Permit to Construct Modification

Sorrento Lactalis, Inc.
Facility ID No. 027-00071
Permit to Construct P-2007.0023

Consent Order Case No. E-2014.0007 & E-2015.0003

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DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Cover Sheet for Air Permit Application – Permit to Construct **Form CSPTC**

Please see instructions on page 2 before filling out the form.

COMPANY NAME, FACILITY NAME, AND FACILITY ID NUMBER			
1. Company Name	Sorrento Lactalis		
2. Facility Name	Same	3. Facility ID No.	027-00071
4. Brief Project Description - One sentence or less	MODIFICATION OF PTC PER CONSENT ORDERS E-2014.0007 & E2015.0003		

PERMIT APPLICATION TYPE

5. ☐ New Source ☐ New Source at Existing Facility ☐ PTC for a Tier I Source Processed Pursuant to IDAPA 58.01.01.209.05.c
☐ Unpermitted Existing Source ☐ Facility Emissions Cap ☒ Modify Existing Source: Permit No.: P-2009.0023 Date Issued: 5/1/15
☒ Required by Enforcement Action: Case No.: E-2014.0007 & E2015.0003

6. ☐ Minor PTC ☐ Major PTC

FORMS INCLUDED

Included	N/A	Forms		DEQ Verify
☒	☐	Form CSPTC – Cover Sheet		☐
☒	☐	Form GI – Facility Information		☐
☒	☐	Form EU0 – Emissions Units General		☐
☒	☐	Form EU1– Industrial Engine Information	Please specify number of EU1s attached: 1	☐
☐	☒	Form EU2– Nonmetallic Mineral Processing Plants	Please specify number of EU2s attached: ____	☐
☐	☒	Form EU3– Spray Paint Booth Information	Please specify number of EU3s attached: ____	☐
☐	☒	Form EU4– Cooling Tower Information	Please specify number of EU3s attached: ____	☐
☒	☐	Form EU5 – Boiler Information	Please specify number of EU5s attached: 4	☐
☐	☒	Form CBP– Concrete Batch Plant	Please specify number of CBPs attached: ____	☐
☐	☒	Form HMAP – Hot Mix Asphalt Plant	Please specify number of HMAPs attached: ____	☐
☐	☒	PERF – Portable Equipment Relocation Form		☐
☐	☒	Form AO – Afterburner/Oxidizer		☐
☐	☒	Form CA – Carbon Adsorber		☐
☐	☒	Form CYS – Cyclone Separator		☐
☐	☒	Form ESP – Electrostatic Precipitator		☐
☒	☐	Form BCE– Baghouses Control Equipment		☐
☒	☐	Form SCE– Scrubbers Control Equipment		☐
☒	☐	Form VSCE – Venturi Scrubber Control Equipment		☐
☐	☒	Form CAM – Compliance Assurance Monitoring		☐
☒	☐	Forms EI– Emissions Inventory		☐
☒	☐	PP – Plot Plan -		☐
☒	☐	Forms MI1 – MI4 – Modeling	(Excel workbook, all 4 worksheets)	☐
☒	☐	Form FRA – Federal Regulation Applicability		☐

Instructions for Form CSPTC

This form is the cover sheet for an air quality permit application. It provides DEQ with basic information regarding the company and the proposed permitting action. This form helps DEQ efficiently determine whether the application is administratively complete. This form also provides the applicant with a list of forms available to aid the applicant to successfully submit a complete application.

Company Name, Facility Name, and Facility ID Number

1-3. Provide the name of your company, the name of the facility (if different than company name), and the facility identification (ID) number (Facility ID No.) in the boxes provided. The facility ID number is also known as the AIRS number or AIRS/AFS number (example: 095-00077). If you already have a permit, the facility ID number is located in the upper right hand corner of the cover page. The facility ID number must be provided unless your facility has not received one, in which case you may leave this box empty. **Use these same names and ID number on all forms**. This is useful in case any pages of the application are separated.

4. Provide a brief description of this permitting project in one sentence or less. Examples might be "Install/construct a new boiler" or "Increase the allowable process throughput." **This description will be used by DEQ as a unique identifier for this permitting project, in conjunction with the name(s) and ID number referenced in 1-3.** You will need to put this description, using the exact same words, on all other forms that are part of this project application. This is useful in case any pages of the application are separated.

Permit Application Type

5. Provide the reason you are submitting the permit application by checking the appropriate box (e.g., a new facility being constructed, a new source being constructed at an existing facility, an unpermitted existing source (as-built) applying for a permit for the first time, a permitted source to be modified, or the permit application is the result of an enforcement action, in which case provide the case number). If you are modifying an existing permitted source, provide the number and issue date of the most recent permit.

   If this PTC is for a Tier I source issued pursuant to the procedures contained at IDAPA 58.01.01.209.05.c, the source or modification may operate upon submittal of a Tier I Administrative Amendment issued pursuant to IDAPA 58.01.01.381.

6. Indicate if the application is a minor permit to construct application or a major permit to construct application by checking the appropriate box (e.g., major PTC or minor PTC). If the permit to construct application is for a major new source or major modification, you must ensure that all necessary information required by IDAPA 58.01.01.202, and .204, or .205, as applicable, is provided.

Forms Included

Check the "Included" box for each form included in this permit to construct application. If there are multiples of a form for multiple units of that type, check the box and fill in the number of forms in the blank provided.

The "N/A" box should only be checked if the form is absolutely unnecessary to complete the application. Additional information may be requested.

Application Fee

All applicants for a PTC shall submit a PTC application fee of $1000.00 to DEQ at the time of the original submission of the application as required by IDAPA 58.01.01.224. An application fee is not required for exemption applicability determinations, typographical errors, and name or ownership changes. An application fee can be paid by check, credit card, or Electronic Funds Transfer (EFT). If you choose to pay by credit card or EFT, call DEQs Fiscal Office to complete the necessary paperwork. Paper checks must be submitted with the original application as described below.

Submit Application

When complete, enclose a check for the application fee along with the hardcopy application certified by a responsible official (as defined in IDAPA 58.01.01.006.94), and send to:

Air Quality Program Office – Application Processing
Department of Environmental Quality
1410 N. Hilton
Boise, ID 83706-1255

IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Preapplication Meeting Information Form FRA (Federal Requirements Applicability) - Regulatory Review

In each box in the table below, CTRL+click on the blue underlined text for instructions and information.

IDENTIFICATION	
1. Company Name: SORRENTO LACTALIS	2. Facility Name: SORRENTO LACTALIS
3. Brief Project Description:	MODIFY PERMIT PER CONSENT ORDERS E-2014.0007 & E-2015.0003

APPLICABILITY DETERMINATION	
4. List all applicable subparts of the New Source Performance Standards (NSPS) (40 CFR part 60). List all non-applicable subparts of the NSPS which may appear to apply to the facility but do not. Examples of NSPS-affected emissions units include internal combustion engines, boilers, turbines, etc. Applicant must thoroughly review the list of affected emissions units.	List of all applicable subpart(s): 40 CFR Part 60 Subpart Dc List of all non-applicable subpart(s) which may appear to apply but do not: ☑ Not Applicable
5. List applicable subpart(s) of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) (40 CFR part 61 and 40 CFR part 63). List all non-applicable subparts of the NESHAP which may appear to apply to the facility but do not. Examples of affected emission units include solvent cleaning operations, industrial cooling towers, paint stripping and miscellaneous surface coating. Reference EPA's webpage on NESHAPs for more information.	List of all applicable subpart(s): 40 CFR Part 63 Subpart ZZZZ List of all non-applicable subpart(s) which may appear to apply but do not: ☑ Not Applicable
6. For each subpart identified above, conduct a complete regulatory analysis using the instructions and referencing the example on the following pages. **Note** - Regulatory reviews must be submitted with sufficient detail so that DEQ can verify applicability and document in legal terms why the regulation does or does not apply. Regulatory reviews submitted with insufficient detail will be determined incomplete.	☑ A detailed regulatory review is provided (Follow instructions and example). ☐ DEQ has already been provided a detailed regulatory review. Give a reference to the document including the date.

IF YOU ARE UNSURE HOW TO ANSWER ANY OF THESE QUESTIONS, CALL THE AIR PERMIT HOTLINE AT 1-877-5PERMIT.

It is emphasized that it is the applicant's responsibility to satisfy all technical and regulatory requirements, and that DEQ will help the applicant understand those requirements prior to submittal of the application but that DEQ will not perform the required technical or regulatory analyses on the applicant's behalf.

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General Information **Form GI**
Revision 7
6/29/12

Please see instructions on back page before filling out the form. All information is required. If information is missing, the application will not be processed.

Identification

1. Facility name: Sorrento Lactalis

2. Existing facility identification number: 027-00071

☐ **Check if new facility (not yet operating)**

3. Brief project description: Update, modification of existing PTC as required by Consent Orders E-2014.0007 & E-2015.0003.

Facility Information

4. Primary facility permitting contact name: Nicolas Depuydt
Contact type: Responsible official
Telephone number: 208-463-6683
E-mail: nicolas.depuydt@lactalis.us

5. Alternate facility permitting contact name: Wendy York
Alternate contact type: Facility permitting contact
Telephone number: 208-463-6674
E-mail: wendy.york@lactalis.us

6. Mailing address where permit will be sent (street/city/county/state/zip code): 4912 East Franklin Road/Nampa/Canyon County/ID/83687

7. Physical address of permitted facility (if different than mailing address) (street/city/county/state/zip code): same

8. Is the equipment portable? ☐ **Yes*** ☒ **No** ***If yes, complete and attach PERF; see instructions.**

9. NAICS codes: **Primary NAICS**: 311514 **Secondary NAICS**: 311513

10. Brief business description and principal product produced: Cheese and Whey Powder Manufacturer

11. Identify any adjacent or contiguous facility this company owns and/or operates: N/A

12. Specify type of application

☒ **Permit to construct (PTC); application fee of $1,000 required. See instructions.**

☐ **Tier I permit** ☐ **Tier II permit** ☐ **Tier II/Permit to construct**

For Tier I permitted facilities only: If you are applying for a PTC then you must also specify how the PTC will be incorporated into the Tier I permit.

☐ **Co-process Tier I modification and PTC** ☐ **Incorporate PTC at the time of Tier I renewal** ☐ **Administratively amend the Tier I permit to incorporate the PTC upon applicant's request (IDAPA 58.01.01.209.05.a, b, or c)**

Certification

In accordance with IDAPA 58.01.01.123 (Rules for the Control of Air Pollution in Idaho), I certify based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

13. Responsible official's name: Nicolas Depuydt **Official's title**: Nampa Site Director
Official's address: 4912 E. Franklin Road, Nampa, ID 83687
Telephone number: 208-463-6683 **E-mail**: nicolas.depuydt@lactalis.us
Official's signature: [signature] **Date**: 4/22/2016

☒ **14. Check here to indicate that you want to review the draft permit before final issuance.**

Instructions for Form GI

This form is used by DEQ to identify a company or facility, equipment locations, and personnel involved with the permit application. Additional information may be required.

Identification

1. Provide the facility name. If the facility is *doing business as* (dba) a facility different in name than the primary facility, provide the dba name.
2. If the facility is an existing permitted facility in Idaho, provide the facility identification number. If the facility is new and not yet operating, check the box.
3. Provide a brief project description as on Form CS, Cover Sheet. This is useful in case any pages of the application are separated.

Facility information

4. Provide name of the *primary* person who should be contacted regarding this permit. Provide telephone number and e-mail address for the primary person.
5. Provide name of an *alternate* person who should be contacted if the person listed in 4 is not available. Provide telephone number and e-mail address for the alternate person.
6. Provide the mailing address where DEQ should mail the permit.
7. Provide the physical address where the equipment is located (if different than 6).
8. Indicate if the permitted equipment is portable by checking the appropriate box. If the permitted equipment is portable, complete and attach the Portable Equipment Relocation Form (PERF) to this application. The PERF is available from DEQ's website at http://www.deq.idaho.gov/media/576773-ptc_relocation.pdf or http://www.deq.idaho.gov/media/576769-ptc_relocation.doc (for Word format).
9. Provide the North American Industry Classification System (NAICS) code for your facility. NAICS codes can be found at http://www.census.gov/epcd/naics02/naicod02.htm.
10. Describe the primary activity and principal product of your business as it relates to the NAICS code listed in 9.
11. Identify and describe any other sources or equipment owned and operated by the primary facility that are located on contiguous or adjacent properties and the role the source or equipment plays in supporting the primary facility.
12. Check the box describing the type of permit application.

    Important note: If application is for a permit to construct (PTC), include the application fee of $1,000 when submitting the application. Per IDAPA 58.01.01.226.02, DEQ cannot process the application without the fee, which must be submitted with the application.

    For existing Tier I facilities that are applying for a PTC, the applicant must specify how the PTC will be incorporated into the Tier I permit (IDAPA 58.01.01.209.05). If you have questions, call the Air Permit Hotline at 1-877-573-7648.

Certification

13. Provide the name, title, address, telephone number, and e-mail of the facility's responsible official. Responsible official is defined in IDAPA 58.01.01.006.99. The responsible official must sign and date the application before it is submitted to DEQ.
14. Check this box to indicate that you want to review a draft before the final permit is issued.

Permit to Construct Modification

Sorrento Lactalis, Inc.
Facility ID No. 027-00071
Permit to Construct P-2007.0023

Consent Order Case No. E-2014.0007 & E-2015.0003

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1 Introduction

This document is a request for modification to the Permit to Construct P-2009.0023 for Sorrento Lactalis, Inc., Facility ID No. 027-0071. This modification is made in accordance with Consent Order Case Numbers E-2014.0007 and E-2015.0003. This application updates the application submittals for the following permits, the terms and conditions of which no longer apply:

- PTC P-2009.0023, issued May 1, 2015
- PTC P-2009.0023, issued March 13, 2014
- PTC P-2009.0023, issued August 28, 2009
- PTC No. 027-00071, issued July 20, 2001

The purpose of this application is to:

- Correct the heat input rating for the 600 boiler horsepower (HP) Cleaver Brooks Boiler from 20.1 to 24.5 million British thermal units per hour (MMBtu/hr).
- Reflect the 2014 replacement of the 600 HP burner in the Superior Boiler with an 800 HP burner. The old burner was rated at 20.1 MMBtu/hr. The 800 HP burner was rated at 31.5 MMBtu/hr, but was modified and down-rated by the manufacturer to 24.8 MMBtu/hr. Show that the derating met EPA's 4-factor test.
- Demonstrate compliance with ambient air quality standards (in particular, with the 1-hour NO_2 National Ambient Air Quality Standard (NAAQS) for natural gas combustion emissions from heaters/air handling units serving the entire facility and which were installed between the years 1999 and 2013.
- Revise the minimum average pressure drop for the TetraPak Whey Dryer Scrubber to 5.25 inches water gauge (" w.g.") and the minimum average scrubber liquid flow rate to 599 gallons per minute (gpm), as measured during the October 2, 2014 source test. Include permit conditions for periodic monitoring of both the scrubber pressure drop and liquid flow rate. Incorporate a requirement to conduct a performance test on the scrubber by October 1, 2017 to demonstrate compliance with the PM_{10} emissions rate limit listed in the revised (2016) PTC.

The increase in regulated facility-wide emissions associated with this permitting action is summarized in the Emissions Inventory (see Appendix 3).

1.1 General

Sorrento Lactalis' (Sorrento) Nampa facility produces natural cheese (SIC code 2022), dry whey products (SIC code 2023), and cultured cream cheese (SIC code 2026). Sorrento is located outside Nampa in southwest Idaho in a moderately populated area near Boise, Idaho. The facility current employs about 704 people. The Sorrento Lactalis facility consists of the following plants and operates in some fashion 24 hours/day, 365 days/year.

- Cheese Plant
- Whey Plant
- Wastewater Treatment Plant (WWTP)
- Fresh Mozzarella Plant

The facility includes auxiliary buildings such as the fire pump house that is used for the pump that pressurizes and provides water to the fire sprinkler systems in each of the plants

1.2 Cheese Plant Process

The Cheese Plant receives approximately 4 million pounds of cows' milk every day from local dairies. This milk is pasteurized and processed to yield slightly less than 200 million pounds of cheese every year. The process to produce cheese yields a product, whey, which is collected and transported to the Whey Plant for further processing. Slightly less than 100 million pounds of whey powder product is produced every year.

The cheese-making process requires pasteurized milk in a cheese vat to be brought to a specific temperature to promote the growth of bacteria that feed on lactose and ferments the lactose into lactic acid. These bacteria are typically added from a culture of starter bacteria. When sufficient lactic acid has developed, rennet is added to cause the casein (protein) to precipitate in the form of curd. As the curd is formed, milk fat is trapped within the casein matrix. Once the cheese curd is ready, the cheese whey is released to begin the partial dehydration of the curd. This whey is transported to the Whey Plant via pipeline. The curd/whey separation is accomplished by using long, blunt knives to cut the curd and turned to release the whey and followed by a process in which the curd it conveyed over a long semi-permeable belt that allows the whey to continue to drain off the curd. The curd is then piped to cookers then molds. The curds or cheese is then released from the molds into a brine flume. The brine cools the cheese and the salt in the brine adds flavor while it stops the fermentation process, preserving the cheese.

After curing or brining, the cheese product is packaged, boxed, and stored in a refrigerated warehouse until it is shipped. The Sorrento Lactalis Cheese Plant produces mozzarella cheese, a variety of string cheeses and mascarpone. In addition, the Cheese Plant receives other types of cheeses from other manufacturers and slices or shreds them, mixing them with Sorrento Lactalis cheeses in some cases. Shredded and sliced cheeses (referred to as cheese sticks) are packaged, boxed, and stored in a refrigerated warehouse until it is shipped. Shredded cheese is mixed with an anti-cake material consisting of cornstarch and rice flour to prevent the cheese from clumping. Most of the material that becomes airborne settles on the surface where it is washed to the drain to the WWTP, the finer particles are captured by a Donaldson Dust Collector with Dura-Life Filters. The Donaldson unit exhausts outside (P-40) and has emission test results of 0.0028 grains per dry standard cubic foot (gr/dscf), well below the EPA 0.05 gr/dscf requirement.

The Donaldson unit exhaust is monitored daily while in operation. The Preventive Maintenance schedule is per manufacturer recommendations and is provided in Table 1.

Table 1 – Donaldson Dust Collection PM Schedule		
Donaldson® Torit® Preventative Maintenance Schedule for DF, DFT, DFO, TD, HP, PJ, Unicell, Maxcell Dust Collectors		
Item	**Frequency**	**Procedure**
Monitor Exhaust of Fan to ensure filter integrity.	Daily	Monitor exhaust from fan. The exhaust should remain visually clean. If a leak of dust develops, it will be noticed as a visual puff from the fan exhaust immediately after a cleaning pulse. If dust is visible consult Installation and Operation Manual for troubleshooting recommendations.
Dust Discharge Drums	Daily	Initially, monitor the level of dust in the dust pail or 55 gallon drums every day. The amount of dust will vary depending upon the amount of contaminant generated, and the frequency of collector pulse cleaning. Based upon this information, adjust PM schedule frequency as needed. Never allow dust in barrel to fill within 4-6 inches of top of barrel.
Hopper Discharge System (Rotary Airlocks, Screw Conveyors, etc.)	Weekly	Verify operation of the hopper discharge system. Discharge system must be operational when the dust collector and fan are operating to collect dust. Make sure that the hopper discharge openings are airtight. Consult Installation and Operation Manuals for troubleshooting recommendations.
Collector Filter Pressure Drop	Weekly	Visually inspect and record the operating pressure drop across each dust collector. It is normal for the pressure drop to fluctuate during operation as the collector passes through cleaning cycles, and as production schedules fluctuate form light to heavy. New filters may have a pressure drop of less than 1" w.g., however, as filters become seasoned, they will reach an equilibrium pressure drop. Generally 1-6" w.g. is considered normal. An excessively high pressure drop could be an indication of a malfunction of the cleaning mechanism, excessive airflow, plugged filters, or heavy dust loading conditions. Consult Installation and Operation Manuals for troubleshooting recommendations.
HEPA Afterfilter Pressure Drop	Weekly	Visually inspect and record the operating pressure drop across each afterfilter. A slight incremental increase in pressure drop is normal *(approximately 0.25" w.g. per month)*. An excessively faster pressure drop rise could be an indication of a dust collector filter failure.
Filter Pressure Drop Pneumatic Lines	Monthly	To ensure correct pressure drop indication, remove one line at a time from the pressure drop indicating gauge barb fitting. Using a minimum 20 psi compressed air, flow through the line back towards to dust collector. *(Do not use more than 25 psi to blow through clear poly tubing as damage may occur.)*
Compressed Air Supply	Monthly	Air dryers and automatic condense valves should be used prior to each dust collector. Inspect monthly to ensure proper operation, and that moisture is being removed from the compressed air supply. Troubleshoot, repair, or replace per the specific manufacturer's instructions. Consult the Installation and Operation Manual for correct pulse pressure recommendations for the dust collector.
Pulse Diaphragms	Quarterly	Apply electrical and pneumatic service to the pulse cleaning control. Activate the pulse cleaning sequence by placing the control in continuous cleaning mode. Approximately every ten (10) seconds an audible pulse should be heard. This process should be performed simultaneously with the solenoid check described below.
Electrical Solenoids	Quarterly	Activate the pulse cleaning sequence by placing the control in continuous cleaning mode. Approximately every ten (10) seconds an audible pulse should be heard. Additionally, each solenoid should be inspected manually by placing a large flat, light-weight surface *(cloth)* behind each solenoid enclosure. As each solenoid is activated, in that particular enclosure, visually inspect the test surface for movement. *When the solenoid is energized, compressed air is released from the diaphragm valves through the solenoid.)*

Verify Conditions of Filters	Semi-annually	If filter element pressure drop exceeds 6" w.g. verify proper system airflow according to original design recommendations. Remember that excessive airflow can increase pressure drop. Change filters if necessary. For best performance and life, use Donaldson superior filters.
Verify Operations of Pulse Cleaning System	Semi-annually	Inspect diaphragms, solenoids and time to ensure proper filter cleaning. Consult Installation and Operation Manuals for the correct On and Off times settings for Pulse cleaning intervals and duration.
Check Fan and Motor	Semi-annually	Check motor and fan for correct rotation by referencing the rotation sticker located on the motor mounting plate. Check for smoot operations of fan wheel and motor. Inspect for and tighten belts, nuts, bolts, and setscrews as needed. Consult Installation and Operation Manuals for troubleshooting recommendations as needed.
Adjust Exhaust Damper as needed.	Semi-annually	Airflow should be adjusted to match design recommendations. Excessive airflow can shorten filter life and cause fan motor failure.
Install Filters Correctly	During Filter Changes	Consult Installation and Operation Manuals for recommendations to correctly install new filters. Install new filters correctly and adequately tightened to prevent dust leakage. Improperly installed or inadequately tightened filters can allow dust to pass through the dust collector.
Adjust Exhaust Damper	Immediately after filter changes	Because the pressure drop or restriction to airflow through the filters will decrease when new filters are installed, airflow through the collector will increase. Because of this, it is necessary to adjust the fan damper to restrict the airflow through the collector to the recommended level immediately after installation of new filters. As the filters age and the pressure drop or restrictions to air increase, open the damper to reach design conditions.

Cheese or cheese products are produced and packaged for about 18 hours a day. Then the equipment and facility is sanitized prior to the next day's production. The sanitation process consists of the application of a number of food-safe chemicals (acids, bases and chlorinated compounds) in diluted form on all surfaces and interiors of equipment, rinsed, and air dried. These chemicals are stored in bulk tanks inside and outside and piped directly to equipment or other sanitizing components. Inside bulk tanks are vented into the building (inside). Toxic air pollutant (TAP) emissions from the sanitation process are below regulatory concern (BRC), as shown in Consent Orders E-2014.0007 & E.2015.0003.

Natural gas-fired heating, ventilating, air conditioning (HVAC) units are provided for the Cheese Plant for the sole purpose of air conditioning or heating the air for the comfort of building occupants. Three of these units are direct fired, meaning the exhaust from the burner is mixed with incoming air, fed indoors and does not exhaust outside except as fugitive emissions. All of these units are on the roof. Table 2 lists all of the Cheese Plant HVAC units with their capacity.

Table 2 – Cheese Plant HVAC Units

Point #	Unit ID	Area Served	Manufacturer	Model	Year	Input Max (Btu/hr)
P35	AC 01	Engineering	Carrier	48SS-03006031AA	2000	50400
P10	AC 02	Main Conf. Rm	Carrier	48TME004-A-501--	2007	74,000
P11	AC 03	Main Breakroom	Carrier	48TM3008-A-501--	2004	180,000
P12	AC 04	Office, East side	Carrier	48TFE007---511----	2004	115,000
P13	AC 05	Office,	Carrier	48TJE007---521--	2004	115,000

		West side				
--	AHU 9	Mascarpone	Reyco[1]		1999	3,000,000
--	AHU 7	Shred	Reyco[1]		1999	3,000,000
--	AHU 8	Mozzarella	Reyco[1]		1999	2,500,000
P37	AC 14	QA Offices	BDP	580DJV060115AAAA	2000	115,000
P14	AC 15	Micro Lab	Carrier	48HJE006-351	2004	115,000
P15	AC 16	Intake Breakroom	Carrier	48TJE005-611GA	2000	115,000
P16	AC 17	Main Lab	Carrier	48TFD009-611	2008	125,000
P17	AC 24	Warehouse	Carrier	48TCEA04A2A5A0A 0A0	2008	115,000

[1] *Direct fired units*

In addition to the cheese production and packaging areas, the Cheese Plant also includes a process control laboratory, dry warehouse, refrigerated warehouse, offices, breakroom, training and conference rooms, maintenance areas and the utilities support equipment including ammonia refrigeration and boilers for all the Cheese, Whey and Fresh Mozzarella Plants for cooling and heating as needed.

Boilers in the Cheese Plant provide steam to the Cheese Plant, Whey Plant, and Fresh Mozzarella Plant. This steam is used to heat water in each production area to use during sanitation. Table 3 provides a list of all boilers. The emissions points for these boilers are at the Cheese Plant.

Table 3 – Boilers

Boiler ID	**Manufacturer**	**Model**	**Year Installed**	**Input Max**	**Output Max**
				MMBtu/hr	
Boiler 1 P7	Cleaver Brooks 600 HP	CBLE 700-600	2001	24.49	19.6
Boiler 2 P8	Superior 800 HP	4-5-3005	2001 (mod. 2014, new burner)	24.8	20.1
Boiler 3 P9	Hurst 800 HP	54000-150-26	2007	33.6	26.79
Boiler 4 P6	Cleaver Brooks 1200 HP	CBL-700-1200-150 150SC	2009	49	39.19

600 HP Cleaver Brooks Boiler (P-8)
The 600 HP Cleaver Brooks Boiler (P-8) provides heat and steam to the Nampa Site as described above. The boiler has a rated heat input capacity of 24.49 MMBtu/hr and combusts natural gas exclusively. This boiler has a low NOx/FTR burner.

800 HP Hurst Boiler(P-9)
The 600 HP Cleaver Brooks Boiler (P-9) provides heat and steam to the Nampa Site as described above. The boiler has a rated heat input capacity of 33.6 MMBtu/hr and combusts natural gas exclusively

800 HP Superior Boiler (P-7)
The 800 HP Superior Boiler (P-7) provides heat and steam to the Nampa Site as described above. This boiler had a new burner replaced in 2014. Originally, the burner was rated 600 HP with a heat input capacity of 20.1 MMBtu/hr. This was replaced with an 800 HP burner rated at 31.5MMBtu/hr that was modified by the manufacturer and de-rated to a rated heat input capacity of 24.8 MMBtu/hr. It combusts natural gas exclusively.

The de-rating of the 800 HP burner meets EPA's 4-factor test because:

1. The modification is a permanent physical change which prevents the boiler from operating at a capacity greater than the de-rated value.

    a. *The 800 HP burner was de-rated by the manufacturer to fit the 30 foot 3" gas line provided. This line would have to be replaced with 4 "gas line (including valving) to allow it to operate at its full rating. The manufacturer supplied gas train (4") would have to be purchased and installed.*
    b. *A smaller "Spud" was installed inside the burner and would have to be replaced with a larger one (the spud regulates the exhaust or output capacity and increasing input capacity cannot be done without increasing output capacity), and*
    c. *The inlet connection and opening on the burner would have to be increased.*

2. The physical change cannot be easily undone.

    Reversing the modification would entail shutdown of the boiler, and therefore the entire plant, in order to remove the parts listed above, purchase and replace them with appropriately sized parts. The only other way to increase input capacity is to increase gas pressure; however the boiler will not operate at a higher pressure because of the high gas pressure switch. It will fault and not power up. Therefore, the integrated pressure regulator would have to be replaced to allow it to operate at the higher pressure.

3. A system shutdown was required to make this change and would be required to reverse it.

    On the day the burner was installed, production was down and the boiler was shutdown, locked and tagged out prior to commencing the work on the modification. As stated in #2, reversing this modification would entail a shutdown of the boiler and plant.

4. The modification is not a change only to the fuel feed systems.

   The physical modification to the boiler was certified by the boiler manufacturer who de-rated the boiler. This certification is attached with the U05 document for the Superior Boiler (Appendix 6). In order to increase the input of the new burner, the following would have to be done:

   a. *Approximately 30 feet of 3" piping would have to be resized and replaced, and*
   b. *The manufacturer gas train would have to be resized and replaced.*
   c. *The "Spud" inside the burner would have to be replaced with a larger one, and*
   d. *The inlet connection and opening on the burner would have to be increased, OR*
   e. *If increased pressure was used to accomplish this, the integrated pressure regulator would have to be replaced to operate the burner at a higher pressure.*

1200 HP Cleaver Brooks Boiler (P-6)
The 1200 HP Cleaver Brooks Boiler (P-6) provides heat and steam to the Nampa Site as described above. The boiler has a rated heat input capacity of 49 MMBtu/hr and combusts natural gas exclusively. This boiler has a low NOx/FTR burner.

1.3 Whey Plant Process

Whey is received from the Cheese Plant with a solids content of about 62 percent. This is filtered and the sugar (or lactose) and protein solids are separated from the remaining liquid. The solids are then dried in either of two whey driers, bagged, stacked, transported to an off-site warehouse and stored until shipped to customers or one of the other Lactalis facilities.

The protein recovered from whey is dried in the Meyers-Sterner Dryer in order to produce Whey Protein Concentrate (WPC). The liquid protein is fed into a high pressure pump, which sprays the product at

2,500 psi into a drying chamber at the rate of 3,200 lb/hr at 31% total solids. The product is atomized in the drying chamber and the rate of water removal from the atomization is 2,100 lb/hr. The dried powder is conveyed through the drying tube below the main chamber of the dryer and dropped into the main cyclone of the dryer. Air from the cyclone is sent to a baghouse prior to exhausting outside. Solids from this baghouse are sent to the sifter, then a hopper, followed finally by bagging. Solids from the cyclone are then sent to a sifter, then hopper, finally bagger. The air along the line to the sifter goes through a small baghouse unit in order to recover more product. Solids from this baghouse also go to the sifter, then the hopper, then bagger. Air from the smaller baghouse unit is sent to the larger baghouse, and then exhausted out. Both the cyclone and the smaller baghouse are considered "process equipment" rather than "control devices" for the purpose of air quality permitting. Figure 1 displays this process graphically.

600 HP Cleaver Brooks Boiler (P-8)
The 600 HP Cleaver Brooks Boiler (P-8) provides heat and steam to the Nampa Site as described above. The boiler has a rated heat input capacity of 24.49 MMBtu/hr and combusts natural gas exclusively. This boiler has a low NOx/FTR burner.

800 HP Hurst Boiler(P-9)
The 600 HP Cleaver Brooks Boiler (P-9) provides heat and steam to the Nampa Site as described above. The boiler has a rated heat input capacity of 33.6 MMBtu/hr and combusts natural gas exclusively

800 HP Superior Boiler (P-7)
The 800 HP Superior Boiler (P-7) provides heat and steam to the Nampa Site as described above. This boiler had a new burner replaced in 2014. Originally, the burner was rated 600 HP with a heat input capacity of 20.1 MMBtu/hr. This was replaced with an 800 HP burner rated at 31.5MMBtu/hr that was modified by the manufacturer and de-rated to a rated heat input capacity of 24.8 MMBtu/hr. It combusts natural gas exclusively.

The de-rating of the 800 HP burner meets EPA's 4-factor test because:

1. The modification is a permanent physical change which prevents the boiler from operating at a capacity greater than the de-rated value.

    a. *The 800 HP burner was de-rated by the manufacturer to fit the 30 foot 3" gas line provided. This line would have to be replaced with 4 "gas line (including valving) to allow it to operate at its full rating. The manufacturer supplied gas train (4") would have to be purchased and installed.*
    b. *A smaller "Spud" was installed inside the burner and would have to be replaced with a larger one (the spud regulates the exhaust or output capacity and increasing input capacity cannot be done without increasing output capacity), and*
    c. *The inlet connection and opening on the burner would have to be increased.*

2. The physical change cannot be easily undone.

    Reversing the modification would entail shutdown of the boiler, and therefore the entire plant, in order to remove the parts listed above, purchase and replace them with appropriately sized parts. The only other way to increase input capacity is to increase gas pressure; however the boiler will not operate at a higher pressure because of the high gas pressure switch. It will fault and not power up. Therefore, the integrated pressure regulator would have to be replaced to allow it to operate at the higher pressure.

3. A system shutdown was required to make this change and would be required to reverse it.

    On the day the burner was installed, production was down and the boiler was shutdown, locked and tagged out prior to commencing the work on the modification. As stated in #2, reversing this modification would entail a shutdown of the boiler and plant.

