days of initial firing on denatured yellow grease. [District NSR Rule, and District Rule 4102, 4305, 6.3.1, and 4306, 6.3.1] Federally Enforceable Through Title V Permit
17. Source testing to measure natural gas combustion NOx, CO, and NH3 emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests when unit is fired on natural gas, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District NSR Rule, and District Rules 4102, 4305, 6.3.1, and 4306, 6.3.1] Federally Enforceable Through Title V Permit
18. Source testing to measure yellow grease combustion NOx and CO emissions from this unit shall be performed within 60 days of the combined amount of yellow grease and denatured yellow grease usage exceeding 29,877 gallons during any rolling 12-month period unless compliance with yellow grease NOx and CO emissions has been demonstrated within 12 months prior to the date of the exceedance. After demonstrating compliance on two (2) consecutive source tests when the unit is fired on yellow grease, the unit shall be tested within 60 days of the combined amount of yellow grease and denatured yellow grease usage exceeding 29,877 gallons during any rolling 12-month period unless compliance with yellow grease NOx and CO emissions has been demonstrated within 36 months prior to the date of the exceedance. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to the rolling 12-month period according to the requirements described above. [District NSR Rule, and District Rules 4102, 4305, 6.3.1, and 4306, 6.3.1] Federally Enforceable Through Title V Permit
19. Source testing to measure PM10 emissions shall be conducted each calendar year boiler fires 720 hours (264,761 gallons) or more on denatured yellow grease and/or yellow grease. Source testing shall be performed using EPA Method 201A or CARB Method 501. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
20. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
21. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
22. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5 and 4306, 5.5] Federally Enforceable Through Title V Permit
23. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 6.2, and 4306, 6.2] Federally Enforceable Through Title V Permit

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24. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 6.2, and 4306, 6.2] Federally Enforceable Through Title V Permit
25. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 6.2, and 4306, 6.2] Federally Enforceable Through Title V Permit
26. Source testing for ammonia slip shall be conducted utilizing BAAQMD method ST-1B. [District Rule 1081] Federally Enforceable Through Title V Permit
27. Each denatured yellow grease and yellow grease fuel source shall be tested annually for sulfur content value by using ASTM methods D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. The tested fuel sulfur content shall be used to calculate sulfur compounds emissions by use of mass balance technique. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
28. If fuel analysis is used to determine the sulfur content of denatured yellow grease and yellow grease, the fuel higher heating value for denatured yellow grease and yellow grease shall be determined by ASTM D 240 or D 2382 for liquid hydrocarbon fuels. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
29. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
30. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
31. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
32. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
33. The permittee shall monitor and record the stack concentration of ammonia (NH<sub>3</sub>) at least once during each month in which a source test is not performed. NH<sub>3</sub> monitoring shall be conducted utilizing "short term" tubes or a District approved equivalent method. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within one day of restarting the unit unless monitoring has been performed within the last month. [District Rule 4102]
34. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2, and 4306, 5.5.2] Federally Enforceable Through Title V Permit

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35. The portable analyzer shall be calibrated as recommended by the manufacturer. All instrument calibration data shall be kept on file including the date of calibration. The calibration date shall not exceed 6 months prior to the date the stack concentrations are measured and recorded. [District Rule 4305] Federally Enforceable Through Title V Permit
36. Concentration measurements shall not be taken until the sample acquisition probe has been exposed to the stack gas for at least 150% of the response time. Measurements shall be taken in triplicate. [District Rule 4305] Federally Enforceable Through Title V Permit
37. If water vapor is not removed prior to measurement, the absolute humidity in the gas stream must be determined so that the gas concentrations may be reported on a dry basis. [District Rule 4305] Federally Enforceable Through Title V Permit
38. If water vapor creates an interference with the measurement of any component, then the water vapor must be removed from the gas stream prior to concentration measurements. [District Rule 4305] Federally Enforceable Through Title V Permit
39. Daily and annual records of yellow grease (and denatured yellow grease) consumption consisting of the date the boiler operated on either of these fuels and the amount of either of these fuels that was combusted in the boiler (in gallons) shall be maintained. [District NSR Rule and District Rule 1070] Federally Enforceable Through Title V Permit
40. Daily and annual records of start-up and shutdown durations and number of occurrences of each shall be kept. [District NSR Rule and District Rules 4305, 5.5.6, and 4306, 5.3] Federally Enforceable Through Title V Permit
41. A record of the daily NO<sub>x</sub> emissions from this unit shall be kept for any day that yellow grease or denatured yellow grease is burned. [District NSR Rule] Federally Enforceable Through Title V Permit
42. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
43. Copies of all natural gas fuel invoices and test results to determine compliance with the conditions of this permit shall be maintained. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
44. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made readily available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit

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