4. The modification is not a change only to the fuel feed systems.

   The physical modification to the boiler was certified by the boiler manufacturer who de-rated the boiler. This certification is attached with the U05 document for the Superior Boiler (Appendix 6). In order to increase the input of the new burner, the following would have to be done:

   a. *Approximately 30 feet of 3" piping would have to be resized and replaced, and*
   b. *The manufacturer gas train would have to be resized and replaced.*
   c. *The "Spud" inside the burner would have to be replaced with a larger one, and*
   d. *The inlet connection and opening on the burner would have to be increased, OR*
   e. *If increased pressure was used to accomplish this, the integrated pressure regulator would have to be replaced to operate the burner at a higher pressure.*

1200 HP Cleaver Brooks Boiler (P-6)

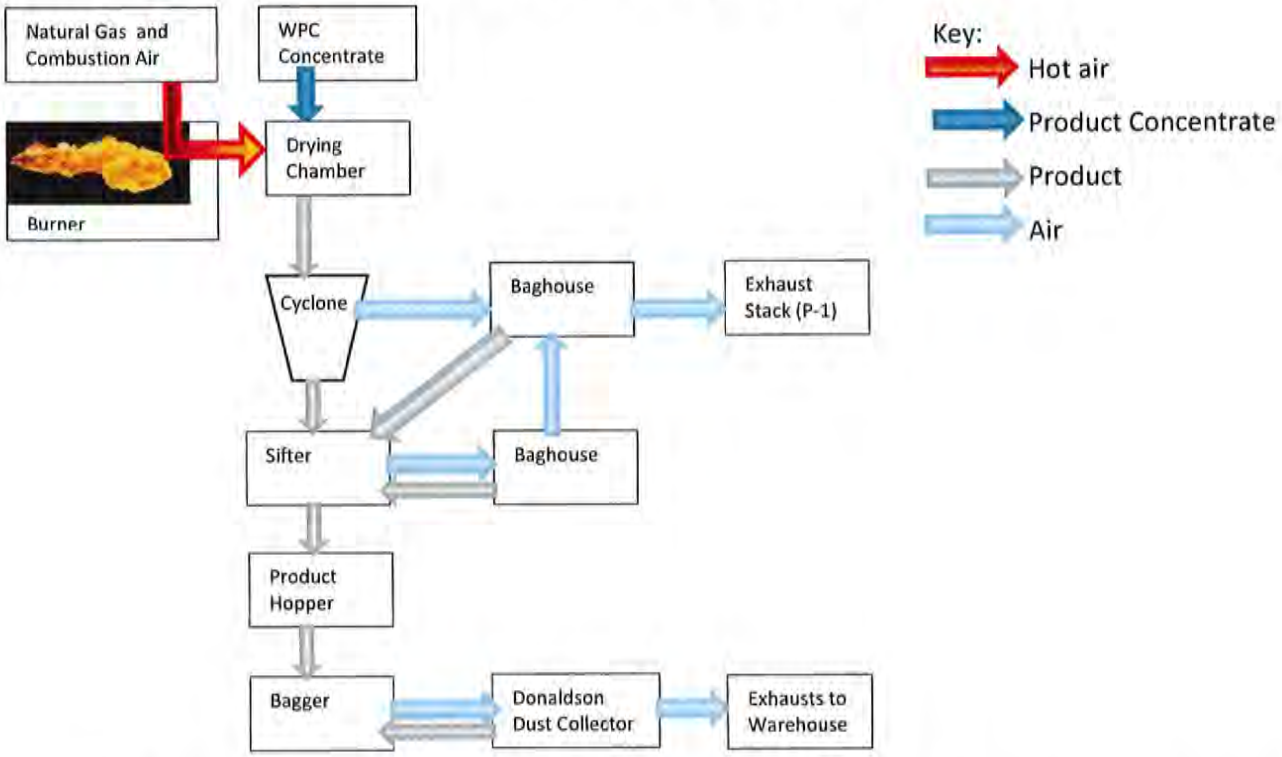
The 1200 HP Cleaver Brooks Boiler (P-6) provides heat and steam to the Nampa Site as described above. The boiler has a rated heat input capacity of 49 MMBtu/hr and combusts natural gas exclusively. This boiler has a low NOx/FTR burner.

1.3 Whey Plant Process

Whey is received from the Cheese Plant with a solids content of about 62 percent. This is filtered and the sugar (or lactose) and protein solids are separated from the remaining liquid. The solids are then dried in either of two whey driers, bagged, stacked, transported to an off-site warehouse and stored until shipped to customers or one of the other Lactalis facilities.

The protein recovered from whey is dried in the Meyers-Sterner Dryer in order to produce Whey Protein Concentrate (WPC). The liquid protein is fed into a high pressure pump, which sprays the product at 2,500 psi into a drying chamber at the rate of 3,200 lb/hr at 31% total solids. The product is atomized in the drying chamber and the rate of water removal from the atomization is 2,100 lb/hr. The dried powder is conveyed through the drying tube below the main chamber of the dryer and dropped into the main cyclone of the dryer. Air from the cyclone is sent to a baghouse prior to exhausting outside. Solids from this baghouse are sent to the sifter, then a hopper, followed finally by bagging. Solids from the cyclone are then sent to a sifter, then hopper, finally bagger. The air along the line to the sifter goes through a small baghouse unit in order to recover more product. Solids from this baghouse also go to the sifter, then the hopper, then bagger. Air from the smaller baghouse unit is sent to the larger baghouse, and then exhausted out. Both the cyclone and the smaller baghouse are considered "process equipment" rather than "control devices" for the purpose of air quality permitting. Figure 1 displays this process graphically.

Figure 1 – WPC (Meyers-Sterner) Dryer Process Flow Diagram



The WPC dryer exhaust is monitored daily for visible emissions while in operation. If visible solids emission is noted, the cause is identified and corrected immediately (e.g. broken bag). The next performance test of this dryer exhaust will be completed prior to February 18, 2018.

The WPC dryer combustion gases and process emissions are exhausted from the Meyers-Sterner baghouse stack (P-1).

The newest dryer, the permeate dryer, receives the lactose portion of the solids at a rate up to 619,176 pounds per day. This drying process consists of two 12.5 MMBtu/hr natural gas fired burners, a drying chamber and shaking beds. The two burners heat air that passes into the drying chamber to dry the whey permeate. The burners are indirect heating devices since the combustion gases do not come in contact with the heated air. Each burner has an exhaust stack (P-2 and P-3) that discharges natural gas combustion products. The heated air dries the whey concentrate as it flows through the drying chamber. The drying chamber exhausts to cyclones where product in air is recovered. The cyclones are considered as process equipment for this application. The purpose of this equipment is to recover solids suspended in air discharged from the dryer and the recovered solids are returned to the drying chamber. The exhaust from the first cyclone(s) passes through a venturi air scrubber (P-4) to control discharge of particulate matter from this process. The exhaust from the second cyclone passes through the main baghouse (P-5). Product from the drying chamber passes over a timing belt onto a shaking bed and then to into transport equipment that includes rotary valves, mills and sifters to break up large chunks of product. Exhaust from the shaking beds passes through a baghouse (P-5) to recover product and control discharge of particulate

matter to the air. Exhaust from the transport equipment passes through smaller baghouses and exhaust inside.

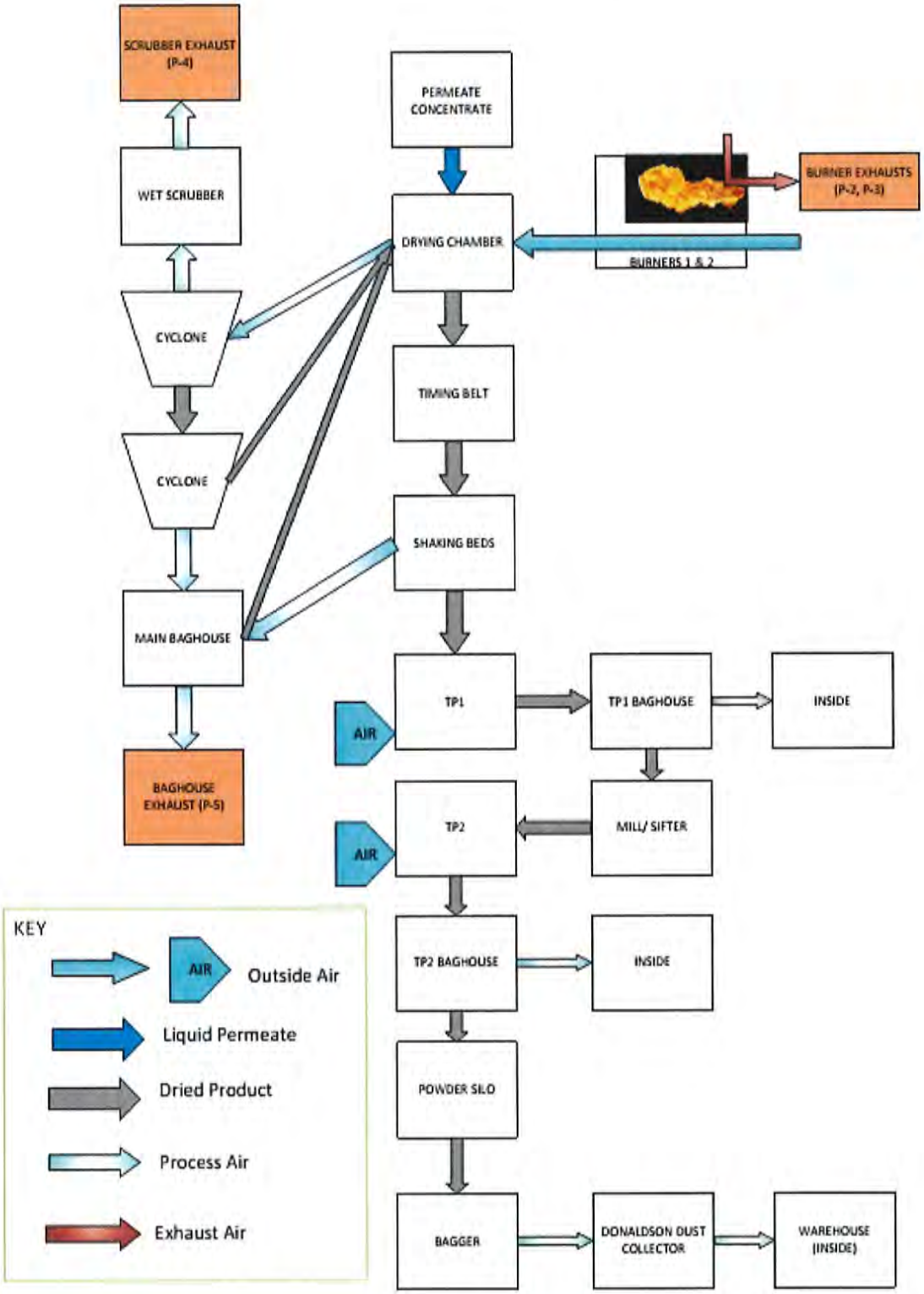
Both baghouse and scrubber exhaust stacks are monitored daily for visible emissions while in operation. If visual solid emissions are noted, the reason is identified and corrected immediately (e.g. broken bag or failed water pump).

Differential pressure transmitters are used to monitor the performance of the baghouse for the permeate dryer. Required maintenance involves cleaning of the baghouse at least once per year, and replacement of broken bags as needed. Complete bag replacement is done at the manufacturer's recommended frequency. The next stack performance test of this system for PM_{10} will be conducted before June 3, 2016.

The scrubber systems uses a density meter to monitor the solids levels in the circulating water as well as a differential pressure transmitter to monitor pressure drop across the unit. The pressure drop is monitored daily while in operation to verify the minimum of 5.25" w.g.. The liquid flow rate is also monitored daily to ensure the minimum rate of 599 gpm during operation. Periodic monitoring of both these parameters is conducted at least once a day. The scrubber system is also cleaned at the frequency recommended by the manufacturer. The next performance test of the scrubber will be completed before October 1, 2017.

The Permeate Dryer process is shown graphically in Figure 2.

Figure 2 – Permeate (TetraPak) Dryer Process Flow Diagram



During the bagging of both permeate and WCP products, a Donaldson dust collection unit is used to recover airborne particulate that is not deposited on surfaces. The Donaldson (with Dura-Life Filters) unit exhausts inside.

The Preventive Maintenance schedule for the Donaldson unit is conducted in conformance with manufacturer recommendations and is provided in Table 1. The particulate on surfaces is collected at the end of each shift and recovered for animal feed.

Natural gas-fired heating, ventilating, air conditioning (HVAC) units are provided for the Whey Plant for the sole purpose of air conditioning or heating the air for the comfort of building occupants. All of these units are on the rooftops (at different levels) of the Whey Plant. Table 4 lists all of the Whey Plant HVAC units with their capacity.

Table 4 – Whey Plant HVAC Units

Point #	Unit ID	Area Served	Manufacturer	Model	Year	Input Max (Btu/hr)
P18	MA 1	Crystallizer room	York/Johnson Controls	DF-200-GMFH-LH-B200R10LGGAA	2010	2,500,000
P19	MA 2	HTST room	York/Johnson Controls	DF-175-GMFH-LH-B175R10LGGAA	2010	2,187,000
P20	MA 3	Permeate dryer burner room	York/Johnson Controls	DF-175-GMFH-LH-B175R10LGGAA	2010	2,187,000
P21	MA 6	Permeate dryer cyclone room	York/Johnson Controls	DF-200-GMFH-LH-B200R10LGGAA	2010	2,500,000
P22	MA 7	Dungeon room	York/Johnson Controls	DF-150-GMFH-LH-B150R10LGGAA	2010	1,875,000
P23	AC-1	Packaging blower room	York/Johnson Controls	0EA700030101	2010	375,000
P24	AC-2	Powder silo room	York/Johnson Controls	DF-40-GMFH-LH-B40R10LGGAA	2010	500,000
P25	AC-3	Packaging bag room	York/Johnson Controls	DF-75-GMFH-LH-B75R10LGGAA	2010	937,000
P26	AC-4	Packaging bulk room	York/Johnson Controls	DF-100-GMFH-LH-B100R10LGGAA	2010	1,250,000
P27	AC-9	Offices	Carrier	D1NA048N090253		108,000
P28	AC-11	Lab	Carrier	J06ZHN10P4AZZ50005A	2010	120,000
P29	AC-12	Breakroom	Carrier	48TFD009-611	2000	125,000
--	AHU 10[1]	Membrane room	Industrial Commercial Equipment	DMA125X	2000	2,112,000
P30	MA 4		Greenheck	PVF350H	2010	700,000

[1] *Direct Fired Unit*

The sanitation process consists of the application of a number of food-safe chemicals (acids, bases and chlorinated compounds) in diluted form on all surfaces and interiors of equipment, rinsed, and air dried.

These chemicals are stored in bulk tanks inside and outside and piped directly to equipment or other sanitizing components. Toxic air pollutant (TAP) emissions from the sanitation process are below regulatory concern (BRC), as shown in Consent Orders E-2014.0007 & E.2015.0003.

1.4 Wastewater Treatment Plant (WWTP) Process

Non-hazardous process wastewater flows from each production facility to the WWTP via gravity sewers to a lift station. During normal operating conditions, process water is pumped from the lift station (T-100) to the equalization tank (T-250). All of the WWTP tanks are open-topped and do not contain hazardous materials.

A secondary 215,000 gallon diversion tank (T-200) is used to store high strength wastewater which can then be blended with other influent wastewater prior to discharging to downstream treatment units. Process wastewater can also be transferred from the lift station directly to one of two sequencing batch reactors (SBR) units, to truck load out, or to be land applied.

Wastewater is transferred from the equalization tanks to one of two SBR's (T-300 and T-350) for reduction of organics and nutrient removal. At the completion of each SBR cycle, wastewater is discharged by gravity via floating decanters to the SBR effluent equalization tank (T-400). Waste activated sludge (WAS) is wasted from the SBR units to maintain the desired mixed liquor concentration in the SBRs to achieve the required treatment. This WAS is piped to T-900. WAS is not a hazardous material and the dewatered form of it is sold as a soil amendment. The T-900 is continually recycled to prevent septic conditions from occurring and to mix the solids in suspension in the tank. The contents of T-900 are pumped to a belt press (BF-1200) to be dewatered, then directly to a contractor's truck for transport and use as compost.

From T-400, treated wastewater is pumped to the clarifier (T-500) for further solids liquid separation. The clarified wastewater overflows from the clarifier to the first of two, 2-staged sand filter units (SF 800, 805, 850, and 855, will be referred to as SF 800 for brevity). Solids removed by the clarifier are collected and discharged to T-700, which is then pumped to BF-1200 for dewatering and transport for use as compost.

Effluent from the SF 800 is re-aerated and ultraviolet (UV) treated prior to gravity discharge to the Purdam Drain under the control of NPDES Permit #ID-002803-7.

Depending on influent flow volume, sand filter reject or backwash water is collected and drained by gravity to the Dissolved Air Flotation (DAF) tank (SL-1000) or T-900 for further treatment or dewatering.

The DAF feeds clarified effluent to the DAF sand filters (SF1000) and sludge to BF-1200. The sand filter effluent is combined with the effluent from SF 800 for aeration and UV treatment before discharge as noted above. Reject water from SF1000 combines with that of SF800 to either SL-1000 or T-900. Filtrate, or run-off water, from BF-1200 is also pumped to the DAF for further treatment.

In the event the effluent does not meet NPDES Permit requirements, Sorrento is permitted to land apply non-hazardous industrial wastewater in compliance with its Idaho Department of Environmental Quality (IDEQ) Reuse Permit I-091-03 (formerly LA-000091-02).

Because none of the water is considered hazardous or relevant to the air permitting process, a flow diagram is not provided here but is on file at IDEQ.

1.5 Fresh Mozzarella Plant

The Fresh Mozzarella Plant makes fresh mozzarella cheese. This requires pasteurized milk in a long, open-top cheese vat (coagulator) to be brought to a specific temperature to promote the growth of bacteria that feed on lactose and ferments the lactose into lactic acid. Rennet is added to cause the casein (protein) to precipitate in the form of curd. As the curd is formed, milk fat is trapped within the casein matrix. Once the cheese curd is cut, the whey is released to begin the partial dehydration of the curd. This whey is transported to the Whey Plant via pipeline. The curd/whey separation is accomplished by using long, blunt knives to cut the curd and turned to release the whey and followed by a process in which the curd it conveyed over a long semi-permeable belt that allows the whey to continue to drain off the curd. The curd is then piped to cookers then molds. The curds or cheese is then released from the molds into a fresh water flume. This water cools the cheese and helps it hold its form. The product is then packaged, boxed, and stored in a refrigerated warehouse until it is shipped.

Fresh mozzarella is produced and packaged for about 18 hours a day. Then the equipment and facility is sanitized prior to the next day's production. The sanitation process consists of the application of a number of food-safe chemicals (acids, bases and chlorinated compounds) in diluted form on all surfaces and interiors of equipment, rinsed, and air dried. These chemicals are stored in bulk tanks inside and outside and piped directly to equipment or other sanitizing components. Toxic air pollutant (TAP) emissions from the sanitation process are below regulatory concern (BRC), as shown in Consent Orders E-2014.0007 & E.2015.0003.

Natural gas-fired heating, ventilating, air conditioning (HVAC) units are provided for the Fresh Mozzarella Plant for the sole purpose of air conditioning or heating the air for the comfort of building occupants. Both are on the roof of the Fresh Mozzarella Plant and exhaust to the atmosphere. Table 5 lists both of these HVAC units with their capacity.

Table 5 – Fresh Mozzarella Plant HVAC Units

Point #	Unit ID	Area Served	Manufacturer	Model	Year	Input Max (Btu/hr)
P31	AC 01	1st floor	Carrier	48TCEA07A2A5A0A0A0	2013	115,000
P32	AC 02	2nd floor	Carrier	48TCEA07A2A5A0A0A0	2013	115,000

1.6 Fire Pump House

A diesel pump is used to provide water to the fire sprinkler systems within each plant. The pump activates (automatically) only in emergencies or when being tested. The 235.9 brake horsepower (bhp) pump engine is a Peerless Model #JD/RG6081H132189 (horizontal) diesel pump rated for 2500 gallons per minute (GPM) water flow. The pump engine exhaust has been assigned Point No. P34. The engine was installed in June 2001 and fuel for the pump engine is limited to distillate fuel (No. 1 and/or No. 2 diesel) with a maximum sulfur content of 0.05 percent by weight.

1.7 Summary

Table 6 provides a summary of all emission sources at the Sorrento Lactalis, Nampa site.

Table 6 - Sorrento Lactalis Emission Points

Point #	*Source*	*PTC Version*	*Pollutant(s)*
P1	Meyers-Sterner Whey Dryer Baghouse	July 20, 2001	PM_{10}
P2	TetraPak Whey Dryer Burner #1	August 28, 2009 and after	Natural Gas Combustion Products
P3	TetraPak Whey Dryer Burner #2	August 28, 2009 and after	Natural Gas Combustion Products
P4	TetraPak Whey Dryer Scrubber	August 28, 2009 and after	PM_{10}
P5	TetraPak Whey Dryer Baghouse	August 28, 2009 and after	PM_{10}
P6	Cleaver Brooks 1200 HP	August 28, 2009 and after	Natural Gas Combustion Products
P7	Superior 800 HP	July 20, 2001	Natural Gas Combustion Products
P8	Cleaver Brooks 600 HP	July 20, 2001	Natural Gas Combustion Products
P9	Hurst 800 HP	N/A, NSPS notification only	Natural Gas Combustion Products
P10	Cheese Plant AC 02	N/A	Natural Gas Combustion Products
P11	Cheese Plant AC 03	N/A	Natural Gas Combustion Products
P12	Cheese Plant AC 04	N/A	Natural Gas Combustion Products
P13	Cheese Plant AC 05	N/A	Natural Gas Combustion Products
P14	Cheese Plant AC 15	N/A	Natural Gas Combustion Products
P15	Cheese Plant AC 16	N/A	Natural Gas Combustion Products
P16	Cheese Plant AC 17	N/A	Natural Gas Combustion Products
P17	Cheese Plant AC 24	N/A	Natural Gas Combustion Products
P18	Whey Plant MA 1	August 28, 2009 and after	Natural Gas Combustion Products
P19	Whey Plant MA 2	August 28, 2009 and after	Natural Gas Combustion Products
P20	Whey Plant MA 3	August 28, 2009 and after	Natural Gas Combustion Products
P21	Whey Plant MA 6	August 28, 2009 and	Natural Gas Combustion Products

		after	
P22	Whey Plant MA 7	August 28, 2009 and after	Natural Gas Combustion Products
P23	Whey Plant AC-1	August 28, 2009 and after	Natural Gas Combustion Products
P24	Whey Plant AC-2	August 28, 2009 and after	Natural Gas Combustion Products
P25	Whey Plant AC-3	August 28, 2009 and after	Natural Gas Combustion Products
P26	Whey Plant AC-4	August 28, 2009 and after	Natural Gas Combustion Products
P27	Whey Plant AC-9	August 28, 2009 and after	Natural Gas Combustion Products
P28	Whey Plant AC-11	August 28, 2009 and after	Natural Gas Combustion Products
P29	Whey Plant AC-12	N/A	Natural Gas Combustion Products
P30	Whey Plant MA 4	August 28, 2009 and after	Natural Gas Combustion Products
P31	Fresh Mozz AC 01	N/A	Natural Gas Combustion Products
P32	Fresh Mozz AC 02	N/A	Natural Gas Combustion Products
P34	Fire Pump	N/A	Diesel Fuel Combustion Products
P35	Cheese Plant AC 01	N/A	Natural Gas Combustion Products
P37	Cheese Plant AC 14	N/A	Natural Gas Combustion Products
P40	Cheese Plant Donaldson Dust Collection Unit	N/A	PM_{10}

2 Applicable Requirements

Air Pollution regulations applicable to the proposed facility are discussed in this section.

2.1 Federal Requirements

The following includes the Federal rules and regulations applicable to this PTC modification:

2.1.1 40 CFR 52 – Prevention of Significant Deterioration (PSD)

The facility is not a PDS major facility and does not belong to any designated source category; therefore PSD review is not applicable.

2.1.2 40 CFR 60 – New Source Performance Standards (NSPS)

40 CFR 60 Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

All four natural gas-fired boilers are subject to Subpart Dc because they are steam generating units with heat input capacity greater than 10 MMBtu/hr but less than 100 MMBtu/hr and were constructed or modified after June 9, 1989. Applicable requirements for these boilers are already reflected in the current permit, PTC P-2009.0023, DEQ Project No. 61510, issued May 1, 2015. Because the boilers will combust only natural gas, the facility is subject only to the reporting and recordkeeping requirements listed in §60.48c.

60.48c Reporting and recordkeeping requirements.

(a) Notification of the date of construction or reconstruction and actual startup. Provide heat input capacity of the facility and the identification of fuels to be combusted in the affected facility.

(g)(2) Record and maintain records of the amount of each fuel combust during each calendar month.

Records required under this section are to be maintained by the facility owners for two years.

The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

2.1.3 40 CFR 61 and 63– National Emission Standards for Hazardous Air Pollutants (NESHAPs)

The diesel fire pump engine is an affected source subject to 40 CFR 63, Subpart ZZZZ, NESHAP for Stationary Reciprocating Internal Combustion Engines. The requirements listed below are applicable to

this pre-2005 diesel-fired emergency engine which is rated at less than 500 hp, located at an area source of HAPs emissions, and is not contractually obligated to be available for the purposes specified in Subpart ZZZZ, §6640(f)(2)(ii) and (iii) or §6640(f)(4)(ii).

- *No operating limitations.*
- *No fuel requirements.*
- *No performance testing requirements.*

Monitoring, Installation, Collection, Operation, and Maintenance Requirements

§63.6625(e)(3), Sorrento Lactalis must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop its own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

§63.6625(f), Sorrento Lactalis must install a non-resettable hour meter if one is not already installed.

§63.6655(e)(2), Sorrento Lactalis must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan.

Table 2d No. 4:

a. *Change oil and filter every 500 hours of operation or annually, whichever comes first (see Note 1);*
b. *Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and*
c. *Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.*

Note 1. Sources have the option to utilize an oil analysis program as described in §63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2d of this subpart.

- *No initial compliance requirements.*

Continuous Compliance

§63.6605(a) You must be incompliance with the emission limitations and operating limitations in this subpart that apply to you at all times.

§63.6605(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

§63.6640(a) You must demonstrate continuous compliance with each emission limitation and operating limitation in ...Table 2d to this subpart that apply to you according to the methods specified in Table 6 to this subpart [work management practices only].

– No notification requirements.

Table 7 summarizes the Federal Requirements and the emission source(s) they apply to:

Table 7 – Summary of Federal Requirements and Applicable Emission Point(s)

Federal Requirements	Emission Point(s) or Source (s)
40 CFR 52 – Prevention of Significant Deterioration (PSD)	None
40 CFR 60 – New Source Performance Standards Subpart Dc – Standards for Performance for Small Industrial-Commercial-Institutional Steam Generating Units	P-6, P-7, P-8, P-9 (Boilers)
40 CFR 61 – National Emission Standards for Hazardous Air Pollutants (NESHAPs)	None
40 CFR 63 – National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Source Categories, Subpart ZZZZ – NESHAP for Stationary Reciprocating Internal Combustion Engines	P-34 (Fire Pump Engine)

2.2 State Requirements

Applicable state requirements include the following. All citations refer to specific sections of IDAPA 58.01.01, Rules for the Control of Air Pollution in Idaho.

2.2.1 IDAPA 58.01.01.123 Certification of Documents.

All documents, including but not limited to, application forms for permits to construct, application forms for operating permits, progress reports, records, monitoring data, supporting information, testing reports or compliance certifications submitted to the Department shall contain a certification by a responsible official.

2.2.2 IDAPA 58.01.01.128 Confidential Information

Not applicable as no confidential information is being submitted.

2.2.3 IDAPA 58.01.01.201 Permit to Construct Required

A modification to the existing PTC is required to address the issues listed in Section 1 of this application. Affected units:

1. 600 HP Cleaver Brooks boiler
2. 800 HP Superior boiler
3. Natural gas-fired heaters/air handling units throughout the facility
4. TetraPak Whey Dryer scrubber

2.2.4 IDAPA 58.01.01.203 Permit Requirements for New and Modified Stationary Sources

1. The maximum heat input rating for the 600 HP Cleaver Brooks boiler must be changed from 20.1 MMBtu/hr to 24.5 MMBtu/hr.

2. The maximum heat input rating for the 800 HP Superior boiler must be changed from 20.1 MMBtu/hr to 24.8 MMBtu/hr.

3. The annual NO_2 NAAQS of 53 parts per billion (ppb) was promulgated in 1971. Compliance with the standard was demonstrated using the annual arithmetic average of the ambient impacts. It was very unusual for small source of NOx emissions to have any effect on the compliance determination for this annual standard. In accordance with normal practice and DEQ guidance at the time, the 2001 and 2009 PTC applications and compliance demonstrations did not include the natural gas-fired heating/air handling units installed throughout the facility.

   EPA promulgated the much more restrictive one-hour NO_2 standard of 100 ppb on February 9, 2010. Compliance with the standard was demonstrated using the 98th percentile value. This standard was not effective in Idaho until the state Legislature adjourned *sine die* on April 7, 2011.

   Construction of the Fresh Mozzarella plant in 2013 included installation of two natural gas-fired 0.115 MMBtu/hr air handling units (P-31 and P32). Even if these units had been presumed to operate continuously throughout the year (i.e., 8760 hr/yr), the total NOx emissions would have been 5.0 E-04 lb/hr (0.0005 lb/hr) and 2.2E-03 tons per year (T/yr, or 0.0022 T/yr). The annual emission rate was only 0.05 percent of the 4 T/yr threshold, and would have been considered below regulatory concern (BRC) in accordance with DEQ's 2013 modeling guideline. In addition, the hourly and annual emission rates were only 0.23 percent and 0.18 percent of DEQ's Level I modeling thresholds of 0.20 lb/hr and 1.2 T/yr, respectively. Dispersion modeling would not have been required to demonstrate compliance with the 1-hr NO_2 standard for the increase in NOx emissions as a result of adding these two small units, neither would this increase have triggered facility-wide modeling to include all existing NOx sources.

   The Superior Boiler was modified in 2014 to replace a 600 HP burner rated at 20.1 MMBtu/hr with an 800 HP burner rated at 31.5 MMBtu/hr, but modified and down-rated by the manufacturer to 24.8 MMBtu/hr. The boiler was and is operated exclusively on natural gas. The 4.7 MMBtu/hr increase in the burner rating to 24.8 MMBtu/hr would result in increasing NOx emissions by 0.46 lb/hr and 2.0 T/yr. This increase in emissions would have been considered BRC in accordance with DEQ's 2013 modeling guideline. Dispersion modeling would not have been required to demonstrate compliance with the 1-hr NO_2 standard for this burner modification, nor would this increase have triggered facility-wide modeling to include all existing NOx sources.

   Even if the increase in the burner rating was presumed to be 11.4 MMBtu/hr (i.e., increasing the burner rating from 20.1 to 31.5 MMBtu/hr), the increase in NOx emissions would be 1.12 lb/hr and 4.91 T/yr. In accordance with EPA guidance for the ambient ratio method (ARM), which allows presuming that 80 percent, rather than 100 percent, of NOx is converted to NO_2, the annual emission rate of NO_2 would be 3.9 T/yr. This is below the 4 T/yr threshold to have been considered BRC.

Dispersion modeling would not have been required to demonstrate compliance with the 1-hr NO_2 standard for this burner modification, nor would this increase have triggered facility-wide modeling to include all existing NOx sources.

Nevertheless, Sorrento Lactalis has agreed to demonstrate that emissions from heaters/air handling units at the facility do not cause a violation of any ambient air quality standard.

All of these HVAC units utilize natural gas for heating during the winter months, so operate less than half the year. Operation and maintenance are done according with manufacturer recommendations. Combustion emission rates will be determined based on maximum rated fire rates in 2885 hours per year (based on the heating-degree day data). The facility anticipates that the IDEQ will require permit conditions to the plant to protect the National Ambient Air Quality Standards (NAAQS) and to comply with the toxic air pollutant (TAP) standards by limiting the volume of natural gas the facility may consume per year to no more than 2333.33 MMscf/year.

4. Revise the minimum average pressure drop for the TetraPak Whey Dryer Scrubber to 5.25 inches water gauge (" w.g.") and the minimum average scrubber liquid flow rate to 599 gallons per minute (gpm), as measured during the October 2, 2014 source test. Include permit conditions for periodic monitoring of both the scrubber pressure drop and liquid flow rate. Incorporate a requirement to conduct a performance test on the scrubber by October 1, 2017 to demonstrate compliance with the PM10 emissions rate limit listed in the revised (2016) PTC.

2.2.5 IDAPA 58.01.01.210 Demonstration of Preconstruction Compliance with Toxic Standards

210.01. Identification of Toxic Air Pollutants.

All TAP emitted by these emission units shall be identified and are listed in the Modeling Report in Appendix 2 and in the emission inventory included as Appendix 3.

210.02 Quantification of Emission Rates

Emission rates of all TAP shall be estimated using emission factors or periodic testing data. This analysis is included in the emission inventory included as Appendix 3.

210.03 Quantification of Ambient Concentrations

Modeling of facility-wide emissions was performed as described in the Modeling Report included as Appendix 2.

210.04. Preconstruction Compliance Demonstration is not applicable since this is not new construction.

2.2.6 IDAPA 58.01.01.213 – Pre-Permit Construction

213.01. Pre-Permit Construction Eligibility is not applicable since this is not new construction or modification to equipment.

2.2.7 IDAPA 58.01.01.220 General Exemption Criteria for Permit to Construct Exemptions

2.2.7.1 IDAPA 58.01.01.221 Category I Exemption

221.01 Below Regulatory Concern

The maximum capacity of the Cheese Plant Donaldson Dust Collection unit to emit an air pollutant under its physical and operational design considering limitations on emissions such as hours of operation is less than ten percent (10%) of the significant emission rates for particulate matter and was not installed as a part of a proposed new major facility or part of a proposed major modification.

2.2.7.2 IDAPA 58.01.01.222 Category II Exemption

222.01.d. Stationary internal combustion engines used exclusively for emergency purposes which are operated less than five hundred (500) hours per year and are fueled by natural gas, propane gas, liquefied petroleum gas, distillate fuel oils and diesel fuel; waste oil, gasoline, or refined gasoline will not be used.

The fire pump is used for emergency purposes (provides water during a fire) and is operated less than five hundred (500) hours per year. The fire pump is fueled by distillate diesel fuel with a maximum sulfur content of 0.05 percent

222.02.a Other Exempt Sources

Eleven of the Whey Plant HVAC units used for air conditioning or ventilating were installed as part of a proposed new major facility or part of a proposed major modification, but not designed to remove air pollutants generated by or released from equipment. None of the other HVAC units were installed as part of a proposed new major facility or part of a proposed major modification.

222.02.c Other Exempt Sources

The four boilers combust natural gas exclusively and are all rated at less than 50 MM Btu/hr of heat input. Boilers 1-3 were not installed as part of a proposed new major facility or part of a proposed major modification. Boiler 4 (P-6) was submitted in the application for the PTC version August 28, 2009.

2.2.8 IDAPA 58.01.01.577 Ambient Air Quality Standards for Specific Air Pollutants

Compliance with all applicable ambient air quality standards is discussed in Section 5 and in the Modeling Report included as Appendix 2.

2.2.9 IDAPA 58.01.01.578 Designation of Attainment, Unclassifiable, and Nonattainment Areas

Not applicable – designation of attainment, unclassifiable, and nonattainment areas is the responsibility of IDEQ. Current attainment status of the facility location is discussed in Section 4.

2.2.10IDAPA 58.01.01.585 Toxic Air Pollutants Non-Carcinogenic Increments

Compliance with AACs is addressed in Section 5 and in the Modeling Report included as Appendix 2.

2.2.11IDAPA 58.01.01.586 Toxic Air Pollutants Carcinogenic Increments

Compliance with AACCs is addressed in Sections 5 and in the Modeling Report included as Appendix 2.

2.2.12IDAPA 58.01.01.590. New Source Performance Standards

Each of the four boilers is subject to 40 CFR 60, Subpart Dc. See Section 2.1.2.

2.2.13IDAPA 58.01.01.591 National Emissions Standards for Hazardous Air Pollutants

The fire pump engine is subject to 40 CFR 63, Subpart ZZZZ. Compliance with NESHAPs is discussed in Section 2.1.

2.2.14IDAPA 58.01.01.625 Visible Emissions

A person shall not discharge any air pollutant into the atmosphere from any point of emission for a period or periods aggregating more than three (3) minutes in any sixty (6) minute period which is greater than twenty percent (20%) opacity as determined by this section (625).

625.02 Standards for Exempted Sources.

For sources exempted from provisions of this section, a person shall not discharge any air pollutant into the atmosphere from any point of emission for a period or periods aggregating more than three (3) minutes in any sixty (6) minute period which is greater than forty percent (40%) opacity as determined by this section (625).

2.2.15IDAPA 58.01.01.676 Standards for New Sources (Fuel Burning Equipment—Particulate Matter)

A person shall not discharge into the atmosphere from any fuel burning equipment with a maximum rated input of ten (10) million BTU's per hour or more, and commencing on or after October 1, 1979, particulate matter in excess of concentrations shown in the following table:

FUEL TYPE	ALLOWABLE PARTICULATE gr/dscf	EMISSIONS Oxygen
Gas	.015	3%

The effluent gas volume shall be corrected to the oxygen concentration shown.

2.2.16 IDAPA 58.01.01.679 Averaging Period.

For purposes of Sections 675 through 680, emissions shall be averaged according to the following, whichever is the lesser period of time:

01. One cycle. One (1) complete cycle of operation; or
02. One hour. One (1) hour of operation representing worst case conditions for the emissions of particulate matter.

2.2.17IDAPA 58.01.01.700. Particulate Matter – Process Weight Limitations

*01. **Particulate Matter Emission Limitations.** Notwithstanding the provisions of Sections 701 and 702, no source shall be required to meet an emission limit of less than one (1) pound per hour.*
*02. **Averaging Period.** For the purposes of Sections 701 through 703, emissions shall be averaged according to the following, whichever is the lesser period of time:*
a. One cycle. One (1) complete cycle of operation; or
b. One hour. One (1) hour of operation representing worst case conditions for the emissions of particulate matter

2.2.18 IDAPA 58.01.01.701. Particulate Matter - New Equipment Process Weight Limitations

*01. **General Restrictions**. No person shall emit into the atmosphere from any process or process equipment commencing operation on or after October 1, 1979, particulate matter in excess of the amount shown by the following equations, where E is the allowable emission from the entire source in pounds per hour, and PW is the process weight in pounds per hour.*
5.1.1 If PW is less than 9,250 pounds per hour, $E = 0.045(PW)^{0.60}$
5.1.2 If PW is equal to or greater than 9,250 pounds per hour, $E = 1.10(PW)^{0.25}$
02. Exemption. The provisions of Section 701 shall not apply to fuel burning equipment.

Compliance with process weight limitations was demonstrated in the 2009 application (see Appendix 5).

Summaries of emission sources and applicable State requirements are provided in Tables 8 and 9 :

Table 8 – Summary of Emission Point(s) and Applicable State Requirements

Emission Point(s) or Source (s)	State Requirements
P-1 – WPC Dryer Baghouse	IDAPA 58.01.01.123, 203, 210, 577, 585, 586, 591, 625, 676,679
P-2 – TetraPak Burner 1	IDAPA 58.01.01.123, 203, 210, 577, 585, 586, 591, 625, 676,679

P-3 – TetraPak Burner 2	IDAPA 58.01.01.123, 203, 210, 577, 585, 586, 591, 625, 676,679
P-4 – TetraPak Wet Scrubber	IDAPA 58.01.01.123, 203, 210, 577, 585, 586, 591, 625, 679
P-5 – TetraPak Baghouse	IDAPA 58.01.01.123, 203, 210, 577, 585, 586, 591, 625, 679
P-6 – 1200 HP Cleaver Brooks Boiler	IDAPA 58.01.01.123, 203, 210, 577, 585, 586, 591, 625, 676,679
P-7 – 800 HP Superior Boiler	IDAPA 58.01.01.123, 210, 222.02.c, 577, 585, 586, 591, 625.02
P-8 – 600 HP Cleaver Brooks Boiler	IDAPA 58.01.01.123, 210, 222.02.c, 577, 585, 586, 591, 625.02
P-9 – 800 HP Hurst Boiler	IDAPA 58.01.01.123,210, 222.02.c, 577, 585, 586, 591, 625.02
P-40 - Cheese Plant Donaldson Unit	IDAPA 58.01.01.123, 210, 221.01, 577, 585, 586, 591, 625.02
Cheese Plant HVAC Units	IDAPA 58.01.01.123, 210, 222.02.a, 577, 585, 586, 591, 625.02
Whey Plant HVAC Units AC-12	IDAPA 58.01.01.123, 210, 222.02.a, 577, 585, 586, 591625.02
Whey Plant HVAC Units MA 2, MA 3, MA 4, MA 6, MA 7, AC-1, AC-2, AC-3, AC-4, AC-9, AC-11	IDAPA 58.01.01.123, 210, 577, 585, 586, 591, 625.02
Fresh Mozzarella Plant HVAC Units	IDAPA 58.01.01.123, 210, 222.02.a, 577, 585, 586, 591, 625.02
P-34 - Fire Pump	IDAPA 58.01.01.123, 210, 222.01.d

Table 9 – Summary of Applicable State Requirements and Emission Point(s)

State Requirements	Emission Point(s) or Source (s)
IDAPA 58.01.01.123 – Certification of Documents	All points/sources
IDAPA 58.01.01.128 – Confidential Information	N/A
IDAPA 58.01.01.201 – Permit to Construct Required	N/A
IDAPA 58.01.01.203 – Permit Requirements for New and Modified Stationary Sources	P-1-6, and the following Whey Plant HVAC units: MA 1, MA 2, MA 3, MA 4, MA 6, MA 7, AC-1, AC-2, AC-3, AC-4, AC-9, AC-11
IDAPA 58.01.01.210 – Demonstration of Preconstruction Compliance with Toxic Standards.	All points/sources
IDAPA 58.01.01.213 – Pre-Permit Construction	N/A
IDAPA 58.01.01.220 – General Exemption Criteria for Permit to Construct Exemptions	
IDAPA 58.01.01.221.01 – Category 1 Exemption, Below Regulatory Concern	P-40
IDAHA 58.01.01.221.01.d – Category 1	P-34

Exemption, Emergency Stationary Internal Combustion Engines	
IDAPA 58.01.01.222.02.a – Category II Exemption, Other Exempt Sources, Air Conditioning or Ventilating Equipment	P-9; Cheese Plant HVAC Units AC 02, AC 03, AC 04, AC 05, AC 06, AC 14, AC 15, AC 16, AC 17, AC 24; Whey Plant HVAC Units AC-12; Fresh Mozzarella Plant HVAC Units AC 01, AC 02
IDAPA 58.01.01.222.02.c – Category II Exemption, Other Exempt Sources, Fuel Burning Equipment using Natural Gas and less than 50 Million Btu's/hr Input	P-7, P-8, P-9
IDAPA 58.01.01.223 - Exemption Criteria and Reporting Requirements for Toxic Air Pollutant Emissions	None
IDAPA 58.01.01.577 – Ambient Air Quality Standards for Specific Air Pollutants	All points/sources
IDAPA 58.01.01.578 – Designation of Attainment, Unclassifiable, and Nonattainment Areas	N/A
IDAPA 58.01.01.585 – Toxic Air Pollutants Non-Carcinogenic Increments	All points/sources
IDAPA 58.01.01.586 – Toxic Air Pollutants Carcinogenic Increments	All points/sources
IDAPA 58.01.01.590 – New Source Performance Standards	N/A
IDAPA 58.01.01.591 – National Emissions Standards for Hazardous Air Pollutants (NESHAPs)	All points/sources
IDAPA 58.01.01.625 – Visible Emissions	P-1-6
IDAPA 58.01.01.625.02 – Visible Emissions, Standards for Exempted Sources	P-40; P-9; Cheese Plant HVAC Units AC 02, AC 03, AC 04, AC 05, AC 06, AC 14, AC 15, !C 16, AC 17, AC 24; Whey Plant HVAC Units AC-12, AC-10; Fresh Mozzarella Plant HVAC Units AC 01, AC 02; P-7, P-8, P-9
IDAPA 58.01.01.676 – Standards for New Sources (Fuel-Burning Equipment-Particulate Matter)	P-1, P-2, P-3, P-6, P-7, P-8, P-9
IDAPA 58.01.01.679 – Averaging Period	P-1-6
IDAPA 58.01.01.700 – Particulate Matter – Process Weight Limitations	P-1-6

3 Potential to Emit/Emissions Estimates/Limitation on Potential to Emit

3.1 Emission Estimates and Past Test Results

Emissions for existing equipment that have been stack performance tested in accordance with past versions of this permit are provided here. Emissions are estimated for the remaining equipment as summarized in the Emissions Inventory (see Appendix 3).

Table 10 - Performance Test Emissions

Source	Test Date	Pollutant	gr/dscf	lb/hr
Meyers-Sterner Whey Dryer	2/18/2013	PM/PM_{10}	1.9E-3	0.24
TetraPak Wet Scrubber	10/2/2014	PM/PM_{10}	0.0031	1.3
TetraPak Baghouse	6/3/2011	PM/PM_{10}	N/A	1.22

Boilers (Cheese Plant), HVAC units, Whey Dryer Burner Stacks

Emissions from these sources were calculated by multiplying the boiler's heat input capacity times the emission factors for natural combustion found in EPA AP-42, Chapter 1.4 "Natural Gas Combustion". Emission rates were calculated for both criteria pollutants and toxic air pollutants (TAPs). The calculated emission rates represent the potential to emit based on maximum rated natural gas combustion, if all sources were operated 24 hrs/day, 365 days/year. The summary or total of those emissions (including the exempt Donaldson Dust Collection Unit) are shown in Table 10. Since all of the HVAC units would only be combusting natural gas during the cold months of the year, this is an overestimate of actual emissions. The emissions data that support this are provided in the Emissions Inventory (see Appendix 3.) An electronic file is provided with the Excel spreadsheets so that formulas may be verified.

Table 11 – Emissions from Natural Gas Combustion

Pollutant	Meyers-Sterner Whey Dryer w/ Cyclone/BH	TetraPak Whey Dryer - Burner 1	TetraPak Whey Dryer - Burner 2	Cleaver Brooks 600 HP	Superior 800 HP	Hurst 800 HP	Cleaver Brooks 1200 HP	Natural Gas-Fired Heaters @8760	TOTAL
PM	7.3	0.41	0.41	0.80	0.81	1.10	1.60	0.90	**13.3**
PM_{10}	7.3	0.41	0.41	0.80	0.81	1.10	1.60	0.90	**13.3**
$PM_{2.5}$	4.8	0.41	0.41	0.80	0.81	1.10	1.60	0.90	**10.9**
SO_2	0.02	0.03	0.03	0.06	0.06	0.09	0.13	0.07	**0.49**
NO_2	1.20	2.19	2.19	10.54	10.67	14.46	21.09	11.81	**74.1**
CO	9.81	17.05	17.05	8.85	8.96	12.15	17.71	9.92 *3.27*	**101.5** ***98.2******
VOCs	0.14	0.30	0.30	0.58	0.59	0.80	1.16	0.65	**4.5**
Lead	1.29E-05	2.69E-05	2.69E-05	5.27E-05	5.34E-05	7.23E-05	1.05E-04	5.91E-05	**4.10E-04**

*CO emissions from heaters operating 2,885 hours per year instead of 8,760 hours per year.

3.2 Fuel Burning Equipment – Particulate Matter

Fuel-burning equipment is defined in IDAPA 58.01.01.006 as any furnace, boiler, apparatus, stack and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer. Particulate matter emission limits for fuel-burning equipment are established in IDAPA 58.01.01.675. The limit for sources combusting natural gas and in operation after October 1, 1979 is 0.015 grains per dry standard cubic foot (dscf) corrected for 3% oxygen.

- All of the heaters/air handling units that provide indirect heat have rated heat input capacities less than 10 MMBtu/hr, and are therefore not subject to this standard.

- All four boilers and the two TetraPak Whey Dryer burners are subject to this standard. Demonstration of compliance with this standard was included in the 2009 application (See Appendix 5).

3.3 Limitations on Potential to Emit

The scrubber (P-4) and baghouses (P1 and P-5) are air control devices that are required to prevent exceedance of National Ambient Air Quality standards for PM_{10}. The following are the process limitations for the Dryers according to the PTC issued for them:

Table 12 - Process Limitations

Source	Process Limitations (lb/hr dried powder, 24 hour average)	PTC Version
Meyers-Sterner Whey Dryer	1496	March 13, 2014
TetraPak Whey Dryer	16,667	August 28, 2009
Fire Pump Engine	Limited to operating a maximum of 0.5 hr/day and 500 hr/yr.	2016

Combustion emission rates were determined based on maximum rated firing rates and therefore do not require any limitations on hours of operation.

The facility is considered a synthetic minor source since it relies on physical controls to prevent exceedance of the major source classification.

4 Facility Classification

The Sorrento Lactalis facility is located in Nampa, Canyon County, Idaho. This area is considered attainment or unclassified for all criteria pollutants.

The facility is not a designated facility as defined in IDAPA 58.01.01.006.30. The facility is not a major facility as defined in IDAPA 58.01.01.008.10. Calculations showing facility-wide emissions of hazardous air pollutants (HAPs), mercury, greenhouse gases (GHGs), and criteria pollutants are included in the emissions inventory (see Appendix 3).

The primary SIC Code for the facility is 2023 and the NAICS codes are 311513 and 311514.

APPENDIX 2. Ambient Air Quality Dispersion Modeling Analysis Report

1.0 Summary

The Sorrento Lactalis, Inc. (Sorrento) Nampa Cheese Plant is an existing facility producing natural cheese, dry whey products, and cultured cream cheese. The main process and support areas currently include the Cheese Plant, Whey Plant, Fresh Mozzarella Plant, and the Wastewater Treatment Plant (WWTP). In 2009, dispersion modeling addressed facility-wide emissions from the main process equipment, including dryers and boilers, but did not address emissions from existing natural gas-fired heaters, an existing fire pump engine, the installation of several natural gas-fired air handling units (AHUs) and heaters installed as part of this larger project in 2010.

In 2012-2013, the plant added the capacity to produce up to 100,000 pounds per day of fresh mozzarella cheese in a new 60,000 square foot building on the northeast side of then-existing plant buildings. Two new natural gas-fired AHUs were added with this project.

In 2014, the burner for the Superior Boiler was replaced. The existing burner was rated at 600 boiler horsepower (HP) with a maximum heat input capacity of 20.1 million British thermal units per hour (MMBtu/hr). This was replaced by an 800 HP burner de-rated by the manufacturer to a maximum heat input capacity of 24.8 MMBtu/hr.

In 2014, an inspection identified that the rated heat input capacity for the 600 HP Cleaver Brooks boiler was 24.5 MMBtu/hr instead of 20.1 MMBtu/hr. A review of records sent to DEQ in 2003 reveals that this boiler was reported with an input of 24.49 MMBtu/hr. Unfortunately, a error was made in the 2009 PTC application that identified the boiler as having an input capacity of 20.1 MMBtu/hr. The 2010 DEQ inspection did not identify this error. So this modification corrects the error made in 2009.

The purpose of this analysis is to demonstrate that facility-wide emissions from Sorrento's Nampa plant, including the increased emissions from the 800 HP Superior boiler and the 600 HP Cleaver Brooks boiler, combustion emissions from natural gas-fired AHUs and heaters, and the diesel-fired emergency fire pump engine do not cause or significantly contribute to a violation of any air quality standard and facility-wide emissions of CO do not equal or exceed 100 tons per year.

Robinson Environmental Consulting, LLC (REC) conducted full-impact atmospheric dispersion modeling for Sorrento's Nampa plant. Facility-wide emissions of CO, SO_2 and lead were below modeling thresholds. The ambient air quality impacts resulting from emissions of other criteria pollutants from the plant are summarized in Table 1-1, and demonstrate that these emissions, combined with appropriate background concentrations, do not equal or exceed any NAAQS.

Table 1-1. FULL-IMPACT MODELING RESULTS FOR CRITERIA POLLUTANTS

Pollutant	Averaging Period	Modeled Ambient Impact ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Total Ambient Impact ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Percent of NAAQS
PM_{10}	24-hr	24.7	70.2	94.9	150	63.3%
$PM_{2.5}$	24-hr	11.7	23.1	34.8	35	99.4%
	Annual	3.5	7.8	11.2	12	93.3%
CO	1-hr	---	1657	---	40,000	---
	8-hr	---	996	---	10,000	---
NO_2	1-hr	92.7	80.9	173.6	188	92.3%
	Annual		10.9		100	
SO_2	1-hr	---	---	---	196	---
	Annual	---	---	---	80	---

NSPS and the pump engine is subject to a NESHAP. Where the emissions from the whey dryer burners and space heaters exceeded an applicable EL, REC conducted dispersion modeling to ensure that the maximum ambient impacts did not equal or exceed the acceptable ambient concentration (AAC) increment for noncarcinogens or the acceptable ambient concentration for carcinogens (AACC) increment. TAPs modeling results are summarized in Table 1-2, and demonstrate that the ambient impacts from these TAPs emissions do not equal or exceed any AAC or AACC increment.

Table 1-2. MODELING RESULTS FOR TOXIC AIR POLLUTANTS

Toxic Air Pollutant	Averaging Period	Maximum Modeled Ambient Impact ($\mu g/m^3$)	AAC/AACC Increment ($\mu g/m^3$)	Percent of AAC/AACC Increment
Carcinogens				
Arsenic	Annual	2.14E-05	2.3E-04	9.3%
Cadmium	Annual	1.18E-04	5.6E-04	21%
Formaldehyde	Annual	8.07E-03	7.7E-02	10%
Nickel	Annual	2.26E-04	4.2E-03	5.4%

Compliance with the more stringent NAAQS that have been implemented since the previous dispersion modeling analyses were conducted in 2009 required changes shown in Table 1-3. The reduction in allowable emissions of $PM_{2.5}$ was necessary to demonstrate compliance with the 24-hour $PM_{2.5}$ standard. Because the boilers operate continuously, it was necessary to increase stack heights to demonstrate compliance with the 1-hour NO_2 standard.

Table 1-3. CHANGES TO EMISSION LIMITS AND STACK HEIGHTS (2016 PTC)

Source ID	Source	Permit Limit		Exhaust Height	
		2009-2015	2016[a]	2009-2015	2016
P1	Meyers-Sterner Whey Dryer (Baghouse Exhaust)	1.66 lb/hr PM_{10} ---	1.66 lb/hr PM_{10} **0.6 lb/hr $PM_{2.5}$**	78 ft	78 ft
P4	TetraPak Whey Dryer Scrubber	5.66 lb/hr PM_{10} ---	5.66 lb/hr PM_{10} **1.9 lb/hr $PM_{2.5}$**	136 ft	136 ft
P5	TetraPak Whey Dryer Baghouse	3.32 lb/hr PM_{10} ---	3.32 lb/hr PM_{10} 3.32 lb/hr $PM_{2.5}$	136 ft	136 ft
P6	Cleaver Brooks 1200 HP boiler	---	---	38 ft	**50 ft**
P7	Superior 800 HP boiler	---	---	35 ft	**50 ft**
P8	Cleaver Brooks 600 HP boiler	---	---	31 ft	**50 ft**
P9	Hurst 800 HP boiler	---	---	38 ft	**50 ft**

[a] Source Tests:

P1, February 18, 2013, Results: 0.0808 lb/hr (Method 5) and 0.1637 lb/hr (Method 202), PM_{10} = 0.24 lb/hr
P4, October 2, 2014, Results: 0.0011 lb/hr (Method 5) and 1.3 lb/hr (Method 202), PM_{10} = 1.31 lb/hr
P5, June 3, 2011, Results: 1.22 (Method 5 and 202) PM_{10} = 1.22 lb/hr

Facility-wide emissions of CO from combustion of natural gas and diesel will remain below 100 tons per year if the emergency fire pump engine is limited to 500 hours per year of operation and the facility-wide consumption of natural gas is limited to 2,333 MMscf (23.75 million therms) per year.

2.0 Project Description and Background as it Relates to Modeling Analyses

2.1 General Facility/Project Description

Sorrento's Nampa Cheese Plant produces a variety of cheese and dry whey products from milk. The purpose of this analysis is to demonstrate that facility-wide emissions from Sorrento's Nampa plant, including the increased emissions from the 800 HP Superior boiler and 600 HP Cleaver Brooks boiler, combustion emissions from natural gas-fired AHUs and heaters, and the diesel-fired emergency fire pump engine do not cause or significantly contribute to a violation of any air quality standard, and that facility-wide emissions of CO are below 100 tons per year.

2.2 Location of Project

__X__ A map showing the geographical location of the facility is provided in this section.

Sorrento's Swiss Village Cheese Plant is located in the western Snake River Plain in a wide valley defined by the Owyhee Mountains to the south and the Boise Front (Boise Foothills) to the north, as shown in Figure 2-1. The facility is located at 4912 E. Franklin Road just east of Nampa, Canyon County, Idaho. UTM coordinates at the approximate center of the facility are 541.0 kilometers (km) Easting and 4828.3 km Northing (datum WGS84) in UTM Zone 11.

Figure 2-1. SORRENTO LACTALIS' NAMPA CHEESE PLANT. AREA MAP

Sorrento's Nampa Cheese Plant is located on a 38.4-acre parcel at the intersection of E. Franklin Road and Star Road, just west of the boundary separating Canyon and Ada Counties, as shown in Figure 2-2. The I-84 freeway runs east-west about one mile south of the facility, with the Garrity Boulevard exit located about two miles to the south and west of the plant. Adjacent land uses currently are primarily agricultural and light industrial, with residential uses located about 0.3 miles (0.5 km) north of the main plant buildings. Rural dispersion coefficients were used in the modeling analyses.

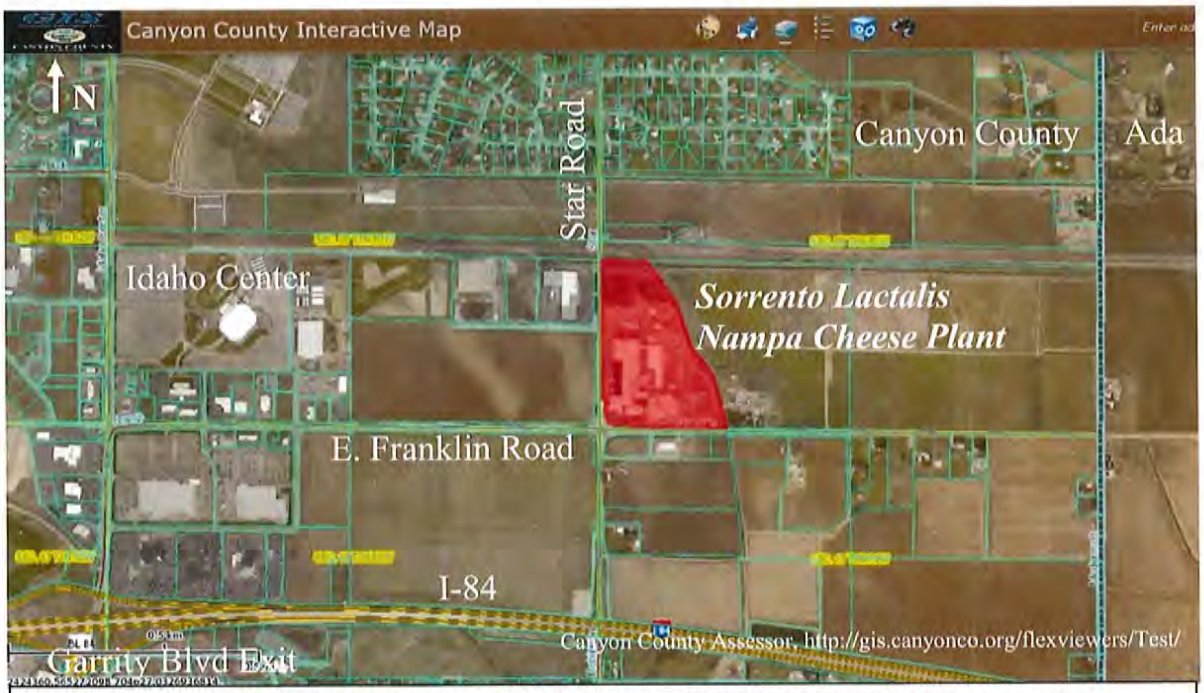


Figure 2-2. SORRENTO LACTALIS' NAMPA CHEESE PLANT – SURROUNDING LAND USES

2.3 Existing Permits and Modeling Analyses Performed

__X__ Any existing air quality permits are listed and described in this section, and any associated air quality modeling analyses have been described and referenced, and submitted if appropriate.

Permits that will be superseded by this permitting action are listed in Section 1, Introduction, of this application. Emissions and parameters for the Meyers-Sterner Whey Dryer (P-1) were taken from the 2009 application, which cited the 2001 application (PTC No. 027-00071, issued July 20, 2001).

The most recent dispersion modeling conducted for the plant was for installation of a new whey dryer and boiler in 2009 (PTC P-2009.0023, issued August 28, 2009). Full-impact dispersion modeling using AERMOD was conducted for emissions of PM_{10}, CO, and NOx from the Meyers-Sterner Whey Dryer, TetraPak Whey Dryer Burners 1 and 2, TetraPak Whey Dryer Scrubber, TetraPak Shaking Bed Baghouse, and four boilers: a 1200 HP Cleaver Brooks, 600 HP Superior, 600 HP Cleaver Brooks, and an 800 HP Hurst. These sources were assigned emission point numbers P-1 through P-9 in the 2009 analysis. The combustion sources were presumed to operate continuously, 8760 hours per year.

The 2009 analysis predated implementation of the NAAQS for 24-hour and annual $PM_{2.5}$ (PM_{10} was still being used as a surrogate), 1-hour NO_2, and 1-hour SO_2. The results of the full-impact analysis are shown in Table 2-1.

Table 2-1. RESULTS FOR 2009 CUMULATIVE IMPACT ANALYSIS

Pollutant	Averaging Period	Maximum Modeled Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Total Ambient Impact ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Percent of NAAQS
PM_{10}	24 hr	25.46	84	109	150	73
	Annual	7.94	27	35	50	70

Table 2-1. RESULTS FOR 2009 CUMULATIVE IMPACT ANALYSIS						
Pollutant	**Averaging Period**	**Maximum Modeled Concentration ($\mu g/m^3$)**	**Background Concentration ($\mu g/m^3$)**	**Total Ambient Impact ($\mu g/m^3$)**	**NAAQS ($\mu g/m^3$)**	**Percent of NAAQS**
Carbon monoxide (CO)	1-hour	308.8	10,200	10,509	40,000	26
	8-hour	137.9	3,400	3,538	10,000	35
Nitrogen dioxide (NO_2)	Annual	34.72	32	67	100	67

The location of modeled maximum impacts was consistent with the strong bimodal wind flow in the Treasure Valley. Meteorological data used for the 2009 analyses were drawn from surface and upper air data collected at the Boise Airport and at the National Weather Service office located near that airport. Maximum impacts occurred relatively close to the ambient air boundary (fence line), as shown in Figure 2-3.

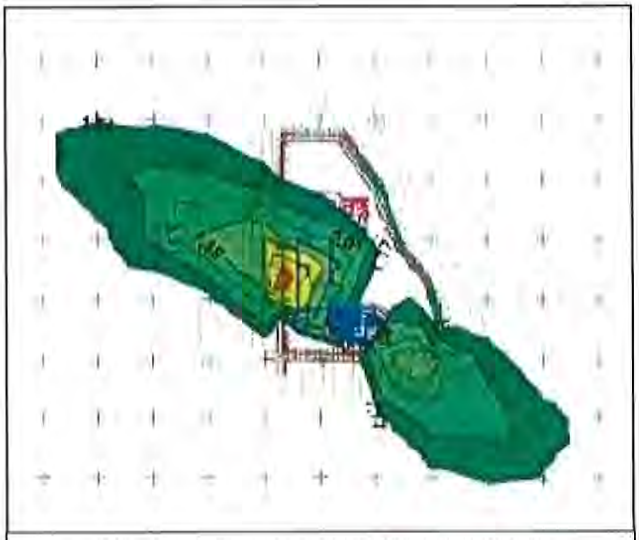


Figure 2-3. ANNUAL PM_{10} IMPACTS (2009)

Emissions of arsenic, cadmium, formaldehyde, and nickel were modeled from the Meyers-Sterner and TetraPak whey dryers and the four boilers, although only the TetraPak burners were new and the new boiler was subject to an NSPS. The results of the TAP analysis are shown in Table 2-2.

Table 2-2. RESULTS FOR 2009 TAPS ANALYSIS				
Pollutant	**Averaging Period**	**Maximum Modeled Concentration ($\mu g/m^3$)**	**AAC/AACC Increment ($\mu g/m^3$)**	**Percent of AAC/AACC Increment**
Arsenic	Annual	7.0E-05	2.3E-04	30
Cadmium	Annual	3.9E-04	5.6E-04	70
Formaldehyde	Annual	2.7E-02	7.7E-02	35
Nickel	Annual	7.5E-04	4.2E-03	18

3.0 Modeling Analyses Applicability and Protocol

3.1 Applicable Standards

Criteria pollutant National Ambient Air Quality Standards (NAAQS) are listed in Table 3-1, along with significant impact levels (SILs).

Table 3-1. APPLICABLE REGULATORY LIMITS

Pollutant	Averaging Period	Significant Impact Levels[a] ($\mu g/m^3$)[b]	Regulatory Limit[c] ($\mu g/m^3$)	Modeled Design Value Used[d]
PM_{10}[e]	24-hour	5.0	150[f]	Maximum 6th highest[g]
$PM_{2.5}$[h]	24-hour	1.2	35[i]	Mean of maximum 8th highest[j]
	Annual	0.3	12[k]	Mean of maximum 1st highest[l]
Carbon monoxide (CO)	1-hour	2,000	40,000[m]	Maximum 2nd highest[n]
	8-hour	500	10,000[m]	Maximum 2nd highest[n]
Sulfur Dioxide (SO_2)	1-hour	3 ppb[o] (7.8 $\mu g/m^3$)	75 ppb[p] (196 $\mu g/m^3$)	Mean of maximum 4th highest[q]
	3-hour	25	1,300[m]	Maximum 2nd highest[n]
	24-hour	5	365[m]	Maximum 2nd highest[n]
	Annual	1.0	80[r]	Maximum 1st highest[n]
Nitrogen Dioxide (NO_2)	1-hour	4 ppb (7.5 $\mu g/m^3$)	100 ppb[s] (188 $\mu g/m^3$)	Mean of maximum 8th highest[t]
	Annual	1.0	100[r]	Maximum 1st highest[n]
Lead (Pb)	3-month[u]	NA	0.15[r]	Maximum 1st highest[n]
	Quarterly	NA	1.5[r]	Maximum 1st highest[n]
Ozone (O_3)	8-hour	40 TPY VOC[v]	75 ppb[w]	Not typically modeled

a. Idaho Air Rules Section 006 (definition for significant contribution) or as incorporated by reference as per Idaho Air Rules Section 107.03.b.
b. Micrograms/cubic meter.
c. Incorporated into Idaho Air Rules by reference, as per Idaho Air Rules Section 107.
d. The maximum 1st highest modeled value is always used for the significant impact analysis unless indicated otherwise. Modeled design values are calculated for each ambient air receptor.
e. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.
f. Not to be exceeded more than once per year on average over 3 years.
g. Concentration at any modeled receptor when using five years of meteorological data.
h. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.
i. 3-year mean of the upper 98th percentile of the annual distribution of 24-hour concentrations.
j. 5-year mean of the 8th highest modeled 24-hour concentrations at the modeled receptor for each year of meteorological data modeled. For the SIL analysis, the 5-year mean of the 1st highest modeled 24-hour impacts at the modeled receptor for each year.
k. 3-year mean of annual concentration.
l. 5-year mean of annual averages at the modeled receptor.
m. Not to be exceeded more than once per year.
n. Concentration at any modeled receptor.
o. Interim SIL established by EPA policy memorandum.
p. 3-year mean of the upper 99th percentile of the annual distribution of maximum daily 1-hour concentrations.
q. 5-year mean of the 4th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of 1st highest modeled 1-hour impacts for each year is used.
r. Not to be exceeded in any calendar year.
s. 3-year mean of the upper 98th percentile of the annual distribution of maximum daily 1-hour concentrations.
t. 5-year mean of the 8th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of maximum modeled 1-hour impacts for each year is used.
u. 3-month rolling average.
v. An annual emissions rate of 40 ton/year of VOCs is considered significant for O_3.
w. Annual 4th highest daily maximum 8-hour concentration averaged over three years.

TAPs emitted from the Sorrento Lactalis Nampa plant are the result of combustion of natural gas and diesel in facility equipment. These TAPs are listed in Table 3-2.

Table 3-2. Toxic Air Pollutant ELs and AACs/AACCs			
TAP	**Non-Carcinogen or Carcinogen**	**Screening Emissions Level (EL) (lb/hr)**	**AAC or AACC ($\mu g/m^3$)**
PAH HAPs			
2-Methylnaphthalene	Carcinogen	9.10E-05	
3-Methylchloranthrene	"	2.50E-06	
Acenaphthene	"	9.10E-05	
Acenaphthylene	"	9.10E-05	
Anthracene	"	9.10E-05	
Benzo(a)anthracene	"	9.10E-05	See POM
Benzo(a)pyrene	"	2.00E-06	See POM
Benzo(b)fluoranthene	"	9.10E-05	See POM
Benzo(g,h,i)perylene	"	9.10E-05	
Benzo(k)fluoranthene	"	9.10E-05	See POM
Chrysene	"	9.10E-05	See POM
Dibenzo(a,h)anthracene	"	9.10E-05	
Dichlorobenzene	"	9.10E-05	
Fluoranthene	"	9.10E-05	
Fluorene	"	9.10E-05	
Indeno(1,2,3-cd)pyrene	"	9.10E-05	See POM
Naphthalene	Noncarcinogen	3.33	
Naphthalene (as carcinogen)	Carcinogen	9.10E-05	
Phenanathrene	"	9.10E-05	
Pyrene	"	9.10E-05	
Polycyclic Organic Matter (POM) 7-PAH Group	"	2.00E-06	
Non-PAH HAPs			
Acetaldehyde	Carcinogen	3.00E-03	
Acrolein	Noncarcinogen	0.017	
Benzene	Carcinogen	8.00E-04	
1,3-Butadiene	"	2.40E-05	
Formaldehyde	"	**5.10E-04**	**7.7E-02**
Hexane	Noncarcinogen	12	
Toluene	"	25	
Xylene	"	29	
Non-HAP Organic Compounds			
Pentane	"	118	
Metals (HAPs)			
Arsenic	**Carcinogen**	**1.50E-06**	**2.3E-04**
Barium	Noncarcinogen	0.033	
Beryllium	Carcinogen	2.80E-05	
Cadmium	**Carcinogen**	**3.70E-06**	**5.6E-04**
Chromium	Noncarcinogen	0.033	
Cobalt	"	0.0033	
Copper	"	0.013	
Manganese	"	0.067	
Mercury	"	0.003	
Molybdenum	"	0.333	
Nickel	**Carcinogen**	**2.70E-05**	**4.2E-03**
Selenium	Noncarcinogen	0.013	
Vanadium	"	0.003	
Zinc	"	0.667	

3.2 Criteria Pollutant Modeling Applicability

__X__ Explanations/documentation why modeling was or was not performed for each criteria pollutant are provided in this section.

__X__ Emissions calculations that clearly show how the modeling applicability determination was performed are provided in this section.

The potential to emit (PTE) regulated pollutants was calculated in accordance with Section 006.88 of the Rules (2015 edition) as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is state or federally enforceable.

Emissions of criteria pollutants for the whey dryers, scrubber, baghouse, and the four boilers were taken from the 2009 modeling analysis, with the exception of $PM_{2.5}$ for process emissions. The ratio of $PM_{2.5}$ to PM_{10} for process emissions was determined based on the results from the most recent source tests available. These sources were presumed to operate continuously, 8760 hours per year. Calculations, assumptions, and manufacturer data for those sources are included in Appendix 5 to this application. Copies of the source test reports are included as Appendix 4 to this application.

Emissions of criteria pollutants from natural gas-fired space heaters were calculated using the maximum heat input rating for each unit and were modeled presuming these sources operate continuously, 8760 hours per year. The fire pump engine was presumed to operate no more than 30 minutes per week for routine testing and a maximum of 500 hours per year. $PM_{2.5}$ emissions were presumed to be equal to PM_{10} emissions for these combustion sources. Heat input ratings were provided by Sorrento based on a review of plant design manuals and field inspections. Calculations for space heater emissions are included in Appendix 3 to this application and in an Excel spreadsheet submitted with this application.

Modeling thresholds developed by DEQ are intended ensure that ambient impacts from project emissions would be less than significant. Because part of this analysis is a supplemental "look-back" for the 2009 project, a comparison of facility-wide emissions with DEQ's Level I modeling thresholds is shown in Table 3-2.

It could be argued that the "project" in this case is limited to the increase in emissions associated with the small rating increases for the 600 HP Cleaver Brooks and 800 HP Superior boilers (a total of 9.1 MMBtu/hr, emitting 0.75 lb/hr CO), emissions associated with natural gas heaters installed after the 1-hr NO_2 NAAQS became effective in Idaho (April 7, 2011) [emissions from all natural gas-fired heaters total 2.26 lb/hr], and emissions from the diesel fire pump engine (1.57 lb/hr), for a total increase in CO emissions of 3.83 lb/hr, which is considerably less than the Level I CO threshold of 15 lb/hr.

As shown in Table 2-1, 2009 modeling results demonstrated that ambient CO impacts from the dryers and all four boilers was only 26 and 35 percent of the 1-hr and 8-hr CO NAAQS, respectively.

As shown in the table, modeling was not required for emissions of SO_2, CO, or lead.

Table 3-2. COMPARISON OF FACILITY-WIDE EMISSIONS WITH MODELING THRESHOLDS

Pollutant	Averaging Period	Sources P-1 through P-9 (2009)		Natural Gas-Fired Heaters (2016)		Fire Pump Engine (2016)		Total		DEQ Level I Modeling Thresholds (2013)	
		(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)
PM_{10}	24-hour	5.2		0.20		0.51		5.92		0.22	
$PM_{2.5}$	24-hour	5.0		0.20		0.51		5.75		0.054	
	Annual		22.4		0.90		0.13		23.4		0.35
SO_2	1-hour	0.10		0.016		0.086		**0.20**		**0.21**	
	Annual		0.42		0.07		0.02		**0.51**		**1.2**

Table 3-2. COMPARISON OF FACILITY-WIDE EMISSIONS WITH MODELING THRESHOLDS											
Pollutant	**Averaging Period**	**Sources P-1 through P-9 (2009)**		**Natural Gas-Fired Heaters (2016)**		**Fire Pump Engine (2016)**		**Total**		**DEQ Level I Modeling Thresholds (2013)**	
		(lb/hr)	**(T/yr)**	**(lb/hr)**	**(T/yr)**	**(lb/hr)**	**(T/yr)**	**(lb/hr)**	**(T/yr)**	**(lb/hr)**	**(T/yr)**
NO_x	1-hour	14.2		2.70		7.28		24.2		0.2	
	Annual		46.5		3.87		1.82		52.2		1.2
CO	1 hour, 8-hours	Δ =0.75 **20.9**		2.26		1.57		Δ =3.83 **24.7**		15 **(II, 175)**	
VOCs	Annual		3.86		0.65		0.15		**4.65**		**40**
Lead	Rolling 3-month average							**0.06** lb/mo		**14** lb/mo	

3.3 TAP Modeling Applicability

__X__ Explanation/documentation on why modeling was or was not performed for emissions of each TAP identified in the emissions inventory are provided in this section.

Controlled TAPs emissions from natural gas combustion were calculated in accordance with Section 210.02.b of the Rules using the maximum capacity of the source or modification under its physical and operational design without the effect of any physical or operational limitations. Emissions were calculated presuming each combustion source operates at its maximum rated heat input capacity 24 hours per day and 8,760 hours per year. Emissions from all sources were summed and compared to screening emission levels (ELs) listed in Sections 585 and 586 of the Rules.

Note that TAP emissions from operating the natural gas-fired boilers and the diesel emergency engine were excluded from this applicability review because the boilers are subject to an NSPS (Subpart Dc) and engine is subject to a NESHAP (Subpart ZZZZ). In accordance with Section 006.20.a and 20.b of the Rules, and the approved modeling protocol, no further procedures will be required for demonstrating preconstruction compliance for TAPs emissions regulated by an NSPS and/or a NESHAP, provided adequate provisions implementing the federal standard are appropriately addressed.

Calculations and a summary sheet for TAPs emissions from all sources are included in Appendix 3 to this application and in an Excel spreadsheet submitted with this application. As shown in Table 3-4, facility-wide emissions of formaldehyde, arsenic, cadmium and nickel exceeded the applicable ELs. Dispersion modeling for the controlled facility-wide emissions of these four carcinogenic pollutants was conducted.

Table 3-4. TAPS EXCEEDING SCREENING EMISSION LEVELS (LB/HR)							
Pollutant	**Meyers-Sterner Whey Dryer w/Cyclone & BH**	**TetraPak Whey Dryer – Burner 1**	**TetraPak Whey Dryer – Burner 2**	**Natural Gas-Fired Heaters**	**Total**	**EL**	**Modeling Required?**
Arsenic	1.18E-06	2.46E-06	2.46E-06	5.37E-06	**1.15E-05**	1.5E-06	Yes
Cadmium	6.48E-06	1.35E-05	1.35E-05	2.95E-05	**6.30E-05**	3.7E-06	Yes
Formaldehyde	4.42E-04	9.21E-04	9.21E-04	2.01E-03	**4.30E-03**	5.1E-04	Yes
Nickel	1.24E-05	2.58E-05	2.58E-05	5.64E-05	**1.20E-04**	2.7E-05	Yes

3.4 Modeling Protocol

REC submitted a modeling protocol to DEQ on January 26, 2016. DEQ issued a protocol approval letter with comments on February 16, 2016, and transmitted revised background concentrations for PM_{10} and $PM_{2.5}$ on February 27, 2016. Project-specific modeling and other required impact analyses were generally conducted using data and methods described in the protocol and in the *Idaho Air Quality Modeling Guideline*.

REC submitted Addendum No. 1 to the protocol in an email to Kevin Schilling on March 7, 2016, requesting to use DEQ's Level II modeling threshold instead of the Level I threshold for CO emissions. DEQ recommended that the justification for using the Level II threshold for CO be included in this report (see Section 3.2).

__X__ The protocol and DEQ's conditional protocol approval notice are included in Appendix A to this modeling report.

__X__ Concerns identified by DEQ in the protocol approval notice have been addressed in the analyses performed and in this modeling report.

4.0 Modeled Emissions Sources

__X__ The modeling emissions inventory and the emissions inventory presented in other parts of the application are consistent, and if they are not identical numbers, it is clearly shown, with calculations submitted, how the modeled value was derived from the value provided in the emissions inventory.

4.1 Criteria Pollutants

Hourly emissions of PM_{10} from whey drying processes match the lb/hr emission limits in the current (2015) permit. New limits on emissions of $PM_{2.5}$ from whey drying processes were determined by the modeling analyses for this pollutant (recent source test results demonstrate compliance with these new limits). For all averaging periods, all combustion sources were presumed to operate 24 hours per day except for the fire pump engine. In accordance with DEQ's modeling guideline, the pump engine emissions were omitted from 1-hour NO_2 modeling. Emission rates for NO_x modeling from all other sources presumed 100 percent conversion of NOx to NO_2.

As recommended in DEQ's conditional protocol approval letter, weekly testing of the pump engine for 30 minutes was handled by spreading the emissions over daylight hours every day. "Daylight hours" for each month were determined based on the earliest sunrise and latest sunset for each month of the year (see Appendix 3 to this application). A set of factors was input into AERMOD using the month, hour-of-day, and day of week (MHRDOW) option in BEEST, to be applied to the lb/hr emissions rate for the fire pump for all pollutants and averaging times. The factors used for each month and hour-of-day are shown in Table 4-1.

Table 4-1. "DAYLIGHT HOUR" FACTORS APPLIED TO FIRE PUMP ENGINE EMISSIONS

Hour	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0.031	0.0294	0.0294	0	0	0	0	0
6	0	0	0	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0	0	0
7	0	0	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0.042	0.042	0
8	0.0455	0.045	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0.042	0.042	0.045
9	0.0455	0.045	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0.042	0.042	0.045
10	0.0455	0.045	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0.042	0.042	0.045
11	0.0455	0.045	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0.042	0.042	0.045
12	0.0455	0.045	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0.042	0.042	0.045
13	0.0455	0.045	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0.042	0.042	0.045
14	0.0455	0.045	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0.042	0.042	0.045

Table 4-1. "DAYLIGHT HOUR" FACTORS APPLIED TO FIRE PUMP ENGINE EMISSIONS												
Hour	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
15	0.0455	0.045	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0.042	0.042	0.045
16	0.0455	0.045	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0.042	0.042	0.045
17	0.0455	0.045	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0.042	0.042	0.045
18	0.0455	0.045	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0.042	0.042	0.045
19	0	0	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0	0	0
20	0	0	0	0.033	0.031	0.0294	0.0294	0.0333	0	0	0	0
21	0	0	0	0	0	0.0294	0.0294	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0
	0.5/11	0.5/11	0.5/13	0.5/15	0.5/16	0.5/17	0.5/17	0.5/15	0.5/14	0.5/12	0.5/12	0.5/11

Full impact dispersion modeling was conducted for facility-wide emissions of PM_{10}, $PM_{2.5}$, and NOx. Modeled emission rates are shown in Table 4-2.

Table 4-2. MODELED EMISSION RATES – CRITERIA POLLUTANTS (LB/HR)					
Source ID	**Description**	**PM_{10} (24-hr)**	**$PM_{2.5}$ (24-hr & Annual)**	**NOx (1-hr)**	**NOx (Annual)**
P-1	Meyers-Sterner Whey Dryer w/ Cyclone/BH	1.66	0.6	0.27	0.27
P-2	TetraPak Whey Dryer - Burner 1	0.0933	0.0933	0.499	0.499
P-3	TetraPak Whey Dryer – Burner 2	0.0933	0.0933	0.499	0.499
P-4	TetraPak Whey Dryer Scrubber	5.66	1.9		
P-5	TetraPak Whey Dryer Baghouse	3.32	3.32		
P-6	Boiler 4, Cleaver Brooks 1200 HP	0.366	0.366	2.41	2.41
P-7	Boiler 2, Superior 800 HP	0.185	0.185	0.462	0.462
P-8	Boiler 1, Cleaver Brooks 600 HP	0.183	0.183	0.432	0.432
P-9	Boiler 3, Hurst 800 HP	0.251	0.251	3.3	3.3
P-35	CH-AC01, Cheese Plant, Engineering	3.76E-04	3.76E-04	1.09E-04	1.09E-04
P-10	CH-AC02, Cheese Plant, Main Conf. Rm	5.51E-04	5.51E-04	1.60E-04	1.60E-04
P-11	CH-AC03, Cheese Plant, Main Breakroom	1.34E-03	1.34E-03	3.88E-04	3.88E-04
P-12	CH-AC04, Cheese Plant, Office, East side	8.57E-04	8.57E-04	2.48E-04	2.48E-04
P-13	CH-AC05, Cheese Plant, Office, West side	8.57E-04	8.57E-04	2.48E-04	2.48E-04
P-37	CH-AC14, Cheese Plant, QA Offices	8.57E-04	8.57E-04	2.48E-04	2.48E-04
P-14	CH-AC15, Cheese Plant, Micro Lab	8.57E-04	8.57E-04	2.48E-04	2.48E-04
P-15	CH-AC16, Cheese Plant, Intake Breakroom	8.57E-04	8.57E-04	2.48E-04	2.48E-04
P-16	CH-AC17, Cheese Plant, Main Lab	9.31E-04	9.31E-04	2.70E-04	2.70E-04
P-17	CH-AC24, Cheese Plant, Warehouse	8.57E-04	8.57E-04	2.48E-04	2.48E-04
P-18	WH-MA01, Whey Plant, Crystallizer room	0.0186	0.0186	5.39E-03	5.39E-03
P-19	WH-MA02, Whey Plant, HTST room	0.0163	0.0163	4.72E-03	4.72E-03
P-20	WH-MA03, Whey Plant, Permeate dryer burner room	0.0163	0.0163	4.72E-03	4.72E-03
P-21	WH-MA06, Whey Plant, Permeate dryer cyclone room	0.0186	0.0186	5.39E-03	5.39E-03
P-22	WH-MA07, Whey Plant, Dungeon room	0.014	0.014	4.04E-03	4.04E-03
P-23	WH-AC01, Whey Plant, Packaging blower room	2.79E-03	2.79E-03	8.09E-04	8.09E-04
P-24	WH-AC02, Whey Plant, Powder silo room	3.73E-03	3.73E-03	1.08E-03	1.08E-03
P-25	WH-AC03, Whey Plant, Packaging bag room	6.98E-03	6.98E-03	2.02E-03	2.02E-03
P-26	WH-AC04, Whey Plant, Packaging bulk room	0.00931	0.00931	2.70E-03	2.70E-03
P-27	WH-AC09, Whey Plant, Offices	8.05E-04	8.05E-04	2.33E-04	2.33E-04

Table 4-2. MODELED EMISSION RATES – CRITERIA POLLUTANTS (LB/HR)					
Source ID	**Description**	**PM_{10} (24-hr)**	**$PM_{2.5}$ (24-hr & Annual)**	**NOx (1-hr)**	**NOx (Annual)**
P-28	WH-AC11, Whey Plant, Lab	8.94E-04	8.94E-04	2.59E-04	2.59E-04
P-29	WH-AC12, Whey Plant, Breakroom	9.31E-04	9.31E-04	2.70E-04	2.70E-04
P-30	WH-MA04, Whey Plant (Greenheck)	5.22E-03	5.22E-03	1.51E-03	1.51E-03
P-31	FM-AC01, Fresh Mozzarella Plant, 1st floor	8.57E-04	8.57E-04	2.48E-04	2.48E-04
P-32	FM-AC02, Fresh Mozzarella Plant, 2nd floor	8.57E-04	8.57E-04	2.48E-04	2.48E-04
P-34	Fire Pump Engine	0.512	0.512	---	7.28
P-40	Cheese Plant Donaldson Dust Collection Unit	3.82E-05	3.82E-05		
AHU 7/8	CH-AHU07 (Shred) and CH-AHU08(Mozzarella)	0.041	0.041	0.0119	0.0119
AHU 9	CH-AHU09 (Mascarpone)	0.0224	0.0224	6.47E-03	6.47E-03
AHU 10	WH-AHU10 (Membrane Room)	0.0157	0.0157	4.56E-03	4.56E-03

Four of the largest natural gas-fired heaters are direct-fired heaters located on the rooftops of the Cheese Plant (CH_AHU07 (Shred), 08 (Mozzarella), and 09 (Mascarpone)), and the Whey Plant (WH_AHU10 (Membrane Room)). Combustion gases are entrained in the air flow directed into large production spaces within the buildings, where they mix with—and are diluted by—building air. These diluted exhaust gases ultimately exit the building envelope as fugitive emissions through building vents and through any of several building exhaust fan vents. These emissions were included in the modeling analyses, presuming that emissions from AHU 7 and 8, AHU 9, and AHU 10 exhaust through a single roof vent located near the heaters. No dilution of the exhaust gases was presumed.

4.2 Toxic Air Pollutants

__X__ TAP emissions rates have been listed for each TAP that has project cumulative emissions exceeding the applicable EL.

__X__ Emissions rates in Table 4-3 are identical to those in the model input file for TAP analyses.

As described in Section 3.3 above, modeling was conducted only for emissions of four carcinogenic TAPs subject to an annual standard: arsenic, cadmium, formaldehyde, and nickel.

Modeled emission rates are shown in Table 4-3. Detailed emission inventory calculations are included in Appendix 3 to this application.

Table 4-3. MODELED EMISSION RATES – CARCINOGENIC TAPS					
Source ID	**Source Description**	**Carcinogenic TAPs**			
		Arsenic (annual avg lb/hr)	**Cadmium (annual avg lb/hr)**	**Formaldehyde (annual avg lb/hr)**	**Nickel (annual avg lb/hr)**
P-1	Meyers-Sterner Whey Dryer w/ Cyclone/BH	1.18	6.48	442	12.4
P-2	TetraPak Whey Dryer - Burner 1	2.46	13.5	921	25.8
P-3	TetraPak Whey Dryer – Burner 2	2.46	13.5	921	25.8
P-4	TetraPak Whey Dryer Scrubber	---	---	---	---
P-5	TetraPak Whey Dryer Baghouse	---	---	---	---
P-6	Boiler 4, Cleaver Brooks 1200 HP	---	---	---	---
P-7	Boiler 2, Superior 800 HP	---	---	---	---
P-8	Boiler 1, Cleaver Brooks 600 HP	---	---	---	---
P-9	Boiler 3, Hurst 800 HP	---	---	---	---
P-35	CH-AC01, Cheese Plant, Engineering	0.00988	0.0544	3.71	0.104

Table 4-3. MODELED EMISSION RATES – CARCINOGENIC TAPS					
Source ID	Source Description	Carcinogenic TAPs			
		Arsenic (annual avg lb/hr)	Cadmium (annual avg lb/hr)	Formaldehyde (annual avg lb/hr)	Nickel (annual avg lb/hr)
P-10	CH-AC02, Cheese Plant, Main Conf. Rm	0.0145	0.0798	5.44	0.152
P-11	CH-AC03, Cheese Plant, Main Breakroom	0.0353	0.194	13.2	0.371
P-12	CH-AC04, Cheese Plant, Office, East side	0.0225	0.124	8.46	0.237
P-13	CH-AC05, Cheese Plant, Office, West side	0.0225	0.124	8.46	0.237
P-37	CH-AC14, Cheese Plant, QA Offices	2.25E-08	0.124	8.46	0.237
P-14	CH-AC15, Cheese Plant, Micro Lab	2.25E-08	0.124	8.46	0.237
P-15	CH-AC16, Cheese Plant, Intake Breakroom	2.25E-08	0.124	8.46	0.237
P-16	CH-AC17, Cheese Plant, Main Lab	2.45E-08	0.135	9.19	0.257
P-17	CH-AC24, Cheese Plant, Warehouse	2.25E-08	0.124	8.46	0.237
P-18	WH-MA01, Whey Plant, Crystallizer room	0.49	2.7	184	5.15
P-19	WH-MA02, Whey Plant, HTST room	0.429	2.36	161	4.5
P-20	WH-MA03, Whey Plant, Permeate dryer burner room	0.429	2.36	161	4.5
P-21	WH-MA06, Whey Plant, Permeate dryer cyclone room	0.49	2.7	184	5.15
P-22	WH-MA07, Whey Plant, Dungeon room	0.368	2.02	138	3.86
P-23	WH-AC01, Whey Plant, Packaging blower room	0.0735	0.404	27.6	0.772
P-24	WH-AC02, Whey Plant, Powder silo room	0.098	0.539	36.8	1.03
P-25	WH-AC03, Whey Plant, Packaging bag room	0.184	1.01	68.9	1.93
P-26	WH-AC04, Whey Plant, Packaging bulk room	0.245	1.35	91.9	2.57
P-27	WH-AC09, Whey Plant, Offices	0.0212	0.116	7.94	0.222
P-28	WH-AC11, Whey Plant, Lab	0.0235	0.129	8.82	0.247
P-29	WH-AC12, Whey Plant, Breakroom	0.0245	0.135	9.19	0.257
P-30	WH-MA04, Whey Plant (Greenheck)	0.137	0.755	51.5	1.44
P-31	FM-AC01, Fresh Mozzarella Plant, 1st floor	0.0225	0.124	8.46	0.237
P-32	FM-AC02, Fresh Mozzarella Plant, 2nd floor	0.0225	0.124	8.46	0.237
P-34	Fire Pump Engine	---	---	---	---
P-40	Cheese Plant Donaldson Dust Collection Unit	---	---	---	---
AHU 7/8	CH-AHU07 (Shred) and CH-AHU08(Mozzarella)	1.08	5.93	404	11.3
AHU 9	CH-AHU09 (Mascarpone)	0.588	3.24	221	6.18
AHU 10	WH-AHU10 (Membrane Room)	0.414	2.28	155	4.35

4.3 Emissions Release Parameters

__X__ Thorough justification/documentation of release parameters for all modeled sources is provided in this section.

__X__ The specific methods used to determine/calculate given release parameters is described in this section.

__X__ The release orientation of existing point source stacks (horizontal, rain-capped, or uninterrupted vertical release) has been field-verified.

Table 4-4 lists stack parameters for modeled point sources. Exit velocities for capped and horizontal stacks were set at 0.001 m/s in accordance with EPA guidance. Stack location and exhaust configurations for natural gas-fired heaters, the fire pump engine, and the Donaldson baghouse were field-verified by

Wendy York, Safety and Environmental Manager for Sorrento. Exhaust temperatures for the heaters and the baghouse were determined by reviewing plant design documents. The exhaust temperature for the fire pump engine was set to 850°F, which is on the low end of typical temperatures for emergency engines.

Stack parameters for Sources P-1 through P-9 were taken from the 2009 modeling analyses. Justification for these parameters was provided in the 2009 documents included as Appendix 5 to this PTC application. The exit orientations for the four boiler stacks were changed from Default to "Capped" based on 2016 field verifications.

Table 4-4. POINT SOURCE STACK PARAMETERS

Source ID	UTM [a] Zone 11 (NAD83/WGS84)		Base Elev. (m) [b]	Stack or Exit Height (ft) [b]	Exit Temp. (°F) [c]	Exit Velocity (m/s) [d]	Stack Diameter (inches)	Exit Orientation
	Easting (m) [b]	Northing (m) [b]						
P-1	541064.9	4828191.2	766.85	78	160	11.59	38.04	Default [e]
P-2	541102.6	4828227.5	766.69	136	241	17.71	18.11	Default
P-3	541098.1	4828221.9	766.73	136	241	17.71	18.11	Default
P-4	541092.2	4828208.8	766.74	136	104	17.74	62.2	Default
P-5	541100.7	4828210.6	766.75	136	126	18.32	44.09	Default
P-6	540992.1	4828199.1	766.98	50	325	10.1	35.83	RAINCAP
P-7	541000.4	4828179.3	767.04	50	275	9.26	25.98	RAINCAP
P-8	540989.7	4828193.0	767.01	50	275	10.64	24.02	RAINCAP
P-9	540991.9	4828190.8	767.02	50	275	9.34	29.92	RAINCAP
P-35	540978.0	4828186.5	767.04	25.5	185	0.001	2.76	Horizontal
P-10	540968.6	4828185.5	767.05	25.5	185	0.001	2.76	Horizontal
P-11	540956.6	4828188.6	767.04	25.5	185	0.001	2.76	Horizontal
P-12	540943.2	4828188.9	767.09	25.5	185	0.001	2.76	Horizontal
P-13	540933.4	4828189.3	767.12	25.5	185	0.001	2.76	Horizontal
P-37	540971.1	4828283.3	766.76	40	185	0.001	2.76	Horizontal
P-14	540993.7	4828295.3	766.71	36.5	185	0.001	2.76	Horizontal
P-15	540991.0	4828299.9	766.72	36.5	185	0.001	2.76	Horizontal
P-16	540988.6	4828282.9	766.73	36.5	185	0.001	2.76	Horizontal
P-17	540920.9	4828271.1	766.86	32.5	185	0.001	2.76	Horizontal
P-18	541060.4	4828214.9	766.85	49.75	185	0.001	6	Capped
P-19	541037.0	4828210.4	766.88	46.75	185	0.001	6	Capped
P-20	541104.4	4828209.3	766.76	139.75	185	0.001	6	Capped
P-21	541099.1	4828202.5	766.75	42.6	185	0.001	6	Capped
P-22	541089.3	4828227.0	766.71	128.75	185	0.001	6	Capped
P-23	541083.9	4828235.9	766.67	42	185	0.001	56.05	Horizontal
P-24	541111.7	4828219.5	766.76	109	185	0.001	6	Capped
P-25	541112.0	4828212.4	766.77	71	185	0.001	6	Capped
P-26	541111.5	4828202.2	766.77	47.42	185	0.001	6	Capped
P-27	541045.0	4828175.0	766.91	22	185	0.001	2.59	Horizontal
P-28	541042.7	4828170.2	766.92	20.58	185	0.001	12	Horizontal
P-29	541054.5	4828173.7	766.89	22	185	0.001	4.51	Horizontal
P-30	541110.1	4828185.7	766.77	40	185	0.001	5.53	Horizontal
P-31	541028.8	4828341.4	766.5	38.5	185	0.001	2.59	Horizontal
P-32	541034.1	4828341.4	766.48	38.5	185	0.001	2.59	Horizontal
P-34	541080.6	4828351.1	766.34	8.33	850	0.001	4	Horizontal
P-40	540967.0	4828289.6	766.77	46	70	10	17	Default
AHU7/8	540967.7	4828265.1	766.8	41	70	5	36	Default
AHU 9	540964.1	4828199.3	767	25	70	5	36	Default
AHU10	541046.2	4828191.5	766.88	29	70	5	36	Default

[a.] Universal Transverse Mercator. [b.] Feet, meters [c.]Degrees Fahrenheit [d.] Meters per second. [e.] Default =Vertical uninterrupted

5.0 Modeling Methodology

Table 5-1 summarizes the key modeling parameters used in the impact analyses.

Table 5-1. MODELING PARAMETERS			
Parameter	**Description/Values**	**Documentation/Addition Description**	
General Facility Location	Canyon County	Attainment/Unclassifiable for all criteria pollutants.	
Model	AERMOD	AERMOD with the PRIME downwash algorithm, version 15181	
Meteorological Data	Boise 2011-2015 NWS surface data NWS upper air data	The meteorological model input files for this project were developed by DEQ. See Section 5.2 of this memorandum for additional details of the meteorological data.	
Terrain	Considered	3-dimensional receptor coordinates were obtained from USGS National Elevation Dataset (NED) files and were used to establish elevation of ground level receptors. AERMAP version 15181 was used to determine each receptor elevation and hill height scale. Rural dispersion coefficients were used.	
Building Downwash	Considered	Plume downwash was considered for the structures associated with the facility. BPIP-PRIME v.04274 was used to evaluate building dimensions for consideration of downwash effects in AERMOD.	
NOx Chemistry	None	Modeled emissions presumed 100% conversion of NOx to NO_2.	
Receptor Grid	**Full-Impact and TAPs Analyses**		
	Grid 1	25-meter (m) spacing along the ambient air boundary	
	Grid 2	25-meter spacing from the fence line to a distance of 100 m.	
	Grid 3	50-meter spacing from 100 to 300 m	
	Grid 4	100-meter spacing from 300 to 500 m	
	Grid 5	250-m spacing from 500 to 1000 m	
	Grid 6	500-m spacing from 1000 to 3000 m (3 km)	
	Grid 7	1000-m spacing from 3 to 10 km.	

5.1 Model Selection

__X__ The current versions of all models and associated programs were used in analyses, or alternate versions were specifically approved by DEQ.

__*__ Any non-default model options used were approved by DEQ in advance.

The modeling analyses used Providence Engineering and Environmental Group's BEEST AERMOD suite, version 11.04. REC confirmed using information available on EPA's SCRAM website[1] that the versions of the modeling programs used in this BEEST version are the current approved versions.

*It was confirmed late in the project that all four boiler stacks were provided with rain caps rather than being vertical and unobstructed releases (as shown in the 2009 analyses). Given that the exhaust flows were known, each of the stacks was subject to downwash from adjacent structures, recent EPA guidance [2] recommending the use of the POINTCAP and POINTHOR beta options, and because the maximum 1-hr NOx impacts are due primarily to boiler emissions, the beta POINTCAP option was used for these four sources. Beta options were not used for the space heater or emergency engine exhaust points because the exhaust flows were not readily available.

[1] EPA, Support Center for Regulatory Atmospheric Modeling (SCRAM), accessed March 1, 2016 at http://www3.epa.gov/scram001/

[2] EPA Model Clearinghouse, February 10, 2016, accessed March 1, 2016 at https://cfpub.epa.gov/oarweb/MCHISRS/index.cfm?fuseaction=main.resultdetails&recnum=16-X-01

5.2 Meteorological Data

__X__ Meteorological data files are provided with the application.

__n/a__ If meteorological data used for modeling were not provided by DEQ, then a detailed discussion of the data is provided along with documentation of the processing steps.

An AERMOD-ready meteorological data set with surface and upper air data collected at or near the Boise Airport for the five-year period from 2011 through 2015 was recently provided by DEQ for another REC project. The files received from DEQ included a wind rose, wind class frequency profile graphic, and concatenated SFC and PFL files for the five-year period.

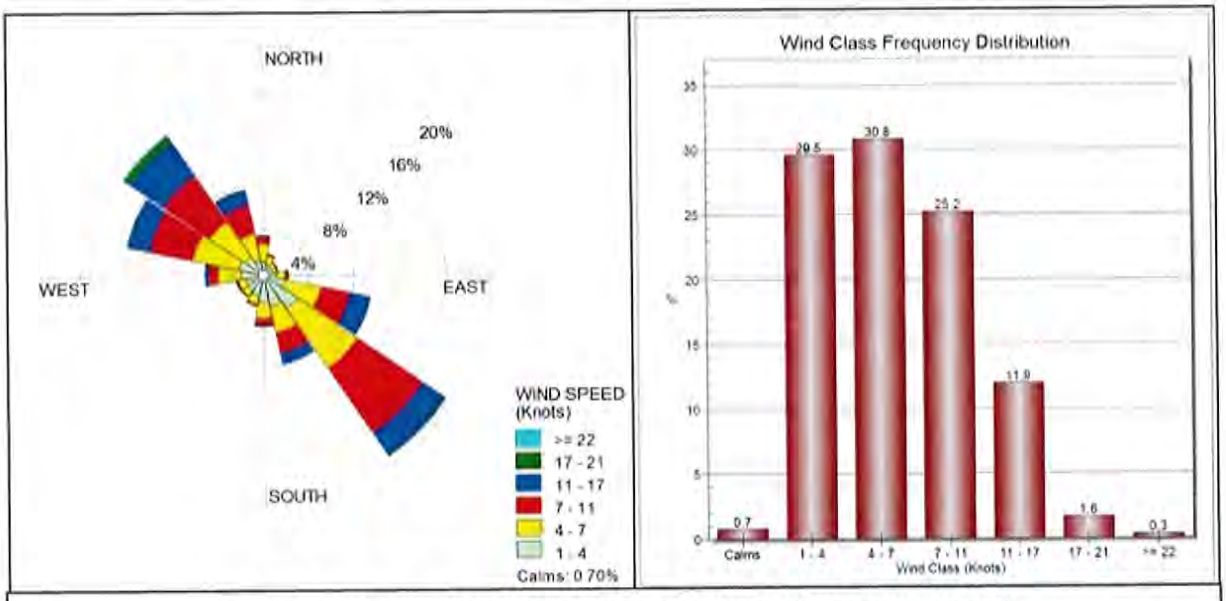


Figure 5-1. BOISE AIRPORT WIND ROSE AND WIND CLASS FREQUENCY

5.3 Effects of Terrain

__X__ The datum of terrain data, building corner locations, emissions sources, and the ambient air boundary are specified and are consistent such that the modeled plot plan accurately represents the facility and surroundings.

The terrain in the vicinity of the Sorrento Lactalis Nampa Plant is relatively flat but there are some nearby areas of slightly elevated terrain to the south. Digital terrain data were obtained from the National Elevation Database (NED) in datum WGS84 at a horizontal resolution of one arc-second (about 30 meters) for a domain calculated using an algorithm in the BEEST software package. The domain was calculated to ensure inclusion of all terrain features that penetrate a plane formed by a 10 percent slope extending from the approximate center of the facility. Terrain data was downloaded for the area between 116.250 and 116.750°W longitude and 43.500 and 43.750° N latitude.

5.4 Facility Layout

__X__ The facility layout plot plan is provided in this section that clearly and accurately depicts buildings, emissions points, and the ambient air boundary.

__X__ This section of the Modeling Report has thoroughly described how locations of emissions sources, building corners, and the ambient air boundary were determined, specifying the datum used.

A scaled facility plot plan is included as Appendix 1 to this application. The locations of the buildings, property boundary, and sources were confirmed by comparing the scaled plot plan with an overlay of the model input UTM coordinates on the scaled satellite image of the area in Google Earth.

As shown in Figure 5-2, there is considerable variability in the heights of tanks and structures at the Sorrento facility. Roof heights were determined from two sources: the 2009 modeling files and roof heights noted on a D-size engineering drawing provided by Sorrento (used to identify locations of space heater and fire pump exhaust points). The modeled building layout is shown in Figure 5-3.

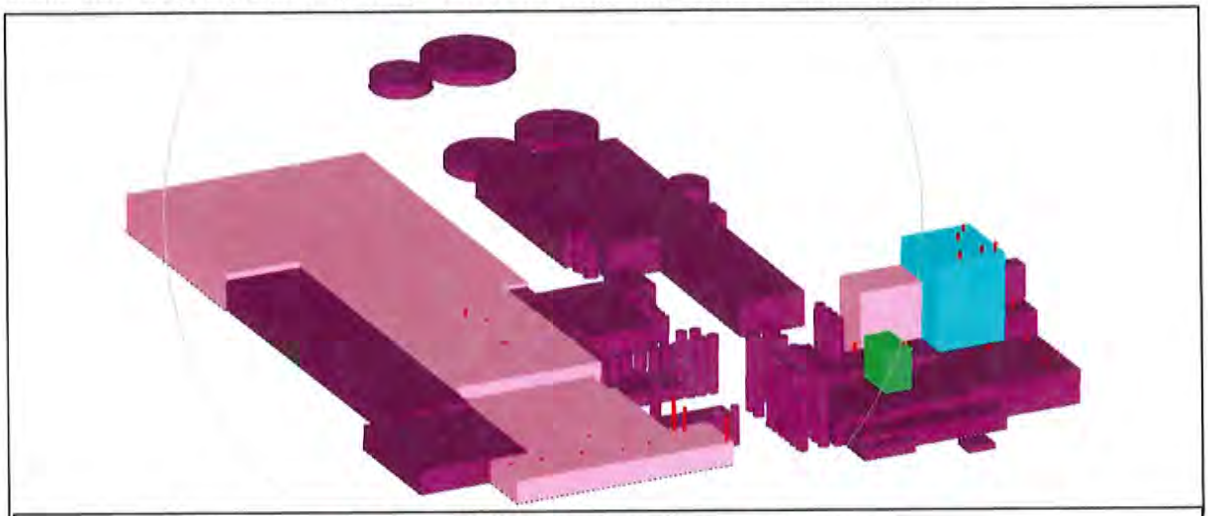


Figure 5-2. VARIATION IN ROOF/TANK HEIGHTS

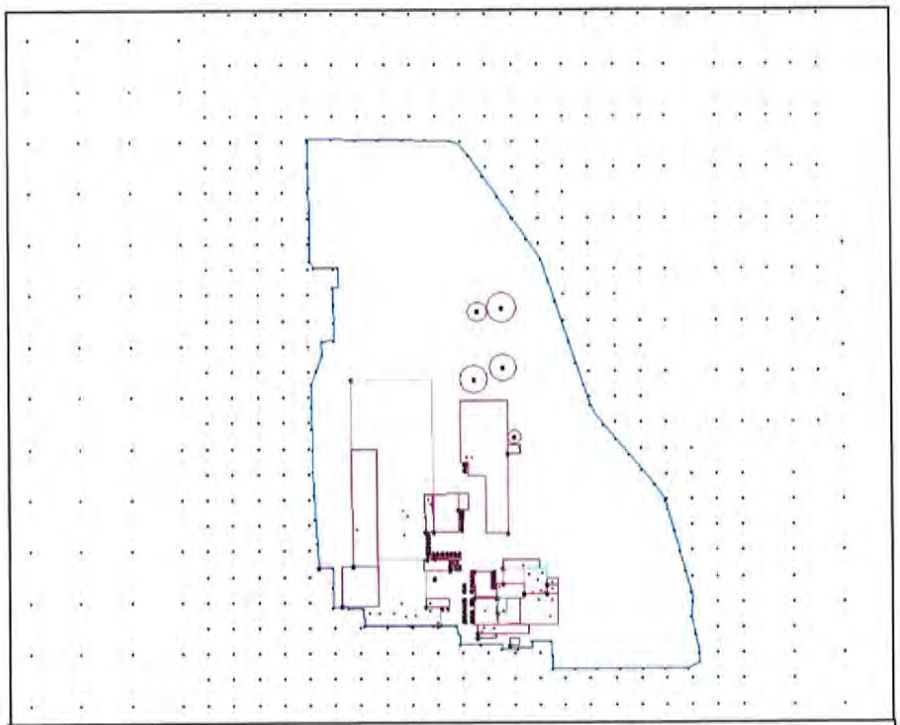


Figure 5-3. BUILDING LAYOUT AND AMBIENT AIR BOUNDARY

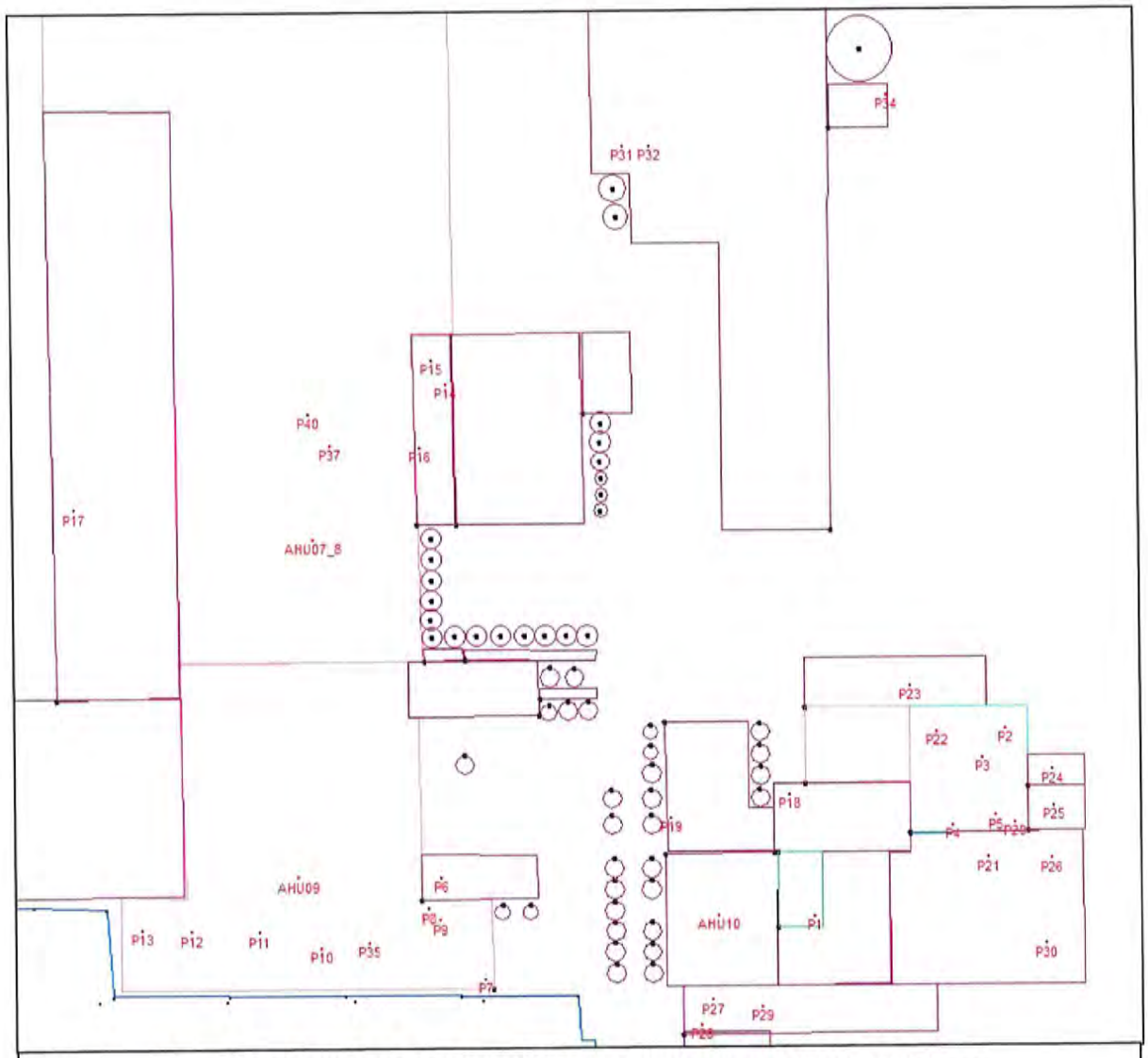


Figure 5-4. MODELED LAYOUT SHOWING BUILDINGS AND EXHAUST POINTS

5.5 Effects of Building Downwash

Building downwash was considered. Prior to running the modeling analyses, REC ran the Building Profile Input Program (BPIP) with the Plume Rise Model Enhancements (PRIME) algorithm, which calculates downwash values for input into AERMOD.

5.6 Ambient Air Boundary

__n/a__ If any of the following apply, the effect on areas excluded from ambient air is thoroughly described in this section: a river/stream bisecting the facility; the facility is on leased property or is leasing property to another entity; the facility is not completely fenced; there are right-of-way areas on the facility; the nature of business is such that the general public have access to part or all of the facility.

__X__ This section thoroughly describes how the facility can legally preclude public access (and practically preclude access) to areas excluded from ambient air in the modeling analyses.

The ambient air boundary is shown in Figure 5-3. Public access to the Sorrento Lactalis Nampa facility is precluded by a fence and posted signage on the west, north, and east boundaries and on a part of the southern property boundary. Buildings with secure entrances preclude unexpected access by members of the public along the remainder of the south side of the facility. Publicly accessible parking areas on the south side of the facility were considered ambient air. There are no streams or right-of-way easements through the Sorrento property.

5.7 Receptor Network

__X__ This section of the Modeling Report provides justification that receptor spacing used in the air impact analyses was adequate to reasonably resolve the maximum modeled concentrations to the point that NAAQS or TAP compliance is assured.

The full-impact receptor grid spacing extending to a distance of 10 kilometers is described in Table 5-1. Initial receptor spacing on the ambient air boundary and near-field spacing is shown in Figures 5-3 and 5-5. Modeling conducted in 2009 and initial modeling runs conducted in 2016 demonstrated that maximum ambient impacts occur at or near the ambient air boundary. Additional receptors were added as needed to ensure that maximum impacts had been fully resolved. To ensure that the maximum impact was resolved, the ambient impacts at receptors closest to the receptor with the reported maximum were reviewed. In general, the maximum impact was determined to be adequately resolved if the difference between the maximum reported impact and the impacts at nearby receptors was within about ten (10) percent of the reported maximum concentration. Where the differences were greater than about 10 percent, additional receptors were added and the model was run again.

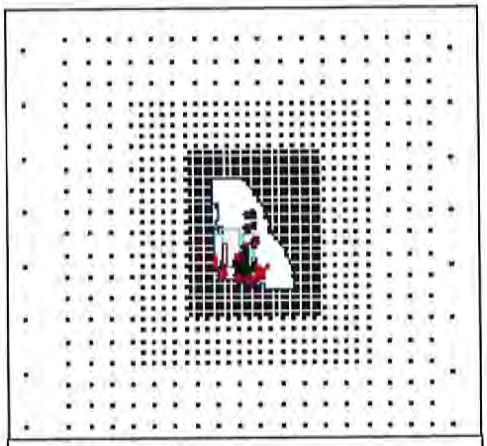


Figure 5-5. NEAR-FIELD RECEPTORS

5.8 Background Concentrations

__X__ Background concentrations have been thoroughly documented and justified for all criteria pollutants where a cumulative NAAQS impact analysis was performed.

In the modeling protocol approval letter, DEQ concurred with REC's proposed background concentrations taken from the Northwest Airquest Consortium's website,[3] based on latitude/longitude coordinates for the approximate center of the Sorrento Lactalis Nampa facility: 43.606710° N, 116.491747° W. These values were based on monitoring conducted between 2009 and 2011.

DEQ provided alternative background concentrations for PM_{10} and $PM_{2.5}$ based on more recent data collected in the Nampa area from 2010 through 2015 (with data from 2013 excluded). Those values are shown in bold text in Table 5-2.

Table 5-2. BACKGROUND CONCENTRATIONS

Parameter and Unit	NW AirQuest Results	MW	µg/m³
Lat_or_UTMN	43.607		
Lon_or_UTME	-116.492		
UTM_zone			
In_Washington_Oregon_or_Idaho	YES		
PM2.5_24hr_ugm3	25 **(23.1)**		
PM2.5_annual_ugm3	9.6 **(7.8)**		
NO2_1hr_ppb	43	46	80.9
NO2_annual_ppb	5.8	46	10.9
SO2_1hr_ppb	6.8	64	17.8
SO2_3hr_ppb	11	64	28.8
SO2_24hr_ppb	4.7	64	12.3
SO2_annual_ppb	1.4	64	3.66
CO_1hr_ppb	1447	28	1657
CO_8hr_ppb	870	28	996
PM10_24hr_ugm3	96		
PM10_no_extremes_24hr_ugm3	74 **(70.2)**		
	µg/m³ = (MW x ppb)/		24.45

5.9 NOx Chemistry

__n/a__ If OLM or PVMRM was used to address NOx chemistry, reasons for selecting one algorithm over the other are provided in this section.

Modeled emissions of NOx presumed 100 percent conversion of NOx to NO_2.

[3] Accessed January 21, 2016 at http://lar.wsu.edu/nw-airquest/lookup.html

6.0 Results and Discussion

6.1 Criteria Pollutant Impact Results

Full-impact modeling was conducted for emissions of PM_{10}, $PM_{2.5}$, and NOx. As shown in Table 6-1, dispersion modeling results demonstrate that the cumulative ambient impact (impacts from the facility combined with representative background concentrations) do not cause a violation of these air quality standards.

Table 6-1. FULL-IMPACT MODELING RESULTS FOR CRITERIA POLLUTANTS

Pollutant	Averaging Period	Modeled Ambient Impact ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Total Ambient Impact ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Percent of NAAQS	File
PM_{10}	24-hr	24.7	70.2	94.9	150	63.3%	Full Impact Final
$PM_{2.5}$	24-hr	11.7	23.1	34.8	35	99.4%	Full Impact FinalPM25
	Annual	3.5	7.8	11.2	12	93.3%	Full Impact FinalPM25ANN
CO	1-hr	---	1657	---	40,000	---	---
	8-hr	---	996	---	10,000	---	---
NO_2	1-hr	92.7	80.9	173.6	188	92.3%	Full Impact Final
	Annual		10.9		100		Full Impact FinalNO2_Year
SO_2	1-hr	---	---	---	188	---	---
	Annual	---	---	---	80	---	---

6.2 TAP Impact Analysis

As shown in Table 6-2, the modeling results demonstrate that the ambient air quality impacts from TAPs emissions are below the acceptable ambient concentration for carcinogens (AACC) listed in Section 586 of the Rules.

Table 6-2. MODELING RESULTS FOR TOXIC AIR POLLUTANTS

Toxic Air Pollutant	Averaging Period	Maximum Modeled Ambient Impact ($\mu g/m^3$)	AAC.AACC Increment ($\mu g/m^3$)	Percent of AAC/AACC Increment	File
Carcinogens					
Arsenic	Annual	2.14E-05	2.3E-04	9.3%	Full Impact Final
Cadmium	Annual	1.18E-04	5.6E-04	21%	Full Impact Final
Formaldehyde	Annual	8.07E-03	7.7E-02	10%	Full Impact Final
Nickel	Annual	2.26E-04	4.2E-03	5.4%	Full Impact Final

7.0 Quality Assurance/Control

To ensure that modeled emissions matched the emissions inventory, the emissions inventory spreadsheet was structured in a way that the emission rates could be copied and pasted directly into the AERMOD GUI (BEEST). Heater, pump engine, and baghouse exhaust points were field-verified by Sorrento staff. The ambient air boundary, model layout, and source locations (in plan view and in 3D) were compared against a base map taken from Google Earth, Google Earth street views, and engineering design drawings. The emissions inventory was developed in concert with Sorrento Lactalis' environmental staff.

REC
Robinson Environmental Consulting, LLC
3979 N. Oak Park Place, Boise, Idaho 83703
Tel: 208.473.0183 | www.robinsonenvironmental.us

January 26, 2016

Sent Via Email

Mr. Kevin Schilling, NSR Modeling Coordinator
Air Quality Division
Idaho Department of Environmental Quality
1410 N. Hilton
Boise, Idaho 83706

Re: Facility ID 027-0071, Sorrento Lactalis, Inc., Cheese Plant, Nampa, Idaho
Consent Order Case Nos. E-2014.0007 and E-2015.0003, Modeling Protocol

Dear Kevin:

Robinson Environmental Consulting, LLC (REC) is assisting Sorrento Lactalis, Inc. (Sorrento) in preparing an application to modify their current permit to construct (PTC) to incorporate the following changes:

1. Define the minimum pressure drop and minimum liquid flow rate for the TetraPak whey dryer scrubber, based on the results of an October 2, 2014 source test for PM_{10} emissions. Describe periodic parametric monitoring to be conducted for these two parameters. The PM_{10} emissions limit for this scrubber in the current permit is 5.66 lb/hr.

   Modeled emissions of PM_{10} and $PM_{2.5}$ from the scrubber will be based on an emissions rate equal to at least 5.66 lb/hr.

2. Reflect the increase in emissions from the Superior boiler (P-7) associated with a September 2014 replacement of the 20.1 MMBtu/hr burner (600 boiler horsepower) with a 31.5 MMBtu/hr burner that had been down-rated by the manufacturer to 24.8 MMBtu/hr. The consent order notes that DEQ and Sorrento have not yet come to an agreement whether the burner had been de-rated such that it had undergone a permanent physical change that could not easily be undone (pursuant to EPA guidance).

   Modeled emissions of criteria pollutants from the Superior boiler will be based on a maximum heat input capacity equal to 31.5 MMBtu/hr. This boiler is subject to an NSPS (Subpart Dc or Subpart Db, depending on the final determination regarding the boiler derating). In accordance with Section 210.20 of the Idaho Air Rules, TAPs emissions from this source will not be modeled.

3. Reflect the increase in emissions from heating, ventilating and air conditioning (HVAC) units installed at the facility. The consent order notes that 13 of 28 existing natural gas-fired HVAC units were added with the installation of the Meyers-Sterner whey dryer plant (PTC No. P-000726, issued July 20, 2001), the TetraPak whey dryer plant (PTC No. P-2009.0023, issued August 28, 2009), and other expansions (e.g., the Fresh Mozzarella Cheese Plant in 2014, the Shredded Cheese Plant) without accounting for the HVAC units' emissions or impacts to ambient air quality.

   Modeling will include criteria pollutant and TAPs emissions from all natural gas-fired HVAC units at the facility, which were identified by Wendy York, Sorrento's Safety and Environmental

Manager in January 2016. Ms. York confirmed that all of the natural gas-fired heaters exhaust horizontally or are capped. The exit velocity for each of these sources will be set to 0.001 m/sec in accordance with EPA and DEQ modeling guidance.

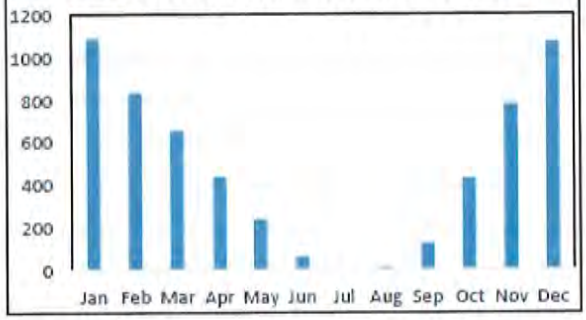
Burners in HVAC units do not typically run 100 percent of the time, but cycle on and off. HVAC burners will be presumed to run a maximum of 45 minutes out of each operating hour to account for cycling. In addition, there is substantial seasonal variation in the amount and timing of heating required to maintain the buildings at nominal temperatures. The timing of lower-temperature hours (typically in the early morning before dawn) and duration of operating hours for the heaters each month will be determined by:

- *Reviewing National Weather Service hourly temperature data collected at the Nampa Airport (KMAN) for the year 2012, downloaded in degrees Fahrenheit from the MesoWest site,[1] and*
- *Heating-degree-day (HDD) data collected at the nearby Amalgamated Sugar Plant for the years 1976 – 2010.[2] Heaters will be presumed to operate at maximum capacity for 24 hr/day during December and January, with hours and intensity for other months determined based on a ratio of the HDDs for that month compared to the highest monthly HDD in January.*

Table 1. TYPICAL MONTHLY HDD AT TASCO, 1976-2010

Month	HDD	Percent	HRS per day	Round Up HRS per day
Jan	1091	100.0%	24	24
Feb	836	76.6%	18.4	19
Mar	658	60.3%	14.5	15
Apr	440	40.3%	9.7	10
May	241	22.1%	5.3	6
Jun	65	5.96%	1.4	2
Jul	9	0.825%	0.2	1
Aug	**15**	**1.37%**	0.3	**1**
Sep	127	11.6%	2.8	3
Oct	432	39.6%	9.5	10
Nov	781	71.6%	17.2	18
Dec	1073	98.4%	23.6	24

Figure 1. TYPICAL MONTHLY HDDs AT TASCO



[1] University of Utah, Department of Atmospheric Sciences, Mesowest, http://mesowest.utah.edu/
[2] Western Regional Climate Center, Desert Research Institute, http://www.wrcc.dri.edu/htmlfiles/id/id.hdd.html

As an example, the hourly temperatures at the Nampa Airport for August 2012 are shown in Figure 2. Minimum temperature hours are shaded in blue, and hours at the maximum temperature for each day are shaded in red. For August of each year, REC proposes to model heaters operating during hours 5 through 7 local time (MST), at an intensity level of 0.33 for each hour (equivalent to operating one hour per day at maximum capacity).

GMT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
MST	18	19	20	21	22	23	24	1	2	3	4	5	6	7	8	9	10	11	NOON	13	14	15	16	17	MIN	MAX
AUG	93.2	93.2	82.4	75.2	82.4	77.0	73.4	71.6	71.6	69.8	68.0	66.2	64.4	68.0	71.6	75.2	78.8	82.4	86.0	87.8	91.4	91.4	93.2	93.2	64.4	93.2
2	93.2	91.4	84.2	999	71.6	66.2	64.2	68.0	999	68.0	68.0	66.2	64.4	66.2	68.0	73.4	77.0	80.6	999	86.0	87.8	89.6	91.4	89.6	68.0	91.4
3	87.8	87.8	82.4	78.8	75.2	73.4	71.6	68.0	68.0	68.0	66.2	64.4	64.4	66.2	68.0	71.6	75.2	77.0	80.6	84.2	84.2	84.2	86.0	86.0	64.4	87.8
4	86.0	84.2	80.6	77.0	73.4	73.4	68.0	66.2	64.4	62.6	62.6	63.5	63.5	68.0	66.2	68.0	75.2	78.8	82.4	86.0	87.8	91.4	91.4	91.4	51.8	91.4
5	89.6	87.8	84.2	75.2	66.2	64.4	62.6	60.8	57.2	57.2	55.4	57.2	55.4	62.6	59.0	75.2	82.4	86.0	91.4	91.4	93.2	91.2	95.1	95.0	55.4	95.0
6	93.2	91.4	89.6	89.6	84.2	86.0	82.4	82.4	82.4	77.0	77.0	75.2	68.0	71.6	77.0	84.2	86.0	89.6	91.4	93.2	95.0	96.8	96.8	95.0	68.0	96.8
7	91.4	91.4	82.4	999	75.2	68.0	64.0	66.2	68.0	66.2	62.6	60.8	62.6	60.8	73.4	80.6	86.0	89.6	96.0	100.4	100.4	102.2	102.2	102.2	60.8	102.2
8	98.6	96.8	93.2	89.6	75.2	71.6	69.8	68.0	73.4	68.0	66.2	66.2	64.4	62.6	73.4	80.6	82.4	84.2	87.8	89.6	93.2	95.0	95.0	93.2	64.4	98.6
9	91.4	89.6	80.6	75.2	75.2	77.0	73.4	71.6	71.6	71.6	68.0	64.4	62.6	62.6	68.0	75.2	78.8	82.4	86.0	89.6	91.4	93.2	95.0	93.2	62.6	95.0
10	93.2	91.4	86.0	75.2	71.6	73.4	68.0	71.6	66.2	64.4	71.6	71.6	68.0	66.2	73.4	73.4	75.2	71.2	80.6	84.2	89.6	89.6	91.4	91.4	64.4	93.2
11	91.4	89.6	80.6	80.6	80.6	75.2	73.4	71.6	71.6	66.2	66.2	68.0	66.2	69.0	68.0	73.4	77.0	80.6	82.4	86.0	87.8	999	999	999	55.4	91.4
12	999	86.0	75.2	71.6	68.0	69.0	59.0	59.0	57.2	53.6	51.8	48.2	53.6	64.4	60.8	68.0	77.0	71.6	84.2	86.0	89.6	89.6	91.4	91.4	50.0	91.4
13	91.4	86.0	78.8	75.2	66.2	66.2	62.6	59.0	59.0	57.2	59.0	55.4	51.8	66.2	66.2	71.6	77.0	84.2	84.2	89.6	91.4	93.2	95.0	95.0	53.6	95.0
14	93.2	89.6	78.8	80.6	68.0	68.0	62.6	60.8	59.0	57.2	55.4	53.6	53.6	57.2	64.4	71.6	78.8	82.4	86.0	89.6	91.4	93.2	999	999	53.6	93.2
15	91.4	87.8	78.8	73.4	75.2	68.0	66.2	64.4	57.2	57.2	57.2	53.6	55.4	999	64.4	71.6	78.8	82.4	86.0	89.6	91.4	93.2	93.2	95.0	53.6	95.0
16	93.2	91.4	84.2	78.8	71.6	69.8	68.0	66.2	64.4	60.8	59.0	60.8	59.0	62.6	68.0	73.4	77.0	80.6	82.4	86.0	87.8	89.6	91.4	91.4	59.0	93.2
17	91.4	86.0	77.0	73.4	66.2	64.4	64.4	64.4	66.2	62.6	62.6	59.0	59.0	59.0	66.2	73.4	75.2	71.6	84.2	86.0	89.6	91.4	91.4	93.2	59.0	93.2
18	91.4	86.0	82.4	82.4	69.8	68.0	68.0	71.6	999	68.0	62.6	64.4	57.2	60.8	64.4	71.6	80.6	82.4	86.0	89.6	91.4	93.2	93.2	93.2	59.0	93.2
19	91.4	89.6	86.0	77.0	73.4	71.6	66.2	66.2	66.2	66.2	68.0	62.6	59.0	57.2	64.4	71.6	78.8	82.4	86.0	89.6	91.4	93.2	93.2	95.0	57.2	95.0
20	78.8	78.8	75.2	77.0	75.2	75.2	73.4	66.2	64.4	62.6	62.6	62.6	59.0	57.2	64.4	71.6	75.2	80.6	82.4	86.0	87.8	89.6	91.4	91.4	57.2	91.4
21	91.4	89.6	78.8	75.2	71.6	71.6	66.2	64.4	64.4	66.2	62.6	62.6	59.0	59.0	75.4	999	77.0	84.2	86.0	87.8	91.4	91.4	91.4	91.4	60.8	91.4
22	91.4	86.0	75.2	73.4	77.0	66.2	71.6	71.6	71.6	68.0	66.2	62.6	62.6	62.6	68.0	68.0	75.2	77.0	80.6	82.4	84.2	86.0	86.0	87.8	62.6	91.4
23	87.8	84.2	75.2	71.6	64.4	64.4	64.4	57.2	59.0	53.6	51.8	51.8	53.6	53.6	62.6	68.0	71.6	71.2	78.8	84.2	86.0	87.8	87.8	89.6	51.8	89.6
24	87.8	84.2	80.6	71.6	70.2	71.6	68.0	66.2	64.4	62.6	62.6	59.0	57.2	57.2	59.0	62.6	64.4	64.2	69.8	75.2	77.0	77.0	80.6	80.6	57.2	87.8
25	78.8	77.0	71.6	66.2	55.0	53.6	50.0	48.2	48.2	44.6	44.6	41.0	39.2	42.8	53.6	59.0	66.2	73.4	77.0	80.6	82.4	86.0	87.8	86.0	39.2	87.8
26	84.2	82.4	73.4	68.0	66.2	59.0	59.0	57.2	57.2	55.4	53.6	59.0	57.2	57.2	59.0	68.0	77.0	82.4	80.6	86.0	91.4	91.4	91.4	91.4	53.6	91.4
27	91.4	86.0	82.4	77.0	77.0	73.4	73.4	71.6	68.0	66.2	64.4	66.2	64.4	66.2	71.6	75.2	78.8	80.6	82.4	84.2	86.0	87.8	87.8	89.6	64.4	91.4
28	89.6	86.0	80.6	73.4	66.2	62.6	59.0	59.0	59.0	55.4	57.2	53.6	53.6	55.4	60.8	69.8	77.0	80.6	82.4	84.2	87.8	89.6	91.4	91.4	53.6	91.4
29	91.4	84.2	75.2	66.2	66.2	62.6	66.2	66.2	64.4	62.6	62.6	59.0	55.0	57.2	59.0	62.6	64.4	64.4	71.6	73.4	75.2	77.0	78.8	78.8	57.2	91.4
30	78.8	75.2	73.4	68.0	62.6	64.4	57.2	62.6	57.2	53.6	55.4	46.2	50.0	55.4	57.2	58.8	62.6	64.4	73.4	75.2	78.8	82.4	82.4	84.2	46.2	84.2
31	84.2	82.4	75.2	69.2	62.6	62.6	57.2	59.4	51.8	51.8	53.6	53.6	51.8	53.6	60.8	68.0	73.4	77.0	75.2	78.8	80.6	82.4	82.4	999	51.8	84.2

Figure 2. TYPICAL HEATING HOURS FOR AUGUST: HOURS 5 THROUGH 7, MST

4. Reflect emissions from operation of the existing fire pump engine, which was installed in 2001. *In accordance with DEQ Rules, TAPs emissions will not be modeled for this engine, which is subject to a NESHAP: 40 CFR 63, Subpart ZZZZ. In accordance with DEQ's modeling guideline, engine emissions will also be excluded from modeling to demonstrate compliance with the 1-hr NO_2 NAAQS. Short-term emissions will be based on testing the pump engine for 30 minutes each week, during daylight hours. Annual emissions will be based on routine testing and emergency operations for a maximum of 100 hours per year.*

5. NO_2 impacts in the full impact analysis will be evaluated using a Tier 1 (100 percent conversion of NO_x to NO_2) or Tier 2 (ambient ratio method [ARM] or ambient ratio method 2 [ARM2]) approach, and will be conducted in accordance with the most recent EPA guidance issued September 30, 2014.[3] If a Tier 3 (PVMRM or OLM) approach is needed for full-impact NO_2 analyses, REC will submit an addendum to this modeling protocol describing proposed in-stack ratios and requesting DEQ recommendations for NO_2 and ozone data.

[3] Owen and Brode, Clarification on the Use of AERMOD Dispersion Modeling for Compliance with the NO_2 National Ambient Air Quality Standard, dated September 30, 2014, accessible at http://www.epa.gov/scram001/guidance/clarification/NO2_Clarification_Memo-20140930.pdf

REC's proposed approach for dispersion modeling to demonstrate compliance with applicable ambient air quality standards is summarized in Table 2.

Table 2. PROPOSED PARAMETERS FOR NEAR-FIELD DISPERSION MODELING

Parameter	Values	Description
Model	AERMOD	The current version of AERMOD as of this date (v. 15181). If a newer version of AERMOD becomes available before final modeling analyses have been completed for this project, REC will use the most recently-released version.
Meteorological data	Boise Airport upper air and surface met data.	**REC requests that DEQ provide the most current AERMOD-ready meteorological data set with upper air soundings collected at the Boise NWS station and surface data collected at the Boise Airport.**
Land use	Rural	The cheese plant is located in a light industrial area east of the city of Nampa. As shown in Figure 3 below, the surrounding land use is predominantly agricultural, low- to medium-density residential, and commercial/light industrial. Urban heat-island effects on nighttime dispersion characteristics would not be expected in this area.
Terrain	AERMAP, 1-arc-second NED	The current version of AERMAP as of this date (v. 11103). If a newer version of AERMAP becomes available before final modeling analyses have been completed for this project, REC will use the most recently-released version. Terrain data with a minimum resolution of about 30 meters (1-arc-second) will be downloaded from the National Elevation Database (NED).
Datum	NAD83/WGS84	Locations of the ambient air boundary, structures, emission points, and receptors will be described in UTM coordinates (in meters) using datum NAD83/WGS84.
Modeling Domain	BEEST Domain Calculator	The modeling domain will be large enough so that the AERMOD receptor network will be both sufficiently detailed and extensive enough so as to fully represent the immediate surrounding terrain and the entire domain being modeled. The domain determination option available in Providence/Oris' BEEST graphical user interface for AERMOD will be used to facilitate this determination.
Building Downwash	BPIP-PRM	The current version (v. 04274) of the non-regulatory Building Profile Input Program for PRIME (BPIP-PRM) will be used to address building downwash.
Receptor Grid		As a starting point, the following receptor spacing is proposed: Fence line: 25-m spacing Fence line to 200 m: 50-m grid 200 m to 500 m: 100-m grid 500 m to 2,000 m (2 km): 250-m grid 2 km to 5 km: 500-m grid 5 km to 10 km: 1,000-m grid Additional receptors may be added to ensure that the maximum ambient impacts have been adequately resolved.

Figure 3. LAND USE WITHIN 3 KM OF SORRENTO'S NAMPA CHEESE PLANT

6. For full-impact analyses, REC proposes to use background concentrations taken from the Northwest Airquest Consortium's website,[4] based on latitude/longitude coordinates for the approximate center of the Sorrento Cheese Plant: 43.606710° N, 116.491747° W. Although the resulting concentrations shown in Table 2 are based on monitoring data collected during the three-year period from 2009 through 2011, REC believes these are the best representative data available at this time for this location. REC also believes that these values adequately represent contributions from Amalgamated Sugar's Nampa plant (TASCO) and the relatively small contributions from the Materne and Plexus plants to the west.

Table 2. PROPOSED BACKGROUND CONCENTRATIONS

Parameter and Unit	NW AirQuest Results	MW	µg/m³
Lat_or_UTMN	43.607		
Lon_or_UTME	-116.492		
UTM_zone			
In_Washington_Oregon_or_Idaho	YES		
PM2.5_24hr_ugm3	25		
PM2.5_annual_ugm3	9.6		
O3_daily_8hr_max_ppb	71		
O3_for_PVMRM_ppb	59		
NO2_1hr_ppb	43	46	80.9
NO2_annual_ppb	5.8	46	10.9

[4] Accessed January 21, 2016 at http://lar.wsu.edu/nw-airquest/lookup.html

Table 2. PROPOSED BACKGROUND CONCENTRATIONS			
Parameter and Unit	NW AirQuest Results	MW	µg/m³
SO2_1hr_ppb	6.8	64	17.8
SO2_3hr_ppb	11	64	28.8
SO2_24hr_ppb	4.7	64	12.3
SO2_annual_ppb	1.4	64	3.66
CO_1hr_ppb	1447	28	1657
CO_8hr_ppb	870	28	996
PM10_24hr_ugm3	96		
PM10_no_extremes_24hr_ugm3	74		
	µg/m³ = (MW x ppb)/		24.45

REC will provide a modeling report that complies with Section 6.12 of DEQ's September 2013 Modeling Guideline. Modeling assumptions will be clearly stated, sample calculations will be included, and justification for release parameters will be provided. The facility layout, configuration of structures, and release point configurations will be verified in the field by Sorrento where possible.

I look forward to working with you. If you have any questions, please do not hesitate to contact me at 208.473.0183 or by email at cheryl@robinsonenvironmental.us.

Best Regards,

Cheryl A. Robinson

Cheryl A. Robinson, P.E.
REC, Managing Member

ec: Kevin Schilling, NSR Modeling Coordinator, Kevin.Schilling@deq.idaho.gov
Wendy R. York, CSP, Safety & Environmental Manager, Sorrento Lactalis, Inc., wendy.york@lactalis.us
File

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 NORTH HILTON, BOISE, ID 83706 · (208) 373-0502

C. L. "BUTCH" OTTER, GOVERNOR
JOHN TIPPETS, DIRECTOR

February 16, 2016

Cheryl Robinson, P.E.
Robinson Environmental Consulting, LLC

RE: Modeling Protocol for the Sorrento Lactalis, Inc. Facility near Nampa, Idaho

Cheryl:

DEQ received your initial dispersion modeling protocol submitted to me via email on January 26, 2016. The modeling protocol was submitted on behalf of Sorrento Lactalis, Inc. (Sorrento). The modeling protocol proposes methods and data for use in the ambient impact analyses of a Permit to Construct application for proposed modifications to their Cheese Plant near Nampa, Idaho.

The modeling protocol has been reviewed and DEQ has the following comments:

- **Comment 1: Project Scope**. The submitted application should thoroughly discuss the scope of the project, specifically addressing what is required by the consent order and how the submitted analyses meet that requirement. This will dictate how DEQ will review project, whether it is handled as a modification were only the emissions increase is evaluated or whether a rework of the previous permitting analyses is required. If the applicant elects to simply model facility-wide emissions to evaluate compliance with all NAAQS, then a detailed description of how the modeling approach satisfies the consent order may not be necessary.

- **Comment 2: Approach for Heaters**. The approach you outline for the heaters seems reasonable and conservative as an estimation of potential to emit for the source. However, the DEQ permit writer reviewing the application will be responsible for the review and approval of calculations of potential to emit.

- **Comment 3: Fire Pump Emissions**. The protocol correctly states that the fire pump can be excluded from modeling for 1-hour NO_2. For 24-hour standards, divide the 30 minutes of emissions evenly over the potential operational period (daytime hours in this case). Whether this operational condition is translated to a permit condition will be the decision of the permit writer. For annual emissions, I recommend using 500 hours. However, if showing compliance is difficult, DEQ would consider an argument that a shorter period represents potential to emit for the source.

- **Comment 4: NOx Chemistry**. Please consider that project-specific approval for Tier 3 methods (OLM or PVMRM) and Tier 2 ARM2 is needed from DEQ. To obtain approval, the applicant/consultant must provide justification for the specific method proposed as described in

available EPA guidance. ARM2 should be a reasonably easy justification if the default minimum NO_2/NOx ratio of 0.5 is used and the maximum NO_2/NOx ratio of 0.9 is used.

- **Comment 5: Stack Parameters for Capped and Horizontal Releases**. Use of the more refined and less conservative BETA option within AERMOD may be acceptable for capped stacks and horizontal releases. Since these are non-default options, specific DEQ approval is required for their use. This can be handled in a separate request to DEQ that identifies and describes the sources and provides justification for using the BETA option.

- **Comment 6: Meteorological Data**: DEQ strives to use the most representative meteorological data available. DEQ concurs that Boise meteorological data are reasonably representative for the application site. These data have recently been reprocessed and should have been provided to you at an earlier date.

- **Comment 7: Background Concentrations**: DEQ concurs that use of the NWAIRQUEST 2009-2011 design values of criteria pollutants lookup tool is appropriate for the site. These values were generated from regional-scale airshed modeling, with modeled results adjusted by monitored concentrations. However, there are more-recent monitoring data available and DEQ has determined it is appropriate to adjust NWAIRQUEST values for PM_{10} and $PM_{2.5}$ using these monitoring data.

  The NWAIRQUEST value for 24-hour PM at the Sorrento site is 96 $\mu g/m^3$ and 74 $\mu g/m^3$ with extreme values removed. Data collected in Nampa from 2011 through 2015 indicate the following upper level values (with exceptional events excluded): 2011: 108 $\mu g/m^3$, 68 $\mu g/m^3$, 68 $\mu g/m^3$; 2012: 151 $\mu g/m^3$, 133 $\mu g/m^3$, 133 $\mu g/m^3$; 2013: 97 $\mu g/m^3$, 90 $\mu g/m^3$, 77 $\mu g/m^3$, 75 $\mu g/m^3$; 2014: 62 $\mu g/m^3$, 61 $\mu g/m^3$, 59 $\mu g/m^3$, 58 $\mu g/m^3$; 2015: 81 $\mu g/m^3$, 68 $\mu g/m^3$, 68 $\mu g/m^3$, 64 $\mu g/m^3$. The PM_{10} design value is 90 $\mu g/m^3$, as determined by the 6th high value. The NWAIRQUEST value at the monitoring site is 77 $\mu g/m^3$. The adjusted background for the site is then obtained by multiplying the NWAIRQUEST value for the site by the ratio of the design value for the recent monitoring data to the NWAIRQUEST value given for the monitoring site:

$$\frac{74\ \mu g/m^3 \text{ NWAIRQUEST at site}}{\left|\begin{array}{l}\frac{90\ \mu g/m^3 \text{ monitored value}}{77\ \mu g/m^3 \text{ NWAIRQUEST at monitor}}\end{array}\right.} = \frac{86.5\ \mu g/m^3}{}$$

  The NWAIRQUEST value for 24-hour $PM_{2.5}$ at the Sorrento site is 25 $\mu g/m^3$. Data collected in Nampa from 2011 through 2015 indicate the following design values for each year: 2011 = 23 $\mu g/m^3$; 2012 = 20 $\mu g/m^3$; 2013 = 50 $\mu g/m^3$; 2014 = 27 $\mu g/m^3$; 2015 = 26 $\mu g/m^3$. The 5-year average design value is 29.2 $\mu g/m^3$. The adjusted background for the site is then obtained by multiplying the NWAIRQUEST value for the site by the ratio of the design value for the recent monitoring data to the NWAIRQUEST value given for the monitoring site:

$$\frac{25\ \mu g/m^3 \text{ NWAIRQUEST at site}}{\left|\begin{array}{l}\frac{29.2\ \mu g/m^3 \text{ monitored value}}{24\ \mu g/m^3 \text{ NWAIRQUEST at monitor}}\end{array}\right.} = \frac{30.4\ \mu g/m^3}{}$$

  The NWAIRQUEST value for annual $PM_{2.5}$ at the Sorrento site is 9.6 $\mu g/m^3$. Data collected in Nampa from 2011 through 2015 indicate the following design values for each year: 2011 = 5.97 $\mu g/m^3$; 2012 = 10.57 $\mu g/m^3$; 2013 = 12.86 $\mu g/m^3$; 2014 = 8.41 $\mu g/m^3$; 2015 = 8.70 $\mu g/m^3$. The 5-year average design value is 9.30 $\mu g/m^3$. The adjusted background for the site is then obtained by

multiplying the NWAIRQUEST value for the site by the ratio of the design value for the recent monitoring data to the NWAIRQUEST value given for the monitoring site:

$$\frac{9.6\ \mu g/m^3 \text{ NWAIRQUEST at site}}{\left|\begin{array}{l}9.3\ \mu g/m^3 \text{ monitored value}\\ 9.8\ \mu g/m^3 \text{ NWAIRQUEST at monitor}\end{array}\right.} = \frac{9.1\ \mu g/m^3}{}$$

DEQ modeling staff considers the submitted dispersion modeling protocol, with consideration and resolution of the additional items noted above, to be approved. It should be noted, however, that the approval of this modeling protocol is not meant to imply approval of a completed dispersion modeling analysis. Please refer to the *State of Idaho Air Quality Modeling Guideline*, which is available on the Internet at http://www.deq.state.id.us/air/permits_forms/permitting/modeling_guideline.pdf, for further guidance.

If air impact analyses are required for the proposed project, a modeling analysis report must be submitted with the application. DEQ has developed an Air Impact Modeling Analyses Report Template Form (available on the DEQ webpage) and requests that it be used to submit model results and detailed descriptions of the analyses and inputs to DEQ as part of the permit application process. DEQ modeling staff also request submission of electronic copies of all modeling input and output files (including BPIP and AERMAP input and output files) with the analysis report. If DEQ provided model-ready meteorological data files, then resubmission of these files to DEQ with the application is not required.

If you have any further questions or comments, please contact me at (208) 373-0112.

Sincerely,

Kevin Schilling

Kevin Schilling
Stationary Source Air Modeling Coordinator
Idaho Department of Environmental Quality
208 373-0112
kevin.schilling@deq.idaho.gov

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 NORTH HILTON, BOISE, ID 83706 · (208) 373-0502

C. L. "BUTCH" OTTER, GOVERNOR
JOHN TIPPETS, DIRECTOR

February 20, 2016

Cheryl Robinson, P.E.
Robinson Environmental Consulting, LLC

RE: Revision to Modeling Protocol Approval for the Sorrento Lactalis, Inc. Facility near Nampa, Idaho

Cheryl:

DEQ provided a protocol approval notice on February 16, 2016 for the Sorrento Lactalis, Inc. facility. Since then, DEQ has determined that the 2013 monitoring data should be excluded from consideration in determination of background concentrations on the basis that conditions affecting pollutant dispersion in the region can be considered extraordinarily poor and resulting monitored pollutant concentrations cannot be considered to be reasonably representative of the area.

The following are revised background concentrations, and Comment 7 below should replace Comment 7 in DEQ's issued protocol approval.

- **Comment 7: Background Concentrations**: DEQ concurs that use of the NWAIRQUEST 2009-2011 design values of criteria pollutants lookup tool is appropriate for the site. These values were generated from regional-scale airshed modeling, with modeled results adjusted by monitored concentrations. However, there are more-recent monitoring data available and DEQ has determined it is appropriate to adjust NWAIRQUEST values for PM_{10} and $PM_{2.5}$ using these monitoring data.

  The NWAIRQUEST value for 24-hour PM_{10} at the Sorrento site is 96 $\mu g/m^3$ and 74 $\mu g/m^3$ with extreme values removed. Data collected in Nampa from 2010 through 2015, with 2013 excluded, indicate the following upper level values (with exceptional events excluded): 2011: 73 $\mu g/m^3$, 66 $\mu g/m^3$, 2011: 108 $\mu g/m^3$, 68 $\mu g/m^3$, 68 $\mu g/m^3$; 2012: 151 $\mu g/m^3$, 133 $\mu g/m^3$, 133 $\mu g/m^3$; 2013: excluded as an outlier; 2014: 62 $\mu g/m^3$, 61 $\mu g/m^3$, 59 $\mu g/m^3$, 58 $\mu g/m^3$; 2015: 81 $\mu g/m^3$, 68 $\mu g/m^3$, 68 $\mu g/m^3$, 64 $\mu g/m^3$. The PM_{10} design value is 73 $\mu g/m^3$, as determined by the 6th high value. The NWAIRQUEST value at the monitoring site is 77 $\mu g/m^3$. The adjusted background for the site is then obtained by multiplying the NWAIRQUEST value for the site by the ratio of the design value for the recent monitoring data to the NWAIRQUEST value given for the monitoring site:

$$74\ \mu g/m^3 \text{ NWAIRQUEST at site} \times \frac{73\ \mu g/m^3 \text{ monitored value}}{77\ \mu g/m^3 \text{ NWAIRQUEST at monitor}} = 70.2\ \mu g/m^3$$

The NWAIRQUEST value for 24-hour $PM_{2.5}$ at the Sorrento site is 25 $\mu g/m^3$. Data collected in Nampa from 2010 through 2015 indicate the following design values for each year: 2010 = 15 $\mu g/m^3$, 2011 = 23 $\mu g/m^3$; 2012 = 20 $\mu g/m^3$; 2013 = none; 2014 = 27 $\mu g/m^3$; 2015 = 26 $\mu g/m^3$. The 5-year average design value is 22.2 $\mu g/m^3$. The adjusted background for the site is then obtained by multiplying the NWAIRQUEST value for the site by the ratio of the design value for the recent monitoring data to the NWAIRQUEST value given for the monitoring site:

$$\frac{25\ \mu g/m^3 \text{ NWAIRQUEST at site} \mid \frac{22.2\ \mu g/m^3 \text{ monitored value}}{24\ \mu g/m^3 \text{ NWAIRQUEST at monitor}}}{} = \frac{23.1\ \mu g/m^3}{}$$

The NWAIRQUEST value for annual $PM_{2.5}$ at the Sorrento site is 9.6 $\mu g/m^3$. Data collected in Nampa from 2011 through 2015 indicate the following design values for each year: 2011 = 5.97 $\mu g/m^3$; 2012 = 10.57 $\mu g/m^3$; 2013 = 12.86 $\mu g/m^3$; 2014 = 8.41 $\mu g/m^3$; 2015 = 8.70 $\mu g/m^3$. The 5-year average design value is 9.30 $\mu g/m^3$. The adjusted background for the site is then obtained by multiplying the NWAIRQUEST value for the site by the ratio of the design value for the recent monitoring data to the NWAIRQUEST value given for the monitoring site:

$$\frac{9.6\ \mu g/m^3 \text{ NWAIRQUEST at site} \mid \frac{7.9\ \mu g/m^3 \text{ monitored value}}{9.8\ \mu g/m^3 \text{ NWAIRQUEST at monitor}}}{} = \frac{7.8\ \mu g/m^3}{}$$

If you have any further questions or comments, please contact me at (208) 373-0112.

Sincerely,

Kevin Schilling

Kevin Schilling
Stationary Source Air Modeling Coordinator
Idaho Department of Environmental Quality
208 373-0112
kevin.schilling@deq.idaho.gov

APPENDIX 3. EMISSIONS INVENTORY *(Refer to Sandisk Flash Drive in Appendix 4 for electronic files: 2016 REC Sorrento Emissions Files and Full Impact Records)*

1. References for Emissions
2. Input & Common Factors
3. Facility Classification – Total HAPs, Mercury, and GHGs
4. Facility Classification – Total Criteria Pollutants (T/yr) and (lb/hr)
5. Total TAPs Emissions (lb/hr)

1. REFERENCES FOR EMISSIONS

1 Heat Content of Gas Delivered to Consumers (Btu/scf)

State	2009	2010	2011	2012	2013	2014	Average
Alaska	1,005	1,005	1,013	1,012	1,002	1,001	**1,006**
California	1,027	1,023	1,020	1,022	1,028	1,030	**1,025**
Idaho	1,022	1,021	1,017	1,015	1,015	1,017	**1,018**
Montana	1,011	1,012	1,016	1,025	1,028	1,025	**1,020**
Oregon	1,024	1,015	1,021	1,022	1,015	1,029	**1,021**
Utah	1,044	1,045	1,038	1,043	1,047	1,040	**1,043**
Washingto	1,030	1,032	1,029	1,028	1,030	1,044	**1,032**
Wyoming	1,031	1,031	1,034	1,034	1,041	1,040	**1,035**

U.S. Energy Information Administration (EIA). Heat Content of Natural Gas Consumed
http://www.eia.gov/dnav/ng/ng_cons_heat_a_epg0_vgth_btucf_a.htm

2 Natural Gas Combustion in Space Heaters

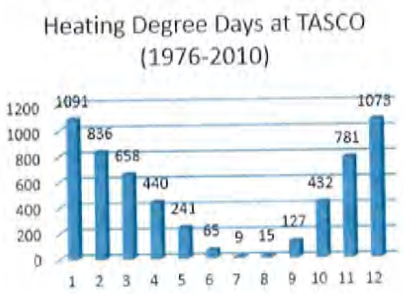
Presume that heaters operate 24 hours per day during the month with the greatest number of Heating Degree Days (HDD)
Reduce daily operating hours for other months based on a ratio of HDDs
Heating units cycle on and off rather than running continuously. Presume natural gas combustion for 45 min/hour.

http://www.wrcc.dri.edu/htmlfiles/id/id.hdd.html

IDAHO **MONTHLY AVERAGE HEATING DEGREE DAYS (BASE 65 DEG F)**

NAMPA SUGAR FACTORY | 1976-2010 | 1091 836 658 440 241 65 9 15 127 432 781 1073 5769

Month	HDD	Percent	Hr/day	NG Comb. (hr/day)	Days/Mo.	NG Comb. (hr/mo)
Jan	1091	100.0%	24	18	31	558
Feb	836	76.6%	18.4	13.8	28	386
Mar	658	60.3%	14.5	10.9	31	337
Apr	440	40.3%	9.68	7.26	30	218
May	241	22.1%	5.30	3.98	31	123
Jun	65	5.96%	1.43	1.07	30	32.2
Jul	9	0.825%	0.198	0.148	31	4.60
Aug	15	1.37%	0.330	0.247	31	7.67
Sep	127	11.6%	2.79	2.10	30	62.9
Oct	432	39.6%	9.50	7.13	31	221
Nov	781	71.6%	17.2	12.9	30	387
Dec	1073	98.4%	23.6	17.7	31	549



3 Greenhouse Gas Global Warming Potential (GWP)

GHG	GWP (100-yr)	
	4th	5th
CO2 (carbon dioxide)	1	1
N2O (nitrous oxide)	298	265
CH4 (methane)	25	28

4th = IPCC Fourth Assessment Report, 2007 (AR4), Section 2.10.2, Direct Global Warming Potentials,
accessed July 7, 2015 at https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html
5th = IPCC Fifth Assessment Report, 2014 (AR5),
adapted GWP values taken from http://ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values.pdf

2. INPUT & COMMON FACTORS

Natural Gas Heating Value	1018	MMBtu/MMscf	*This was set to 1000 in 2009*

Addressed in PTC	Emissions	Stack ID	Unit ID	Description	Mfr/Make	Model	Mfr/ Install Year	Input Heat Capacity (Btu/hr)	Input Heat Capacity (MMBtu/ hr)	Max Hrly Fuel Use (MMscf/ hr)	Operating Hrs/Day	Operating Hr/Yr
7/20/2001	PM	P-01	WHDRYBH	Meyers-Sterner Whey Dryer w/ Cyclone/BH	Meyers-Sterner	**Production rate = 1496 lb/day**	2001		**6.0**	0.0059	24	8760
8/28/2009	PM	P-04	WHTETRSC	TetraPak Whey Dryer Scrubber	Fisher Klosterman, Inc.	MS-1200 Scrubber, SS316 **16,667 lb/hr**	4/1/2009					
8/28/2009	PM	P-05	WHTETRBH	TetraPak Whey Dryer Baghouse	TetraPak	13-243-14; **16,667 lb/hr**	4/1/2009					
2016	PM	P-40	CH-DONBH	Cheese Plant Donaldson Dust Collection Unit	Donaldson							

Addressed in PTC	Emissions	Stack ID	Unit ID	Description	Mfr/Make	Model	Mfr/ Install Year	Input Heat Capacity (Btu/hr)	Input Heat Capacity (MMBtu/	Max Hrly Fuel Use (MMscf/ hr)	Operating Hrs/Day	Operating Hr/Yr
8/28/2009	NG Combustion Products	P-02	WHDRY01	TetraPak Whey Dryer - Burner 1	Eclipse, Inc.	Winnox WX1000	4/1/2009		12.5	0.0123	24	8760
8/28/2009	"	P-03	WHDRY02	TetraPak Whey Dryer - Burner 2	Eclipse, Inc.	Winnox WX1000	4/1/2009		12.5	0.0123	24	8760
8/28/2009	NG Combustion Products	P-06	BLR4	Boiler 4, Low NOx (FGR)	Cleaver Brooks 1200 HP	CBL-700-1200-150 150SC	4/1/2009		49	0.0481	24	8760
7/20/2001	"	P-07	BLR2	Boiler 2, new 800 burner & downrated in 2014	Superior 800 HP	4-05-3005	2001		24.8	0.0244	24	8760
7/20/2001	"	P-08	BLR1	Boiler 1, Low NOx (FGR)	Cleaver Brooks 600 HP	CBLE 700-600	2001		24.49	0.0241	24	8760
8/28/2009	"	P-09	BLR3	Boiler 3, exempt from PTC action when installed in 2007	Hurst 800 HP	54000-150-26	2007		33.6	0.0330	24	8760
2016	"	P-35	CH-AC01	Cheese Plant, Engineering	Carrier	48SS-03006031AA	2000	50,400	0.0504	4.95E-05	**24**	**8760**
2016	"	P-10	CH-AC02	Cheese Plant, Main Conf. Rm	Carrier	48TME004-A-501	2007	74,000	0.074	7.27E-05	24	8760
2016	"	P-11	CH-AC03	Cheese Plant, Main Breakroom	Carrier	48TM3008-A-501	2004	180,000	0.180	1.77E-04	24	8760
2016	"	P-12	CH-AC04	Cheese Plant, Office, East side	Carrier	448TFE007-511	2004	115,000	0.115	1.13E-04	24	8760
2016	"	P-13	CH-AC05	Cheese Plant, Office, West side	Carrier	48TJE007---521--	2004	115,000	0.115	1.13E-04	24	8760
2016	"	P-38	CH-AC06					0	0.000	0.00E+00	24	8760
2016	"	P-14	CH-AC15	Cheese Plant, Micro Lab	Carrier	48HJE006-351	2004	115,000	0.115	1.13E-04	24	8760
2016	"	P-15	CH-AC16	Cheese Plant, Intake Breakroom	Carrier	48TJE005-611GA	2000	115,000	0.115	1.13E-04	24	8760
2016	"	P-16	CH-AC17	Cheese Plant, Main Lab	Carrier	48TFD009-611	2008	125,000	0.125	1.23E-04	24	8760
2016	"	P-17	CH-AC24	Cheese Plant, Warehouse	Carrier	48TCEA04A2A5A0A0A0	2008	115,000	0.115	1.13E-04	24	8760

2. INPUT & COMMON FACTORS, continued

Addressed in PTC	Emissions	Stack ID	Unit ID	Description	Mfr/Make	Model	Mfr/ Install Year	Input Heat Capacity (Btu/hr)	Input Heat Capacity (MMBtu/	Max Hrly Fuel Use (MMscf/ hr)	Operating Hrs/Day	Operating Hr/Yr
2016	"	CH_AHU09	CH-AHU09	Cheese Plant, Mascarpone	Reyco[1]		1999	3,000,000	3.00	2.95E-03	24	8760
2016	"	CH_AHU07	CH-AHU07	Cheese Plant, Shred	Reyco[1]		1999	3,000,000	3.00	2.95E-03	24	8760
2016	"	CH_AHU08	CH-AHU08	Cheese Plant, Mozzarella	Reyco[1]		1999	2,500,000	2.50	2.46E-03	24	8760
2016	"	P-37	CH-AC14	Cheese Plant, QA Offices	BDP	580DJV060115AAAA	2000	115,000	0.115	1.13E-04	24	8760
2016	"	P-18	WH-MA01	Whey Plant, Crystallizer room	York/Johnson Controls	DF-200-GMFH-LH-B200R10LGGAA	2010	2,500,000	2.500	2.46E-03	24	8760
2016	"	P-19	WH-MA02	Whey Plant, HTST room	York/Johnson Controls	DF-175-GMFH-LH-B175R10LGGAA	2010	2,187,000	2.187	2.15E-03	24	8760
2016	"	P-20	WH-MA03	Whey Plant, Permeate dryer burner room	York/Johnson Controls	DF-175-GMFH-LH-B175R10LGGAA	2010	2,187,000	2.187	2.15E-03	24	8760
2016		P-30	WH-MA04	Whey Plant	Greenheck	PVF350H	2010	700,000	0.700	6.88E-04	24	8760
2016	"	P-21	WH-MA06	Whey Plant, Permeate dryer cyclone room	York/Johnson Controls	DF-200-GMFH-LH-B200R10LGGAA	2010	2,500,000	2.500	2.46E-03	24	8760
2016	"	P-22	WH-MA07	Whey Plant, Dungeon room	York/Johnson Controls	DF-150-GMFH-LH-B150R10LGGAA	2010	1,875,000	1.875	1.84E-03	24	8760
2016	"	P-23	WH-AC01	Whey Plant, Packaging blower room	York/Johnson Controls	0EA700030101	2010	375,000	0.375	3.68E-04	24	8760
2016	"	P-24	WH-AC02	Whey Plant, Powder silo room	York/Johnson Controls	DF-40-GMFH-LH-B40R10LGGAA	2010	500,000	0.500	4.91E-04	24	8760
2016	"	P-25	WH-AC03	Whey Plant, Packaging bag room	York/Johnson Controls	DF-75-GMFH-LH-B75R10LGGAA	2010	937,000	0.937	9.21E-04	24	8760
2016	"	P-26	WH-AC04	Whey Plant, Packaging bulk room	York/Johnson Controls	DF-100-GMFH-LH-B100R10LGGAA	2010	1,250,000	1.250	1.23E-03	24	8760
2016	"	P-27	WH-AC09	Whey Plant, Offices	Carrier	D1NA048N090253	unknown	108,000	0.108	1.06E-04	24	8760
2016	"	P-28	WH-AC11	Whey Plant, Lab	Carrier	J06ZHN10P4AZZ50005A	2010	120,000	0.120	1.18E-04	24	8760
2016	"	P-29	WH-AC12	Whey Plant, Breakroom	Carrier	48TFD009-611	2000	125,000	0.125	1.23E-04	24	8760
2016	"	WH_AHU10	WH-AHU10	Whey Plant, Membrane room	Industrial Commercial Equipment	DMA125X	2000	2,112,000	2.112	2.07E-03	24	8760
2016	"	P-31	FM-AC01	Fresh Mozzarella Plant, 1st floor	Carrier	48TCEA07A2A5A0A0A0	2013	115,000	0.115	1.13E-04	24	8760
2016	"	P-32	FM-AC02	Fresh Mozzarella Plant, 2nd floor	Carrier	48TCEA07A2A5A0A0A0	2013	115,000	0.115	1.13E-04	24	8760
							TOTAL, NG Heaters		**27.33**			

Addressed in PTC	Emissions	Stack ID	Unit ID	Description	Mfr/Make	Model	Mfr/ Install Year	Engine Rating (bhp)	Fuel Sulfur Content (%)	Annual Flow Test (hrs)	Weekly Test (Hrs)	Operating Hr/Yr
2016	ULSD Combustion Products	P-34	FPUMP	Diesel Fire Pump	Peerless	Model = JD/RG6081H132189 (horizontal)	2001	235.9	0.05	2	0.5	500

3. FACILITY CLASSIFICATION

TOTAL HAPs and MERCURY EMISSIONS (Tons per Year) @8760 @500 hr/yr

	Meyers-Sterner Whey Dryer w/ Cyclone/BH	TetraPak Whey Dryer - Burner 1	TetraPak Whey Dryer - Burner 2	Cleaver Brooks 600 HP	Superior 800 HP	Hurst 800 HP	Cleaver Brooks 1200 HP	Natural Gas-Fired Heaters	Fire Pump Engine	TOTAL
MMscf/yr	51.64	107.58	107.58	210.77	213.44	289.18	421.72	235.18		1637
MMBtu/yr									825.65	825.7
Mercury, lb/MMscf:	2.60E-04	2.60E-04	2.60E-04	2.60E-04	2.60E-04	2.60E-04	2.60E-04	2.60E-04		
Total HAPs, lb/MMscf:	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93		
Total HAPs, lb/MMBtu:									3.87E-03	
Mercury, lbs/yr	1.34E-02	2.80E-02	2.80E-02	5.48E-02	5.55E-02	7.52E-02	1.10E-01	6.11E-02		**0.43**
HAPs, lbs/yr	99.44	207.16	207.16	405.86	411.00	556.84	812.06	452.85	3.20	**3156**
HAPs, Tons/yr	**4.97E-02**	**1.04E-01**	**1.04E-01**	**2.03E-01**	**2.06E-01**	**2.78E-01**	**4.06E-01**	**2.26E-01**	**1.60E-03**	**1.58**

NOT a major facility: *Does not emit or have the potential to emit >* 10 TPY *of any HAP*
Does not emit or have the potential to emit > 25 TPY *of all HAPs, combined*
Does not emit or have the potential to emit > 25 lbs/yr *of Mercury*

TOTAL GHG EMISSIONS (Tons per Year) @8760 @500 hr/yr

	Meyers-Sterner Whey Dryer w/ Cyclone/BH	TetraPak Whey Dryer - Burner 1	TetraPak Whey Dryer - Burner 2	Cleaver Brooks 600 HP	Superior 800 HP	Hurst 800 HP	Cleaver Brooks 1200 HP	Natural Gas-Fired Heaters	Fire Pump Engine	TOTAL
CO2, Tons/yr	3,098	6,455	6,455	12,646	12,806	17,351	25,303	14,111	67.70	**98,293**
CO2e, Tons/yr	3,115	6,467	6,467	12,715	12,876	17,444	25,440	14,187	67.70	**98,779**

NOT a major facility: *Does not emit or have the potential to emit >* 100 TPY *of CO2*
Does not emit or have the potential to emit > 100 TPY *of CO2e*

4. FACILITY CLASSIFICATION

TOTAL CRITERIA POLLUTANT EMISSIONS (Tons per Year) @ 2885 @500 hr/yr

Pollutant	Meyers-Sterner Whey Dryer w/ Cyclone/BH	TetraPak Whey Dryer - Burner 1	TetraPak Whey Dryer - Burner 2	Cleaver Brooks 600 HP	Superior 800 HP	Hurst 800 HP	Cleaver Brooks 1200 HP	Natural Gas-Fired Heaters	Fire Pump Engine	TetraPak Wet Scrubber	TetraPak BH	S&S Donaldson BH	TOTAL
PM	7.3	0.41	0.41	0.80	0.81	1.10	1.60	0.29	0.13	24.79	14.54	0.335	**52.49**
PM10	7.3	0.41	0.41	0.80	0.81	1.10	1.60	0.29	0.13	24.79	14.54	0.335	**52.49**
PM2.5	2.6	0.41	0.41	0.80	0.81	1.10	1.60	0.29	0.13	24.79	14.54	0.335	**47.85**
SO2	0.02	0.03	0.03	0.06	0.06	0.09	0.13	0.02	0.02				**0.47**
NOx	1.20	2.19	2.19	5.27	10.67	14.46	10.54	3.87	1.82				**52.21**
CO	9.81	17.05	17.05	8.85	8.96	12.15	17.71	3.25	0.39				**95.23**
VOCs	0.14	0.30	0.30	0.58	0.59	0.80	1.16	0.21	0.15				**4.22**
Lead	1.29E-05	2.69E-05	2.69E-05	5.27E-05	5.34E-05	7.23E-05	1.05E-04	1.94E-05					3.70E-04
												Lead, lb/month =	**0.06**

"INCREASE" IN REGULATED POLLUTANTS (Tons per Year) @8760 @ 2885 @500 hr/yr @8760

Change:	Meyers-Sterner Whey Dryer w/ Cyclone/BH	TetraPak Whey Dryer - Burner 1	TetraPak Whey Dryer - Burner 2	Cleaver Brooks 600 HP	Superior 800 HP	Hurst 800 HP	Cleaver Brooks 1200 HP	Natural Gas-Fired Heaters	Fire Pump Engine	TetraPak Wet Scrubber	TetraPak BH	S&S Donaldson BH	TOTAL
				4.4 MMBtu/hr	4.7 MMBtu/hr								
PM				0.30				0.29	0.13			0.335	**1.05**
PM10				0.30				0.29	0.13			0.335	**1.05**
PM2.5				0.30				0.29	0.13			0.335	**1.05**
SO2				0.023				0.023	0.021				**0.07**
NOx				3.92				3.87	1.82				**9.61**
CO				3.29				3.25	0.39				**6.94**
VOCs				0.22				0.21	0.15				**0.58**
Lead				1.96E-05				1.94E-05					**3.89E-05**
HAPs				7.54E-02				7.25E-02					**0.15**
													20.50

5.TOTAL TAPs EMISSIONS (lb/hr)

	Meyers-Sterner Whey Dryer w/ Cyclone/BH	TetraPak Whey Dryer - Burner 1	TetraPak Whey Dryer - Burner 2	Cleaver Brooks 600 HP	Superior 800 HP	Hurst 800 HP	Cleaver Brooks 1200 HP	Natural Gas-Fired Heaters	Fire Pump Engine	TOTAL	EL (lb/hr)	Exceeds EL/ Modeling Required ?
Subject to NSPS or NESHAP?	No	No	No	Yes: Dc	Yes: Dc	Yes: Dc	Yes: Dc	No	Yes: ZZZZ			
PAH HAPs												
2-Methylnaphthalene	1.41E-07	2.95E-07	2.95E-07	5.77E-07	5.85E-07	7.92E-07	1.16E-06	6.47E-07		1.38E-06	9.10E-05	
3-Methylchloranthrene	1.06E-08	2.21E-08	2.21E-08	4.33E-08	4.39E-08	5.94E-08	8.67E-08	4.85E-08		1.03E-07	2.50E-06	No
Acenaphthene	1.06E-08	2.21E-08	2.21E-08	4.33E-08	4.39E-08	5.94E-08	8.67E-08	4.85E-08	1.34E-07	1.03E-07	9.10E-05	No
Acenaphthylene	1.06E-08	2.21E-08	2.21E-08	4.33E-08	4.39E-08	5.94E-08	8.67E-08	4.85E-08	4.77E-07	1.03E-07	9.10E-05	No
Anthracene	1.41E-08	2.95E-08	2.95E-08	5.77E-08	5.85E-08	7.92E-08	1.16E-07	6.47E-08	1.76E-07	1.38E-07	9.10E-05	No
Benzo(a)anthracene	1.06E-08	2.21E-08	2.21E-08	4.33E-08	4.39E-08	5.94E-08	8.67E-08	4.85E-08	1.58E-07	1.03E-07	9.10E-05	See POM
Benzo(a)pyrene	7.07E-09	1.47E-08	1.47E-08	2.89E-08	2.92E-08	3.96E-08	5.78E-08	3.24E-08	1.77E-08	6.89E-08	2.00E-06	See POM
Benzo(b)fluoranthene	1.06E-08	2.21E-08	2.21E-08	4.33E-08	4.39E-08	5.94E-08	8.67E-08	4.85E-08	9.34E-09	1.03E-07		See POM
Benzo(g,h,i)perylene	7.07E-09	1.47E-08	1.47E-08	2.89E-08	2.92E-08	3.96E-08	5.78E-08	3.24E-08	4.61E-08	6.89E-08	9.10E-05	No
Benzo(k)fluoranthene	1.06E-08	2.21E-08	2.21E-08	4.33E-08	4.39E-08	5.94E-08	8.67E-08	4.85E-08	1.46E-08	1.03E-07		See POM
Chrysene	1.06E-08	2.21E-08	2.21E-08	4.33E-08	4.39E-08	5.94E-08	8.67E-08	4.85E-08	3.33E-08	1.03E-07		See POM
Dibenzo(a,h)anthracene	7.07E-09	1.47E-08	1.47E-08	2.89E-08	2.92E-08	3.96E-08	5.78E-08	3.24E-08	5.49E-08	6.89E-08		See POM
Dichlorobenzene	7.07E-06	1.47E-05	1.47E-05	2.89E-05	2.92E-05	3.96E-05	5.78E-05	3.24E-05		6.89E-05	9.10E-05	No
Fluoranthene	1.77E-08	3.68E-08	3.68E-08	7.22E-08	7.31E-08	9.90E-08	1.44E-07	8.09E-08	7.17E-07	1.72E-07	9.10E-05	No
Fluorene	1.65E-08	3.44E-08	3.44E-08	6.74E-08	6.82E-08	9.24E-08	1.35E-07	7.55E-08	2.75E-06	1.61E-07	9.10E-05	No
Indeno(1,2,3-cd)pyrene	1.06E-08	2.21E-08	2.21E-08	4.33E-08	4.39E-08	5.94E-08	8.67E-08	4.85E-08	3.53E-08	1.03E-07		See POM
Naphthalene	3.60E-06	7.49E-06	7.49E-06	1.47E-05	1.49E-05	2.01E-05	2.94E-05	1.64E-05	7.99E-06	3.50E-05	3.33	No
Naphthalene (as carcinogen)	3.60E-06	7.49E-06	7.49E-06	1.47E-05	1.49E-05	2.01E-05	2.94E-05	1.64E-05	7.99E-06	3.50E-05	9.10E-05	No
Phenanathrene	1.00E-07	2.09E-07	2.09E-07	4.09E-07	4.14E-07	5.61E-07	8.18E-07	4.58E-07	2.77E-06	9.76E-07	9.10E-05	No
Pyrene	2.95E-08	6.14E-08	6.14E-08	1.20E-07	1.22E-07	1.65E-07	2.41E-07	1.35E-07	4.51E-07	2.87E-07	9.10E-05	No
Polycyclic Organic Matter (POM) 7-PAH Group	6.72E-08	1.40E-07	1.40E-07	2.74E-07	2.78E-07	3.76E-07	5.49E-07	3.07E-07	3.24E-07	6.55E-07	2.00E-06	No
Non-PAH HAPs												
Acetaldehyde									7.23E-05	0.00E+00	3.00E-03	No
Acrolein									3.18E-06	0.00E+00	0.017	No
Benzene	1.24E-05	2.58E-05	2.58E-05	5.05E-05	5.12E-05	6.93E-05	1.01E-04	5.66E-05	8.79E-05	1.21E-04	8.00E-04	No
1,3-Butadiene									3.69E-06	0.00E+00	2.40E-05	No
Formaldehyde	4.42E-04	9.21E-04	9.21E-04	1.80E-03	1.83E-03	2.48E-03	3.61E-03	2.02E-03	1.11E-04	4.31E-03	5.10E-04	YES
Hexane	1.06E-02	2.21E-02	2.21E-02	4.33E-02	4.39E-02	5.94E-02	8.67E-02	4.85E-02		1.03E-01	12	No
Toluene	2.00E-05	4.18E-05	4.18E-05	8.18E-05	8.28E-05	1.12E-04	1.64E-04	9.17E-05	1.41E-05	1.95E-04	25	No
Xylene									9.80E-06	0.00E+00	29	No
Non-HAP Organic Compounds												
7,12-Dimethylbenz(a)anthracene	9.43E-08	1.96E-07	1.96E-07	3.85E-07	3.90E-07	5.28E-07	7.70E-07	4.31E-07		9.19E-07		
Butane	1.24E-02	2.58E-02	2.58E-02	5.05E-02	5.12E-02	6.93E-02	1.01E-01	5.66E-02		1.08E-01		
Ethane	1.83E-02	3.81E-02	3.81E-02	7.46E-02	7.55E-02	1.02E-01	1.49E-01	8.36E-02		1.60E-01		
Pentane	1.53E-02	3.19E-02	3.19E-02	6.26E-02	6.34E-02	8.58E-02	1.25E-01	7.01E-02		1.34E-01	118	No
Propane	9.43E-03	1.96E-02	1.96E-02	3.85E-02	3.90E-02	5.28E-02	7.70E-02	4.31E-02		8.24E-02		
Metals (HAPs)										0.00E+00		
Arsenic	1.18E-06	2.46E-06	2.46E-06	4.81E-06	4.87E-06	6.60E-06	9.63E-06	5.39E-06		1.03E-05	1.50E-06	YES
Barium	2.59E-05	5.40E-05	5.40E-05	1.06E-04	1.07E-04	1.45E-04	2.12E-04	1.19E-04		2.27E-04	0.033	No
Beryllium	7.07E-08	1.47E-07	1.47E-07	2.89E-07	2.92E-07	3.96E-07	5.78E-07	3.24E-07		6.18E-07	2.80E-05	No
Cadmium	6.48E-06	1.35E-05	1.35E-05	2.65E-05	2.68E-05	3.63E-05	5.30E-05	2.97E-05		5.67E-05	3.70E-06	YES
Chromium	8.25E-06	1.72E-05	1.72E-05	3.37E-05	3.41E-05	4.62E-05	6.74E-05	3.78E-05		7.21E-05	0.033	No
Cobalt	4.95E-07	1.03E-06	1.03E-06	2.02E-06	2.05E-06	2.77E-06	4.04E-06	2.27E-06		4.33E-06	0.0033	No
Copper	5.01E-06	1.04E-05	1.04E-05	2.05E-05	2.07E-05	2.81E-05	4.09E-05	2.29E-05		4.38E-05	0.013	No
Manganese	2.24E-06	4.67E-06	4.67E-06	9.14E-06	9.26E-06	1.25E-05	1.83E-05	1.02E-05		1.96E-05	0.067	No
Mercury	1.53E-06	3.19E-06	3.19E-06	6.26E-06	6.34E-06	8.58E-06	1.25E-05	7.01E-06		1.34E-05	0.003	No
Molybdenum	6.48E-06	1.35E-05	1.35E-05	2.65E-05	2.68E-05	3.63E-05	5.30E-05	2.97E-05		5.67E-05	0.333	No
Nickel	1.24E-05	2.58E-05	2.58E-05	5.05E-05	5.12E-05	6.93E-05	1.01E-04	5.66E-05		1.08E-04	2.70E-05	YES
Selenium	1.41E-07	2.95E-07	2.95E-07	5.77E-07	5.85E-07	7.92E-07	1.16E-06	6.47E-07		1.24E-06	0.013	No
Vanadium	1.36E-05	2.82E-05	2.82E-05	5.53E-05	5.60E-05	7.59E-05	1.11E-04	6.20E-05		1.19E-04	0.003	No
Zinc	1.71E-04	3.56E-04	3.56E-04	6.98E-04	7.07E-04	9.57E-04	1.40E-03	7.82E-04		1.49E-03	0.667	No

NOTE: TAPs lb/hr emissions are 24-hour averages unless shown in bold. Bold emissions are annual averages for carcinogens.

Reference enclosed SanDisk USB Flash Drive for the following highlighted documents:

	FILE NAME	DESCRIPTION
	2016 Modeling Files and EI	2016 REC Sorrento Emissions Files and Full Impact Records
2011 TetraPak Baghouse Source Test Results	2011 TetraPak Baghouse Source Test final	Appendix 4 - 2011 TetraPak Baghouse Source Test Report
	2011 TetraPak Baghouse Source Test	Appendix 4 - 2011 TetraPak Baghouse Source Test Protocol
2013 Meyers Sterner Baghouse Source Test Results	2013 Meyers Sterner Baghouse Source Test Protocol	Appendix 4 - 2013 Meyers Sterner Baghouse Source Test Protocol
	2013 Meyers Sterner Baghouse Source Test	Appendix 4 - 2013 Meyers Sterner Baghouse Source Test Report
	DEQ Review of 2013 Meyers Sterner Baghouse Source Test	Appendix 4 - DEQ Review of 2013 Meyers Sterner Baghouse Source Test
2014 TetraPak Wet Scrubber Source Test Results	DEQ Review of October 2014 TetraPak Wet Scrubber Source Test	Appendix 4 - DEQ Review of October 2014 TetraPak Wet Scrubber Source Test
	DEQ Review of TetraPak Wet Scrubber Test Protocol	Appendix 4 - DEQ Review of TetraPak Wet Scrubber Test Protocol
	Final Sorrento Lactalis Wet Scrubber Test Report October 2014	Appendix 4 - October 2014 TetraPak Wet Scrubber Test Report
2009 PTC Application	PTC APP P-2009.0023.APP.Sorrento Lactalis Part 1.02-27-2009	Appendix 5 - Part 1 of the 2009 PTC Application
	PTC APP P-2009.0023.APP.Sorrento Lactalis Part 2.02-27-2009	Appendix 5 - Part 2 of the 2009 PTC Application

Reference enclosed SanDisk USB Flash Drive (same drive as Appendix 4) for the following documents:

	FILE NAME	DESCRIPTION
	2016 Modeling Files and EI	2016 REC Sorrento Emissions Files and Full Impact Records
2011 TetraPak Baghouse Source Test Results	2011 TetraPak Baghouse Source Test final	Appendix 4 - 2011 TetraPak Baghouse Source Test Report
	2011 TetraPak Baghouse Source Test	Appendix 4 - 2011 TetraPak Baghouse Source Test Protocol
2013 Meyers Sterner Baghouse Source Test Results	2013 Meyers Sterner Baghouse Source Test Protocol	Appendix 4 - 2013 Meyers Sterner Baghouse Source Test Protocol
	2013 Meyers Sterner Baghouse Source Test	Appendix 4 - 2013 Meyers Sterner Baghouse Source Test Report
	DEQ Review of 2013 Meyers Sterner Baghouse Source Test	Appendix 4 - DEQ Review of 2013 Meyers Sterner Baghouse Source Test
2014 TetraPak Wet Scrubber Source Test Results	DEQ Review of October 2014 TetraPak Wet Scrubber Source Test	Appendix 4 - DEQ Review of October 2014 TetraPak Wet Scrubber Source Test
	DEQ Review of TetraPak Wet Scrubber Test Protocol	Appendix 4 - DEQ Review of TetraPak Wet Scrubber Test Protocol
	Final Sorrento Lactalis Wet Scrubber Test Report October 2014	Appendix 4 - October 2014 TetraPak Wet Scrubber Test Report
2009 PTC Application	PTC APP P-2009.0023.APP.Sorrento Lactalis Part 1.02-27-2009	Appendix 5 - Part 1 of the 2009 PTC Application
	PTC APP P-2009.0023.APP.Sorrento Lactalis Part 2.02-27-2009	Appendix 5 - Part 2 of the 2009 PTC Application

Point #	Source
P1	Meyers-Sterner Whey Dryer Baghouse
P2	TetraPak Whey Dryer Burner #1
P3	TetraPak Whey Dryer Burner #2
P4	TetraPak Whey Dryer Scrubber
P5	TetraPak Whey Dryer Baghouse
P6	Cleaver Brooks 1200 HP
P7	Superior 800 HP
P8	Cleaver Brooks 600 HP
P9	Hurst 800 HP
P10	Cheese Plant AC 02
P11	Cheese Plant AC 03
P12	Cheese Plant AC 04
P13	Cheese Plant AC 05
P14	Cheese Plant AC 15
P15	Cheese Plant AC 16
P16	Cheese Plant AC 17
P17	Cheese Plant AC 24
P18	Whey Plant MA 1
P19	Whey Plant MA 2
P20	Whey Plant MA 3
P21	Whey Plant MA 6
P22	Whey Plant MA 7
P23	Whey Plant AC-1
P24	Whey Plant AC-2
P25	Whey Plant AC-3
P26	Whey Plant AC-4
P27	Whey Plant AC-9
P28	Whey Plant AC-11
P29	Whey Plant AC-12
P30	Whey Plant MA 4
P31	Fresh Mozz AC 01
P32	Fresh Mozz AC 02
P34	Fire Pump
P35	Cheese Plant AC 01
P37	Cheese Plant AC 14
P40	Cheese Plant Donaldson Dust Collection Unit

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Baghouse Control Equipment **Form BCE**
Revision 6
2/18/10

Complete this form for each baghouse. Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name	2. Facility Name:
SORRENTO LACTALIS	SORRENTO LACTALIS

3. Brief Project Description: MODIFY PERMIT PER CONSENT ORDERS E-2014.0007 & E-2015.0003

BAGHOUSE INFORMATION

4. Baghouse Manufacturer: MEYERS STERNER	5. Baghouse Model: N/A	6. Baghouse Equipment ID: P-1

7 (a). Baghouse particulate matter emission concentration. **Note: Provide information in 7(a)-(c) or answer question #8 below.**	_____ gr/dscf	*Manufacturers typically provide guarantees in grains per dry standard cubic foot (gr/dscf). Provide a copy of the guarantee, or other documentation, with the application along with a description of the types of bags that must be used to achieve the emission concentration.* ***Emission concentrations less than 0.01 gr/dscf will receive additional scrutiny by DEQ and a source test of the baghouse may be required.*** *If a guarantee is not provided then you must document how you obtained the emission concentration. Without documentation the application is not complete.*
7 (b). Percentage PM_{10} Or Provide PM_{10} Emission Concentration	_____ % _____ gr/dscf	*What percentage of the PM concentration listed in question #7(a) is PM_{10}. You must provide documentation as to how the percentage was determined (i.e per the baghouse manufacturer). Without documentation the application is not complete.*
7 (c). Baghouse flow rate	_____ dscfm	*Provide the baghouse flow rate in dry standard cubic feet per minute. Actual cubic feet per minute may be given in lieu of dscfm* ***if it is documented*** *that moisture content is insignificant. You must provide documentation as to how this flow rate was determined (i.e. per the exhaust fan manufacturer, combustion evaluation, etc.). Without documentation the application is not complete.*
8. Baghouse particulate matter control efficiency. **Note: Not needed if section #7 is completed.**	98 % PM control _____ % PM_{10} control	*Applicant's providing the control efficiency of the baghouse must provide control efficiency for both PM and PM_{10}. Provide a copy of the control efficiency documentation with the application. Documentation must include a description of the types of bags that must be used to achieve the control efficiency. Without documentation the application is not complete.*
9. Is the baghouse equipped with a bag leak detector?	☐ Yes ☒ No	*If a bag leak detector is installed provide documentation on the leak detector, including; how the leak detector functions and what level of the output signal indicates that a bag is leaking. Without documentation the application is not complete.*

Instructions for Form BCE

1 – 3. Provide the same company name, facility name, and brief project description as on the application cover sheet Form CS**. This is useful if application pages are separated.

USE ATTACHMENT IF ADDITIONAL SPACE IS REQUIRED.

Baghouse Information:

4-5. Provide the baghouse manufacturer name and the model number.

6. Provide an identification number for the baghouse stack. This number is assigned by the applicant and must be provided on any other application materials which are submitted that include baghouse information.

7-9. Follow the instructions in the form. All documentation provided must be sufficient so that DEQ can verify the validity of the information provided. Provide the Baghouse Equipment ID number on all submitted documentation. If documentation is not provided the application is incomplete.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	TETRAPAK WHEY DRYER BURNER 1 (P-2)
6.	EU ID Number:	P-2
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	TETRAPAK.
9.	Model:	ECLIPSE WINNOX 1000
10..	Maximum Capacity:	12.5 MMBTU/HR
11.	Date of Construction:	4-1-09
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

☐ Operation Hour Limit(s):	
☒ Production Limit(s):	Production Limit: 16,667 lb/hr averaged over 24 h
☐ Material Usage Limit(s):	
☐ Limits Based on Stack Testing:	Please attach all relevant stack testing summary reports
☐ Other:	

25. Rationale for Requesting the Limit(s): NO CHANGES TO CURRENT LIMIT

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler's rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

Definitions:

Construction fabrication, erection, or installation of an affected facility.

Commenced an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

Modification any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted to the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) to the atmosphere not previously emitted.

12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	TETRAPAK WHEY DRYER BURNER 2 (P-3)
6.	EU ID Number:	P-3
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	TETRAPAK.
9.	Model:	ECLIPSE WINNOX 1000
10..	Maximum Capacity:	12.5 MMBTU/HR
11.	Date of Construction:	4-1-09
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

☐ Operation Hour Limit(s):	
☒ Production Limit(s):	PRODUCTION LIMIT: 16,667 LB/HR AVERAGED OVER 24 H
☐ Material Usage Limit(s):	
☐ Limits Based on Stack Testing:	Please attach all relevant stack testing summary reports
☐ Other:	

25. Rationale for Requesting the Limit(s): NO CHANGE TO CURRENT PERMIT LIMITS

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler's rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

Definitions:

Construction fabrication, erection, or installation of an affected facility.

Commenced an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

Modification any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted to the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) to the atmosphere not previously emitted.

12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Scrubber Control Equipment - **Form SCE**
Revision 6
6/11/15

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name	2. Facility Name:
SORRENTO LACTALIS	SORRENTO LACTALIS
3. Emissions Unit ID (unit being controlled by the scrubber)	4. Exhaust Stack ID of the Scrubber:
P-4	P-4
5. Project Description	MODIFY PERMIT PER CONSENT ORDERS E-2014.0007 & E-2015.0003

EQUIPMENT DESCRIPTION

Equipment

6. Manufacturer: FISTER KLOSTERMAN, INC 7. Model.: MS-1200 SCRUBBER SS316

Scrubber Type

8. ☒ Wet Scrubber (indicate type)	☒ Venturi	☐ Packed Bed	☐ Condensation Scrubbing
	☐ Tray/Plate	☐ Orifice	☐ Spray Chamber

9. ☐ Dry Scrubber

10. ☐ Other (please provide details): _____

Operation

Packed Bed (if applicable)	11. Type of Packing Material: _____
Venturi (if applicable)	12. Pressure Drop Across Throat: 5.25" in w.g.
Spray Chamber (if applicable)	13. Pressure in Spray Nozzles: _____ in psi

14. Operating Pressure Range (all scrubber types): 5.25 to 10 in w.g.

15. Other Operating Parameters (if neccessary): _____

Scrubbing Media (as required)

16. Recirculation Rate: min. 599 gpm	17. Flow Meter? ☒ Yes ☐ No
18. pH of Scrubbing Media (range): _____ to _____	19. pH Meter? ☐ Yes ☐ No
20. ORP of Scrubbing Media (range): _____ to _____ mv	21. ORP Meter? ☐ Yes ☐ No

Pollutant (being removed)

22. ☒ Particulates (PM_{10}/$PM_{2.5}$)	23. ☐ VOC
24. ☐ SO_2	25. ☐ H_2S
26. ☐ Odor	27. ☐ Inorganic Fumes

28. Other: _____

Emissions Data

Pollutant	Control Efficiency %
29. Particulates (PM_{10})	99
30. Particulates ($PM_{2.5}$)	
31. VOC	
32. SO_2	
33. H_2S	
34. Odor	
35. Inorganic Fume	
36. Other	

Source of Data

37. ☒ Manufacturer's Specifications
38. ☒ Emissions Source Test (provide source test report)
39. ☐ AP-42 Section _____
40. ☐ Other

Note: Supporting documentation must be provided.

"Supporting documentation must be provided" in this section means the following information shall be available for DEQ staff review:

- *Control equipment manufacturer guarantees (if applicable),*
- *Source test reports (if applicable)*
- *All sources of emissions factors used to perform emissions calculations (i.e. continuous emissions monitoring system (CEMS) data, source testing, and/or US EPA's AP-42), and*
- *All assumptions used to perform emissions calculations.*

Instructions for Form SCE

1 – 5. Provide the company name, facility name (if different), the ID number of the unit being controlled by the scrubber, the exhaust stack ID of the scrubber, and a brief project description.

USE ATTACHMENTS IF ADDITIONAL SPACE IS REQUIRED.

Equipment:

6 – 7. Identify the manufacturer and model of the scrubber proposed to be installed.

Scrubber Type:

8 - 10. Identify the type of scrubber proposed to be installed.

Components:

11. Identify the type of packing material to be used in the proposed packed bed scrubber (if applicable).

12. Specify the pressure drop across the throat of the proposed wet scrubber (if applicable).

13. Specify the operating pressure of the nozzles in the proposed spray chamber scrubber (if applicable).

14. Identify the operating pressure range of the scrubber (applicable to all types).

15. Identify any other operating parameters of the scrubber (if necessary).

Scrubbing Media:

16. Specify the recirculation rate of the scrubber media (if applicable).

17. Specify whether a flow meter is present (if applicable).

18. Specify the pH operating range of the scrubbing media (if applicable).

19. Specify whether a pH meter is present (if applicable).

20. Specify the ORP (Oxidation-Reduction Potential) operating range of the scrubbing media (if applicable).

21. Specify whether an ORP meter is present (if applicable).

Pollutant (being removed):

22 - 28. Identify the pollutant being removed by the proposed scrubber.

Emissions Data:

29 - 36. Identify the control efficiency for the appropriate pollutant of the scrubber proposed to be installed.

37 - 40. Specify the source (or sources) of the control efficiency.

"Supporting documentation must be provided" in this section means the following information shall be available for DEQ staff review:

- Control equipment manufacturer guarantees (if applicable),
- Source test reports (if applicable)
- All sources of emissions factors used to perform emissions calculations (i.e. continuous emissions monitoring system (CEMS) data, source testing, and/or US EPA's AP-42), and
- All assumptions used to perform emissions calculations.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Venturi Scrubber Control Equipment - **Form VSCE**
Revision 2
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION					
1. Company Name:	SORRENTO LACTALIS	2. Facility Name:	SORRENTO LACTALIS	3. Facility ID No.:	027-00071
4. Brief Project Description:	MODIFY PERMIT PER CONSENT ORDERS E-2014.0007 & E-2015.0003				

EMISSION UNIT ID				SCRUBBER						
5.	6.	7.	8.	9.	10.	11.	12.	13	14.	15.
Emission Unit	EU ID No.	CE ID No.	Stack ID No.	Manufacturer Name	Model No.	Efficiency (PM_{10}@70%, SO_2@50%, etc.)	Basis for Efficiency (i.e., guarantee, source test, etc.)	Design Scrubbing Liquid Flow (gpm)	Design Pressure Drop (in H_2O)	Design pH (for acid gas control)
TETRAPAK SCRUBBER	P-4	P-4	P-4	FISHER KLOSTERMAN	MS-1200 SCRUBBER SS316	PM @ 99%	VENDOR CALCULATION	599 (MINIMUM)	5.25 (MINIMUM)	NA

Describe the maintenance required to assure the scrubber operates as designed (i.e. frequency of inspection, nozzle inspection, nozzle cleaning, etc.). (Provide an attachment if necessary.)

Instructions for Form VSCE

This information is used by DEQ to identify the scrubber control equipment in this permit application.

1 – 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS. This is useful in case any pages of the application are separated.

Provide the following:

5. The name of the emissions unit, exactly the same as it appears on Form EU0.
6. The emissions unit ID No., exactly the same as it appears on Form EU0.
7. Control equipment ID No., exactly the same as it appears on Form EU0.
8. Stack ID No.
9. Name of the scrubber manufacturer.
10. Model number of the scrubber.
11. Give scrubber control efficiency and pollutant controlled (i.e., PM_{10}@70%, SO_2@50%, etc.). For particulate matter, give efficiency for PM_{10} and for total PM.
12. The basis for stated efficiency must be documented. Attach supporting documentation such as manufacturer guarantees, source tests, design calculations, or other means of substantiating control efficiency.
13. Give the design scrubbing media flowrate in gpm to achieve stated control efficiency.*
14. Give the design pressure drop in inches of water column to achieve stated control efficiency.*
15. For acid gas scrubbers, give the design scrubbing liquid pH.*

* These parameters will become operating standards in a permit.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Baghouse Control Equipment **Form BCE**
Revision 6
2/18/10

Complete this form for each baghouse. Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name	2. Facility Name:
SORRENTO LACTALIS	SORRENTO LACTALIS

3. Brief Project Description: MODIFY PERMIT PER CONSENT ORDERS E-2014.0007 & E-2015.0003

BAGHOUSE INFORMATION

4. Baghouse Manufacturer: TETRAPAK CPS	5. Baghouse Model: 13-243-14	6. Baghouse Equipment ID: P-5

7 (a). Baghouse particulate matter emission concentration. **Note: Provide information in 7(a)-(c) or answer question #8 below.**	___ gr/dscf	*Manufacturers typically provide guarantees in grains per dry standard cubic foot (gr/dscf). Provide a copy of the guarantee, or other documentation, with the application along with a description of the types of bags that must be used to achieve the emission concentration.* ***Emission concentrations less than 0.01 gr/dscf will receive additional scrutiny by DEQ and a source test of the baghouse may be required.*** *If a guarantee is not provided then you must document how you obtained the emission concentration. Without documentation the application is not complete.*
7 (b). Percentage PM_{10} Or Provide PM_{10} Emission Concentration	_____ % _____ gr/dscf	*What percentage of the PM concentration listed in question #7(a) is PM_{10}. You must provide documentation as to how the percentage was determined (i.e per the baghouse manufacturer). Without documentation the application is not complete.*
7 (c). Baghouse flow rate	_ dscfm	*Provide the baghouse flow rate in dry standard cubic feet per minute. Actual cubic feet per minute may be given in lieu of dscfm* ***if it is documented*** *that moisture content is insignificant. You must provide documentation as to how this flow rate was determined (i.e. per the exhaust fan manufacturer, combustion evaluation, etc.). Without documentation the application is not complete.*
8. Baghouse particulate matter control efficiency. **Note: Not needed if section #7 is completed.**	99.9 % PM control 99.9 % PM_{10} control	*Applicant's providing the control efficiency of the baghouse must provide control efficiency for both PM and PM_{10}. Provide a copy of the control efficiency documentation with the application. Documentation must include a description of the types of bags that must be used to achieve the control efficiency. Without documentation the application is not complete.*
9. Is the baghouse equipped with a bag leak detector?	☐ Yes ☒ No	*If a bag leak detector is installed provide documentation on the leak detector, including; how the leak detector functions and what level of the output signal indicates that a bag is leaking. Without documentation the application is not complete.*

Instructions for Form BCE

1 – 3. Provide the same company name, facility name, and brief project description as on the application cover sheet Form CS**. This is useful if application pages are separated.

USE ATTACHMENT IF ADDITIONAL SPACE IS REQUIRED.

Baghouse Information:

4-5. Provide the baghouse manufacturer name and the model number.

6. Provide an identification number for the baghouse stack. This number is assigned by the applicant and must be provided on any other application materials which are submitted that include baghouse information.

7-9. Follow the instructions in the form. All documentation provided must be sufficient so that DEQ can verify the validity of the information provided. Provide the Baghouse Equipment ID number on all submitted documentation. If documentation is not provided the application is incomplete.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Units - Industrial Boiler Information **Form EU5**
Revision 5
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3 Facility ID No:
SORRENTO LACTALIS	SORRENTO LACTALIS	027-00071
4. Brief Project Description:	MODIFY PERMIT PER CONSENT ORDERS E-2014.0007 & E-2015.0003	

EXEMPTION

Please see IDAPA 58.01.01.222 for a list of industrial boilers that are exempt from Permit to Construct requirements.

BOILER (EMISSION UNIT) DESCRIPTION AND SPECIFICATIONS

5. Type of Request:	☐ New Unit ☐ Unpermitted Existing Unit ☒ Modification to a Unit with Permit #:P-2009.0023		
6. Use of Boiler:	☒ % Used For Process ☐ % Used For Space Heat ☐ % Used For Generating Electricity ☐ Other: 100%		
7. Boiler ID Number: 1	8. Rated Capacity: ☒ 24.5 Million British Thermal Units Per Hour (MMBtu/hr) ☐ 1,000 Pounds Steam Per Hour (1,000 lb steam/hr)		
9. Construction Date: 2001	10. Manufacturer: CLEAVER BROOKS	11. Model: CBLE 700-600	
12. Date of Modification (if applicable):	13. Serial Number (if available):	14. Control Device (if any): **Note: Attach applicable control equipment form(s)**	

FUEL DESCRIPTION AND SPECIFICATIONS

15. Fuel Type	☐ Diesel Fuel (#) (gal/hr)	☒ Natural Gas (cf/hr)	☐ Coal (unit: /hr)	☐ Other Fuels (unit: /hr)
16. Full Load Consumption Rate		24.49 MMBTU/HR		
17. Actual Consumption Rate		24.49 MMBTU/HR		
18. Fuel Heat Content (Btu/unit, LHV)		1018 BTU/SCF		
19. Sulfur Content wt%				
20. Ash Content wt%		N/A		

STEAM DESCRIPTION AND SPECIFICATIONS

21. Steam Heat Content	NA	NA		
22. Steam Temperature (°F)	N/A	N/A		
23. Steam Pressure (psi)	N/A	N/A		
24 Steam Type	N/A	N/A	☐ Saturated ☐ Superheated	☐ Saturated ☐ Superheated

OPERATING LIMITS & SCHEDULE

25. Imposed Operating Limits (hours/year, or gallons fuel/year, etc.):	N/A
26. Operating Schedule (hours/day, months/year, etc.):	24 HR/DAY, 365 DAYS/YR
27. NSPS Applicability: ☐ Yes ☐ No	If Yes, which subpart:

Instructions for Form EU5

Please refer to IDAPA 58.01.01.222 for a list of industrial boilers which are exempt from the Permit to Construct requirements.

1 – 4. Provide the same company name, facility name (if different), and facility ID number as on Form CS. This is useful in case any pages of the application are separated.

Boiler Description and Specification:

5. Indicate whether the unit is new, existing but unpermitted, or being modified.

6. Indicate the percentage of the steam used for process, space heat, generating electricity, or others.

7. Provide the boiler identification (ID) number. Each boiler in the application must have its own number. If boilers included in this permit application are not identical in make and model, fill out a separate EU5 form for each boiler. If the boilers are identical, attach a separate sheet labeled EU5A listing them by ID number and date of construction or modification. The boiler ID numbers should match the boiler ID numbers used on other construction permit applications and within this application. It can be any number. However, if you submitted an operating permit application, the numbers used for identification purposes in this application should be consistent with the ID numbers used in your operating permit application.

8. The boiler's rated capacity should be read from the boiler's nameplate or from the manufacturer's literature.

9. The date of construction of the emission unit is the date, month, and year in which construction or modification begins as defined in EU0 Form Instruction item 7.

10. Provide the name of the manufacturer of the boiler.

11. Provide the model number of the boiler. This number should be available from the nameplate of the boiler.

12. If the boiler has been or will be modified, give the date, month and year of the most recent or future modification.

13. Provide the manufacturer's serial number for this boiler, if available.

14. Provide the control device name and number if a pollution control device is attached to this emission unit. The name and number of the control device should be consistent with control equipment forms throughout the application. **Note: a separate control equipment form(s) should be attached for all applicable control equipment serving this unit.**

Fuel Description and Specifications:

15. Indicate the fuel type used by the boiler. If diesel fuel is used, you need to indicate the ranking number. If the boiler is a dual-fuel engine, please check all appropriate fuel type boxes in this row.

16. The full-load consumption rate is the fuel consumption rate at the boiler's rated capacity.

17. The actual consumption rate is the fuel consumption rate (usually daily average) under typical operational conditions.

18. Provide fuel net or lower heating value (LHV).

19. Provide the weight percentage of the sulfur content in the fuel.

20. Provide the weight percentage of the ash content in the fuel. For gaseous fuel, this information is not required.

Steam Description and Specifications:

21. Provide the steam heat content. This information is not required for gaseous or liquid fuel.

22. Provide the steam temperature in °F. This information is not required for gaseous or liquid fuel.

23. Provide the steam pressure in pound per square inch (psi). This information is not required for gaseous or liquid fuel.

24. Provide the steam type (i.e. saturated or superheated). This information is not required for gaseous or liquid fuel.

Operation Limits:

25. If any, indicate the operating limits you imposed on this boiler in the units of operating hours per year, or gallons fuel per hour, per year, etc.

26. Indicate your operation schedule for the projected maximum operation of the engine.

27. Provide NSPS (new source performance standards) applicability determination and, if applicable, subpart reference.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Units - Industrial Boiler Information **Form EU5**
Revision 5
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3 Facility ID No:
Sorrento Lactalis	Nampa Facility	027-00071
4. Brief Project Description:	MODIFY PERMIT PER CONSENT ORDERS E-2014.0007 & E-2015.0003	

EXEMPTION

Please see IDAPA 58.01.01.222 for a list of industrial boilers that are exempt from Permit to Construct requirements.

BOILER (EMISSION UNIT) DESCRIPTION AND SPECIFICATIONS

5. Type of Request: ☐ New Unit ☐ Unpermitted Existing Unit ☒ Modification to a Unit with Permit #:P-2009.0023

6. Use of Boiler: ☒ % Used For Process ☐ % Used For Space Heat ☐ % Used For Generating Electricity ☐ Other: 100%

7. Boiler ID Number: Boiler 2	8. Rated Capacity: ☒ 24.8 Million British Thermal Units Per Hour (MMBtu/hr) ☐ 1,000 Pounds Steam Per Hour (1,000 lb steam/hr)	
9. Construction Date: 2001	10. Manufacturer: Superior	11. Model: 4-5-3004
12. Date of Modification (if applicable): September 2014	13. Serial Number (if available): 4-5-3005	14. Control Device (if any): none **Note: Attach applicable control equipment form(s)**

FUEL DESCRIPTION AND SPECIFICATIONS

15. Fuel Type	☐ Diesel Fuel (#) (gal/hr)	☒ Natural Gas (cf/hr)	☐ Coal (unit: /hr)	☐ Other Fuels (unit: /hr)
16. Full Load Consumption Rate		24.8 MMBTU/HR		
17. Actual Consumption Rate		24.8 MMBTU/HR		
18. Fuel Heat Content (Btu/unit, LHV)		1018 BTU/SCF		
19. Sulfur Content wt%		N/A		
20. Ash Content wt%		N/A		

STEAM DESCRIPTION AND SPECIFICATIONS

21. Steam Heat Content	NA	NA		
22. Steam Temperature (°F)	N/A	N/A		
23. Steam Pressure (psi)	N/A	N/A		
24 Steam Type	N/A	N/A	☐ Saturated ☐ Superheated	☐ Saturated ☐ Superheated

OPERATING LIMITS & SCHEDULE

25. Imposed Operating Limits (hours/year, or gallons fuel/year, etc.):	N/A
26. Operating Schedule (hours/day, months/year, etc.):	24 hrs/day, 365 days/yr
27. NSPS Applicability: ☐ Yes ☐ No	If Yes, which subpart:

Instructions for Form EU5

Please refer to IDAPA 58.01.01.222 for a list of industrial boilers which are exempt from the Permit to Construct requirements.

1 – 4. Provide the same company name, facility name (if different), and facility ID number as on Form CS. This is useful in case any pages of the application are separated.

Boiler Description and Specification:

5. Indicate whether the unit is new, existing but unpermitted, or being modified.

6. Indicate the percentage of the steam used for process, space heat, generating electricity, or others.

7. Provide the boiler identification (ID) number. Each boiler in the application must have its own number. If boilers included in this permit application are not identical in make and model, fill out a separate EU5 form for each boiler. If the boilers are identical, attach a separate sheet labeled EU5A listing them by ID number and date of construction or modification. The boiler ID numbers should match the boiler ID numbers used on other construction permit applications and within this application. It can be any number. However, if you submitted an operating permit application, the numbers used for identification purposes in this application should be consistent with the ID numbers used in your operating permit application.

8. The boiler's rated capacity should be read from the boiler's nameplate or from the manufacturer's literature.

9. The date of construction of the emission unit is the date, month, and year in which construction or modification begins as defined in EU0 Form Instruction item 7.

10. Provide the name of the manufacturer of the boiler.

11. Provide the model number of the boiler. This number should be available from the nameplate of the boiler.

12. If the boiler has been or will be modified, give the date, month and year of the most recent or future modification.

13. Provide the manufacturer's serial number for this boiler, if available.

14. Provide the control device name and number if a pollution control device is attached to this emission unit. The name and number of the control device should be consistent with control equipment forms throughout the application. **Note: a separate control equipment form(s) should be attached for all applicable control equipment serving this unit.**

Fuel Description and Specifications:

15. Indicate the fuel type used by the boiler. If diesel fuel is used, you need to indicate the ranking number. If the boiler is a dual-fuel engine, please check all appropriate fuel type boxes in this row.

16. The full-load consumption rate is the fuel consumption rate at the boiler's rated capacity.

17. The actual consumption rate is the fuel consumption rate (usually daily average) under typical operational conditions.

18. Provide fuel net or lower heating value (LHV).

19. Provide the weight percentage of the sulfur content in the fuel.

20. Provide the weight percentage of the ash content in the fuel. For gaseous fuel, this information is not required.

Steam Description and Specifications:

21. Provide the steam heat content. This information is not required for gaseous or liquid fuel.

22. Provide the steam temperature in °F. This information is not required for gaseous or liquid fuel.

23. Provide the steam pressure in pound per square inch (psi). This information is not required for gaseous or liquid fuel.

24. Provide the steam type (i.e. saturated or superheated). This information is not required for gaseous or liquid fuel.

Operation Limits:

25. If any, indicate the operating limits you imposed on this boiler in the units of operating hours per year, or gallons fuel per hour, per year, etc.

26. Indicate your operation schedule for the projected maximum operation of the engine.

27. Provide NSPS (new source performance standards) applicability determination and, if applicable, subpart reference.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Units - Industrial Boiler Information **Form EU5**
Revision 5
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3 Facility ID No:
SORRENTO LACTALIS	SORRENTO LACTALIS	027-00071
4. Brief Project Description:	MODIFY PERMIT PER CONSENT ORDERS E-2014.0007 & E-2015.0003	

EXEMPTION

Please see IDAPA 58.01.01.222 for a list of industrial boilers that are exempt from Permit to Construct requirements.

BOILER (EMISSION UNIT) DESCRIPTION AND SPECIFICATIONS

5. Type of Request:	☐ New Unit ☐ Unpermitted Existing Unit ☒ Modification to a Unit with Permit #:P-2009.0023		
6. Use of Boiler:	☒ % Used For Process ☐ % Used For Space Heat ☐ % Used For Generating Electricity ☐ Other: 100%		
7. Boiler ID Number: 3	8. Rated Capacity: ☒ 33.6 Million British Thermal Units Per Hour (MMBtu/hr) ☐ 1,000 Pounds Steam Per Hour (1,000 lb steam/hr)		
9. Construction Date: 2007	10. Manufacturer: HURST	11. Model: 54000-150-26	
12. Date of Modification (if applicable):	13. Serial Number (if available):	14. Control Device (if any): **Note: Attach applicable control equipment form(s)**	

FUEL DESCRIPTION AND SPECIFICATIONS

15. Fuel Type	☐ Diesel Fuel (#) (gal/hr)	☒ Natural Gas (cf/hr)	☐ Coal (unit: /hr)	☐ Other Fuels (unit: /hr)
16. Full Load Consumption Rate		33.6 MMBTU/HR		
17. Actual Consumption Rate		33.6 MMBTU/HR		
18. Fuel Heat Content (Btu/unit, LHV)		1018 BTU/SCFF		
19. Sulfur Content wt%				
20. Ash Content wt%		N/A		

STEAM DESCRIPTION AND SPECIFICATIONS

21. Steam Heat Content	NA	NA		
22. Steam Temperature (°F)	N/A	N/A		
23. Steam Pressure (psi)	N/A	N/A		
24 Steam Type	N/A	N/A	☐ Saturated ☐ Superheated	☐ Saturated ☐ Superheated

OPERATING LIMITS & SCHEDULE

25. Imposed Operating Limits (hours/year, or gallons fuel/year, etc.):	N/A
26. Operating Schedule (hours/day, months/year, etc.):	24 HR/DAY, 365 DAYS/YR
27. NSPS Applicability: ☐ Yes ☐ No	If Yes, which subpart:

Instructions for Form EU5

Please refer to IDAPA 58.01.01.222 for a list of industrial boilers which are exempt from the Permit to Construct requirements.

1 – 4. Provide the same company name, facility name (if different), and facility ID number as on Form CS. This is useful in case any pages of the application are separated.

Boiler Description and Specification:

5. Indicate whether the unit is new, existing but unpermitted, or being modified.

6. Indicate the percentage of the steam used for process, space heat, generating electricity, or others.

7. Provide the boiler identification (ID) number. Each boiler in the application must have its own number. If boilers included in this permit application are not identical in make and model, fill out a separate EU5 form for each boiler. If the boilers are identical, attach a separate sheet labeled EU5A listing them by ID number and date of construction or modification. The boiler ID numbers should match the boiler ID numbers used on other construction permit applications and within this application. It can be any number. However, if you submitted an operating permit application, the numbers used for identification purposes in this application should be consistent with the ID numbers used in your operating permit application.

8. The boiler's rated capacity should be read from the boiler's nameplate or from the manufacturer's literature.

9. The date of construction of the emission unit is the date, month, and year in which construction or modification begins as defined in EU0 Form Instruction item 7.

10. Provide the name of the manufacturer of the boiler.

11. Provide the model number of the boiler. This number should be available from the nameplate of the boiler.

12. If the boiler has been or will be modified, give the date, month and year of the most recent or future modification.

13. Provide the manufacturer's serial number for this boiler, if available.

14. Provide the control device name and number if a pollution control device is attached to this emission unit. The name and number of the control device should be consistent with control equipment forms throughout the application. **Note: a separate control equipment form(s) should be attached for all applicable control equipment serving this unit.**

Fuel Description and Specifications:

15. Indicate the fuel type used by the boiler. If diesel fuel is used, you need to indicate the ranking number. If the boiler is a dual-fuel engine, please check all appropriate fuel type boxes in this row.

16. The full-load consumption rate is the fuel consumption rate at the boiler's rated capacity.

17. The actual consumption rate is the fuel consumption rate (usually daily average) under typical operational conditions.

18. Provide fuel net or lower heating value (LHV).

19. Provide the weight percentage of the sulfur content in the fuel.

20. Provide the weight percentage of the ash content in the fuel. For gaseous fuel, this information is not required.

Steam Description and Specifications:

21. Provide the steam heat content. This information is not required for gaseous or liquid fuel.

22. Provide the steam temperature in °F. This information is not required for gaseous or liquid fuel.

23. Provide the steam pressure in pound per square inch (psi). This information is not required for gaseous or liquid fuel.

24. Provide the steam type (i.e. saturated or superheated). This information is not required for gaseous or liquid fuel.

Operation Limits:

25. If any, indicate the operating limits you imposed on this boiler in the units of operating hours per year, or gallons fuel per hour, per year, etc.

26. Indicate your operation schedule for the projected maximum operation of the engine.

27. Provide NSPS (new source performance standards) applicability determination and, if applicable, subpart reference.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	CHEESE PLANT CARRIER HVAC AC-02 (P-10)
6.	EU ID Number:	P-10
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	CARRIER
9.	Model:	48TME004-A-501--
10..	Maximum Capacity:	74,000 BTU/HR
11.	Date of Construction:	2007
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s):

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler's rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

Definitions:

Construction fabrication, erection, or installation of an affected facility.

Commenced an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

Modification any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted to the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) to the atmosphere not previously emitted.

12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	CHEESE PLANT CARRIER HVAC AC-03 (P-11)
6.	EU ID Number:	P-11
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	CARRIER
9.	Model:	48TNE008-A-501--
10..	Maximum Capacity:	180,000 BTU/HR
11.	Date of Construction:	2004
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s):

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler's rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

Definitions:

Construction fabrication, erection, or installation of an affected facility.

Commenced an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

Modification any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted to the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) to the atmosphere not previously emitted.

12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	CHEESE PLANT CARRIER HVAC AC-04 (P-12)
6.	EU ID Number:	P-12
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	CARRIER
9.	Model:	48TFE007----521---
10..	Maximum Capacity:	115,000 BTU/HR
11.	Date of Construction:	2004
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s):

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler's rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

Definitions:

Construction fabrication, erection, or installation of an affected facility.

Commenced an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

Modification any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted to the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) to the atmosphere not previously emitted.

12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	CHEESE PLANT CARRIER HVAC AC-05 (P-13)
6.	EU ID Number:	P-13
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	CARRIER
9.	Model:	48TJE007---521--
10..	Maximum Capacity:	115,000 BTU/HR
11.	Date of Construction:	2004
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

☐ Operation Hour Limit(s):

☐ Production Limit(s):

☐ Material Usage Limit(s):

☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports

☐ Other:

25. Rationale for Requesting the Limit(s):

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler's rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

Definitions:

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12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
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Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	CHEESE PLANT CARRIER HVAC AC-17 (P-16)
6.	EU ID Number:	P-16
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	CARRIER
9.	Model:	48TFD009---611
10..	Maximum Capacity:	125,000 BTU/HR
11.	Date of Construction:	2008
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s): NO LIMIT REQUIRED, EXEMPT SOURCE

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler's rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

Definitions:

Construction fabrication, erection, or installation of an affected facility.

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12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5. Emissions Unit (EU) Name:	CHEESE PLANT CARRIER HVAC AC-15 (P-14)
6. EU ID Number:	P-14
7. EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8. Manufacturer:	CARRIER
9. Model:	48HJE006---351--
10.. Maximum Capacity:	115,000 BTU/HR
11. Date of Construction:	2004
12. Date of Modification (if any):	
13. Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:	
15. Date of Installation:	16. Date of Modification (if any):
17. Manufacturer and Model Number:	
18. ID(s) of Emission Unit Controlled:	
19. Is operating schedule different than emission units(s) involved?	☐ Yes ☐ No
20. Does the manufacturer guarantee the control efficiency of the control equipment?	☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22. Actual Operation:	8760 HR/YR
23. Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits?	☐ Yes ☒ No (If Yes, indicate all that apply below)
☐ Operation Hour Limit(s):	
☐ Production Limit(s):	
☐ Material Usage Limit(s):	
☐ Limits Based on Stack Testing:	Please attach all relevant stack testing summary reports
☐ Other:	
25. Rationale for Requesting the Limit(s):	NO LIMIT REQUIRED, EXEMPT SOURCE

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler's rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

Definitions:

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12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
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Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	CHEESE PLANT CARRIER HVAC AC-16 (P-15)
6.	EU ID Number:	P-15
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	CARRIER
9.	Model:	48TJE005---611GA
10..	Maximum Capacity:	115,000 BTU/HR
11.	Date of Construction:	2000
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s): NO LIMIT REQUIRED, EXEMPT SOURCE

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

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6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

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12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

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19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	CHEESE PLANT CARRIER HVAC AC-24 (P-17)
6.	EU ID Number:	P-17
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	CARRIER
9.	Model:	48TCEA04A2A5A0A0A0
10..	Maximum Capacity:	115,000 BTU/HR
11.	Date of Construction:	2008
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

.5. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s): NO LIMIT REQUIRED, EXEMPT SOURCE

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler's rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

Definitions:

Construction fabrication, erection, or installation of an affected facility.

Commenced an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

Modification any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted to the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) to the atmosphere not previously emitted.

12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
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Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	WHEY PLANT HVAC MA 1 (P-18)
6.	EU ID Number:	P-18
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	YORK/JOHNSON CONTROLS
9.	Model:	DF-200-GMFH-LH-B200R10LGGAA
10..	Maximum Capacity:	2,500,000 BTU/HR
11.	Date of Construction:	2010
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

☐ Operation Hour Limit(s):

☐ Production Limit(s):

☐ Material Usage Limit(s):

☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports

☐ Other:

25. Rationale for Requesting the Limit(s):

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler's rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

Definitions:

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12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	WHEY PLANT HVAC MA 2 (P-19)
6.	EU ID Number:	P-19
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	YORK/JOHNSON CONTROLS
9.	Model:	DF-175-GMFH-LH-B175R10LGGAA
10..	Maximum Capacity:	2,187,000 BTU/HR
11.	Date of Construction:	2010
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s):

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler's rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

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12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	WHEY PLANT HVAC MA 3 (P-20)
6.	EU ID Number:	P-20
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	YORK/JOHNSON CONTROLS
9.	Model:	DF-175-GMFH-LH-B175R10LGGAA
10..	Maximum Capacity:	2,187,000 BTU/HR
11.	Date of Construction:	2010
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s):

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler's rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.

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12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

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17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
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Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	WHEY PLANT HVAC MA 6 (P-21)
6.	EU ID Number:	P-21
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	YORK/JOHNSON CONTROLS
9.	Model:	DF-200-GMFH-LH-B200R10LGGAA
10..	Maximum Capacity:	2,500,000 BTU/HR
11.	Date of Construction:	2010
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s):

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler's rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

Definitions:

Construction fabrication, erection, or installation of an affected facility.

Commenced an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

Modification any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted to the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) to the atmosphere not previously emitted.

12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	WHEY PLANT HVAC MA 7 (P-22)
6.	EU ID Number:	P-22
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	YORK/JOHNSON CONTROLS
9.	Model:	DF-150-GMFH-LH-B150R10LGGAA
10..	Maximum Capacity:	1,875,000 BTU/HR
11.	Date of Construction:	2010
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s):

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler's rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

Definitions:

Construction fabrication, erection, or installation of an affected facility.

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12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	WHEY PLANT HVAC AC-1 (P-23)
6.	EU ID Number:	P-23
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	YORK/JOHNSON CONTROLS
9.	Model:	OEA700030101
10..	Maximum Capacity:	375,000 BTU/HR
11.	Date of Construction:	2010
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s):

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler's rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

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12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	WHEY PLANT HVAC AC-2 (P-24)
6.	EU ID Number:	P-24
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	YORK/JOHNSON CONTROLS
9.	Model:	DF-40-GMFH-RH-B040R10RGGAA
10..	Maximum Capacity:	500,000 BTU/HR
11.	Date of Construction:	2010
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

☐ Operation Hour Limit(s):

☐ Production Limit(s):

☐ Material Usage Limit(s):

☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports

☐ Other:

25. Rationale for Requesting the Limit(s): NO LIMIT REQUIRED, EXEMPT SOURCE

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler's rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

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12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
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For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	WHEY PLANT HVAC AC-3 (P-25)
6.	EU ID Number:	P-25
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	YORK/JOHNSON CONTROLS
9.	Model:	DF-75-GMFH-RH-B075R10RGGAA
10..	Maximum Capacity:	937,000 BTU/HR
11.	Date of Construction:	2010
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s):

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler's rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

Definitions:

Construction fabrication, erection, or installation of an affected facility.

Commenced an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

Modification any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted to the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) to the atmosphere not previously emitted.

12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	WHEY PLANT HVAC AC-4 (P-26)
6.	EU ID Number:	P-26
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	YORK/JOHNSON CONTROLS
9.	Model:	DF-100-GMFH-LH-B100R10LGAA
10..	Maximum Capacity:	1,250,000 BTU/HR
11.	Date of Construction:	2010
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s):

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler's rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

Definitions:

Construction fabrication, erection, or installation of an affected facility.

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12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	WHEY PLANT HVAC AC-9 (P-27)
6.	EU ID Number:	P-27
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	CARRIER
9.	Model:	D1NA048N09025C
10..	Maximum Capacity:	108,000 BTU/HR
11.	Date of Construction:	
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s): NO LIMIT REQUIRED, EXEMPT SOURCE

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler's rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

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12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	WHEY PLANT HVAC AC-11 (P-28)
6.	EU ID Number:	P-28
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	CARRIER
9.	Model:	J06ZHN10P4AZZ50005A
10..	Maximum Capacity:	120,000 BTU/HR
11.	Date of Construction:	2010
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s):

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler's rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

Definitions:

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12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

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17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	WHEY PLANT HVAC AC-12 (P-29)
6.	EU ID Number:	P-29
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	CARRIER
9.	Model:	48TFD009---611--
10..	Maximum Capacity:	125,000 BTU/HR
11.	Date of Construction:	2000
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s):

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler's rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

Definitions:

Construction fabrication, erection, or installation of an affected facility.

Commenced an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

Modification any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted to the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) to the atmosphere not previously emitted.

12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	WHEY PLANT HVAC MA 4 (P-30)
6.	EU ID Number:	P-30
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	GREENHECK
9.	Model:	PVF350H
10..	Maximum Capacity:	700,000 BTU/HR
11.	Date of Construction:	2010
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s):

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler's rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

Definitions:

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12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

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21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	FM PLANT HVAC AC 01(P-31)
6.	EU ID Number:	P-31
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	CARRIER
9.	Model:	48TCEA07A2A6A0A0A0
10..	Maximum Capacity:	115,000 BTU/HR
11.	Date of Construction:	2013
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s):

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

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12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

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21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	FM PLANT HVAC AC 02(P-32)
6.	EU ID Number:	P-32
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	CARRIER
9.	Model:	48TCEA07A2A6A0A0A0
10..	Maximum Capacity:	115,000 BTU/HR
11.	Date of Construction:	2013
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s):

Instructions for Form EU0

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5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

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12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

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23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

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25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Units Industrial IC Engine Information - **Form EU1**
Revision 9
10/23/13

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name	2. Facility Name:
SORRENTO LACTALIS	SORRENTO LACTALIS

3. Brief Project Description: MODIFICATION OF PTC PER CONSENT ORDERS E-2014.0007 & E-2015.0003

IC ENGINE DESCRIPTION AND SPECIFICATIONS

4. Type of unit:
- ☐ New unit ☒ Unpermitted existing unit ☐ Modification to an existing permitted unit? Permit number: _____
- ☐ Full-time operation (non-emergency standby use)?
- ☒ Emergency standby use only (operation limited to 100 hrs/yr for maintenance and testing and emergency use only)?
- ☒ Emergency fire pump use only?
- ☐ Stationary test cell/stand operation only (as defined in NSPS Subpart ZZZZ)?
- ☐ National security operation only (as defined in NSPS Subpart ZZZZ)?
- ☐ Institutional emergency standby IC engine (as defined in NSPS Subpart ZZZZ)?

IC ENGINE SPECIFICATIONS

Questions 5 through 15 apply to **all IC engines.**

5. IC Engine Manufacturer: PEERLESS 6. Model: JD/RG6081H133189 7. Date manufactured: ≤2001 8. Model year: _____

9. Date of installation (if an existing IC engine): June 2001 10. IC Engine cylinder displacement: <30 liters per cylinder

11. Maximum rated horsepower (per the data plate/manufacturer specifications): 235.9 hp/rpm, max 2100 rpm bhp

12. EPA Certification: Tier certification number _____ or ☒ None/not tier certified

13. Ignition type: ☐ Spark ☒ Compression

14. Fuel combusted in the IC engine? ☒ Distillate fuel oil ☐ Natural gas/LNG ☐ LPG/propane
If distillate fuel oil (#1, #2, or a mixture) is used, what is the maximum sulfur content? ☐ 15 ppm (0.0015% by weight) ☒ 500 ppm (0.05% by weight)

15. IC engine exhaust stack parameters: Diameter 4 inches Height 8 feet Temperature 850 °F Flow rate .001 m/sec acfm

IC ENGINE EMISSIONS PARAMETERS

Questions 16 through 27 apply to **full-time** non-Tier certified IC engines or Tier certified IC engines manufactured prior to July 11, 2005. If you are proposing a Tier certified IC engine manufactured on and after July 11, 2005 or an emergency standby IC engine do not answer questions 17 through 27.

16. Testing schedule (for emergency standby IC engines only): 1.4 hrs/day 42.7 hrs/mon 125 hrs/qtr 500 hrs/yr

17. Maximum daily operation: _____ hrs/day 18. Maximum annual operation: _____ hrs/yr **Note:** These operational limits will be placed in the permit.

19. Will CO emissions be limited to a specific ppmvd (i.e. 49 or 23 ppmvd)? ☐ Yes ☐ No 20. What will the CO emissions limit be? _____ ppmvd

21. Will CO emissions be reduced by 70% or more? ☐ Yes ☐ No

22. Will a CEMS (Continuous Emissions Monitoring System) be used to measure pollutants in the IC engine exhaust stream? ☐ Yes ☐ No

23. Will a CPMS (Continuous Parameters Monitoring System) be used to measure parameters of the IC engine exhaust stream? ☐ Yes ☐ No

24. Will the IC engine be equipped with an oxidation catalyst? ☐ Yes ☐ No

25. If applicable, will the oxidation catalyst be equipped with a temperature measurement system to ensure it is operating properly? ☐ Yes ☐ No

26. Will the IC engine be equipped with a diesel particulate filter? ☐ Yes ☐ No

27. If applicable, will the diesel particulate filter be equipped with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached? ☐ Yes ☐ No

Instructions for Form EU1

Please refer to IDAPA 58.01.01.220 for a list of the general exemption criteria for Permit to Construct exemptions

1 – 3. Provide the same company name, facility name (if different), and brief project description as on Form GI. This is useful if the application pages are separated.

USE ATTACHMENT IF ADDITIONAL SPACE IS REQUIRED.

General Information:

4. Indicate whether the IC engine is a new unit, unpermitted existing unit, being modified, and whether it will be permitted to operate full-time or for emergency use only.

IC Engine Specifications:

5-8. Provide the IC engine manufacturer, model, date the IC engine was manufactured, and the model year (used for EPA certification purposes) of the IC engine.

9. Provide the date of installation of the IC engine.

10. Provide the IC engine cylinder displacement (i.e. 12 liter engine with 8 cylinders = 1.5 liters per cylinder).

11. Provide the maximum horsepower of the IC engine (per the data plate) in bhp.

12. Provide the EPA Tier certification number of the IC engine (i.e. 1, 2, 3, or 4).

13. Provide the IC engine ignition type.

14. Check which fuel is combusted in the IC engine. If distillate fuel oil is combusted, check the maximum proposed sulfur content of the fuel.

15. Provide the IC engine exhaust stack parameters. The temperature and flow rate should be per the IC engine manufacturer. If the stack height is very tall, provide a justification for the exhaust gas temperature.

IC Engine Emissions Parameters:

Questions 16 through 27 apply to **full-time** non-Tier certified IC engines or Tier certified IC engines manufactured prior to July 11, 2005. If you are proposing a Tier certified IC engine manufactured on and after July 11, 2005 or an emergency standby IC engine do not answer questions 17 through 27.

16. For emergency IC engines only, propose a testing schedule.

17. Propose a maximum daily IC engine hourly limit. **Note:** Unless it is 24 hours per day of operation, this proposed daily hourly limit will be placed in the permit.

18. Propose a maximum annual IC engine hourly limit. **Note:** Unless it is 8,760 hours per year of operation, this proposed annual hourly limit will be placed in the permit.

19-21. Subpart ZZZZ requires that CO emissions in the exhaust from existing non-Tier certified IC engines are either limited to a specific concentration, 49 ppmvd for engines rated at 300 bhp to ≤ 500 bhp or 23 ppmvd for engines rated at > 500 bhp, or are to reduce the CO concentration by 70% or more. Therefore, "yes" should only be answered to one of these two questions.

22-23. Subpart ZZZZ requires that, for IC engines rated at > 500 bhp, Applicants either install a CEMS (Continuous Emissions Monitoring System) or a CPMS (Continuous Parameters Monitoring System) in the exhaust stream to demonstrate compliance with the emissions limitations. Therefore, "yes" should only be answered to one of these two questions.

24. Specify if the IC engine is equipped, or will need to be equipped, with an oxidation catalyst to comply with the emissions limitations of Subpart ZZZZ.

25. Specify if the oxidation catalyst will be equipped with a temperature measurement system to ensure that is operating properly to comply with the emissions limitations of Subpart ZZZZ.

26. Specify if the IC engine is equipped, or will need to be equipped, with a diesel particulate filter to comply with the emissions limitations of Subpart ZZZZ.

27. Specify if the diesel particulate filter will be equipped with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached.

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Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	CHEESE PLANT CARRIER HVAC AC-1 (P-35)
6.	EU ID Number:	P-35
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	CARRIER
9.	Model:	48SS-03006031AA
10..	Maximum Capacity:	56,800 BTU/HR
11.	Date of Construction:	2000
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:	
15. Date of Installation:	16. Date of Modification (if any):
17. Manufacturer and Model Number:	
18. ID(s) of Emission Unit Controlled:	
19. Is operating schedule different than emission units(s) involved?	☐ Yes ☐ No
20. Does the manufacturer guarantee the control efficiency of the control equipment?	☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24.	Are you requesting any permit limits?	☐ Yes ☒ No (If Yes, indicate all that apply below)
	☐ Operation Hour Limit(s):	
	☐ Production Limit(s):	
	☐ Material Usage Limit(s):	
	☐ Limits Based on Stack Testing:	Please attach all relevant stack testing summary reports
	☐ Other:	
25.	Rationale for Requesting the Limit(s):	NO LIMIT REQUIRED, EXEMPT SOURCE

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler's rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

Definitions:

Construction fabrication, erection, or installation of an affected facility.

Commenced an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

Modification any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted to the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) to the atmosphere not previously emitted.

12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

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Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
Sorrento Lactalis	Sorrento Lactalis	027-00071

4. Brief Project Description: Modification per Consent Orders E-2014.0007 & E-2015.0003

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	CHEESE PLANT CARRIER HVAC AC-14 (P-37)
6.	EU ID Number:	P-37
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2009.0023 Date Issued: 5/1/15
8.	Manufacturer:	BDP
9.	Model:	580DJV060115AAAA
10..	Maximum Capacity:	115,000 BTU/HR
11.	Date of Construction:	2000
12.	Date of Modification (if any):	
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any):

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency						

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	8760 HR/YR
23.	Maximum Operation:	8760 HR/YR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s):

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

1 - 4. Provide the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

5. Provide the name of the emissions unit (EU), such as "Union boiler," etc. A separate EU0 form is required for each emissions unit.

6. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and any other air quality permit application(s) (e.g., operating permit application) to identify this EU.

7. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.

8. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.

9. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.

10. Provide the maximum capacity of the EU. For example, a boiler's rated capacity may be modified in units of MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.

11. The date of construction is the month, day, and year in which construction or modification was commenced.

Definitions:

Construction fabrication, erection, or installation of an affected facility.

Commenced an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

Modification any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted to the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) to the atmosphere not previously emitted.

12. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.

13. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.

14. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

15. Provide the date the air pollution control equipment was installed.

16. If the air pollution control equipment has been modified, provide the date of the modification.

17. Provide the name of the manufacturer and the model number for the air pollution control equipment.

18. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).

19. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.

20. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).

21. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.

22. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.

23. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.

24. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.

25. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

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Baghouse Control Equipment **Form BCE**
Revision 6
2/18/10

Complete this form for each baghouse. Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name	2. Facility Name:
SORRENTO LACTALIS	SORRENTO LACTALIS

3. Brief Project Description: MODIFY PERMIT PER CONSENT ORDERS E-2014.0007 & E-2015.0003

BAGHOUSE INFORMATION

4. Baghouse Manufacturer: Donaldson	5. Baghouse Model: Torit Dalmatic DLMC	6. Baghouse Equipment ID: P-40

7 (a). Baghouse particulate matter emission concentration. **Note: Provide information in 7(a)-(c) or answer question #8 below.**	.0028 gr/dscf	*Manufacturers typically provide guarantees in grains per dry standard cubic foot (gr/dscf). Provide a copy of the guarantee, or other documentation, with the application along with a description of the types of bags that must be used to achieve the emission concentration.* ***Emission concentrations less than 0.01 gr/dscf will receive additional scrutiny by DEQ and a source test of the baghouse may be required.*** *If a guarantee is not provided then you must document how you obtained the emission concentration. Without documentation the application is not complete.*
7 (b). Percentage PM_{10} Or Provide PM_{10} Emission Concentration	99.97 % _____ gr/dscf	*What percentage of the PM concentration listed in question #7(a) is PM_{10}. You must provide documentation as to how the percentage was determined (i.e per the baghouse manufacturer). Without documentation the application is not complete.*
7 (c). Baghouse flow rate	8000 cfn dscfm	*Provide the baghouse flow rate in dry standard cubic feet per minute. Actual cubic feet per minute may be given in lieu of dscfm* ***if it is documented*** *that moisture content is insignificant. You must provide documentation as to how this flow rate was determined (i.e. per the exhaust fan manufacturer, combustion evaluation, etc.). Without documentation the application is not complete.*
8. Baghouse particulate matter control efficiency. **Note: Not needed if section #7 is completed.**	99.97 % PM control _____ % PM_{10} control	*Applicant's providing the control efficiency of the baghouse must provide control efficiency for both PM and PM_{10}. Provide a copy of the control efficiency documentation with the application. Documentation must include a description of the types of bags that must be used to achieve the control efficiency. Without documentation the application is not complete.*
9. Is the baghouse equipped with a bag leak detector?	☐ Yes ☒ No	*If a bag leak detector is installed provide documentation on the leak detector, including; how the leak detector functions and what level of the output signal indicates that a bag is leaking. Without documentation the application is not complete.*

Instructions for Form BCE

1 – 3. Provide the same company name, facility name, and brief project description as on the application cover sheet Form CS**. This is useful if application pages are separated.

USE ATTACHMENT IF ADDITIONAL SPACE IS REQUIRED.

Baghouse Information:

4-5. Provide the baghouse manufacturer name and the model number.

6. Provide an identification number for the baghouse stack. This number is assigned by the applicant and must be provided on any other application materials which are submitted that include baghouse information.

7-9. Follow the instructions in the form. All documentation provided must be sufficient so that DEQ can verify the validity of the information provided. Provide the Baghouse Equipment ID number on all submitted documentation. If documentation is not provided the application is incomplete.

APPENDIX 2. Ambient Air Quality Dispersion Modeling Analysis Report

1.0 Summary

The Sorrento Lactalis, Inc. (Sorrento) Nampa Cheese Plant is an existing facility producing natural cheese, dry whey products, and cultured cream cheese. The main process and support areas currently include the Cheese Plant, Whey Plant, Fresh Mozzarella Plant, and the Wastewater Treatment Plant (WWTP). In 2009, dispersion modeling addressed facility-wide emissions from the main process equipment, including dryers and boilers, but did not address emissions from existing natural gas-fired heaters, an existing fire pump engine, the installation of several natural gas-fired air handling units (AHUs) and heaters installed as part of this larger project in 2010.

In 2012-2013, the plant added the capacity to produce up to 100,000 pounds per day of fresh mozzarella cheese in a new 60,000 square foot building on the northeast side of then-existing plant buildings. Two new natural gas-fired AHUs were added with this project.

In 2014, the burner for the Superior Boiler was replaced. The existing burner was rated at 600 boiler horsepower (HP) with a maximum heat input capacity of 20.1 million British thermal units per hour (MMBtu/hr). This was replaced by an 800 HP burner de-rated by the manufacturer to a maximum heat input capacity of 24.8 MMBtu/hr.

In 2015, an inspection identified that the rated heat input capacity for the 600 HP Cleaver Brooks boiler was 24.5 MMBtu/hr instead of 20.1 MMBtu/hr.

The purpose of this analysis is to demonstrate that facility-wide emissions from Sorrento's Nampa plant, including the increased emissions from the 800 HP Superior boiler and the 600 HP Cleaver Brooks boiler, combustion emissions from natural gas-fired AHUs and heaters, and the diesel-fired emergency fire pump engine do not cause or significantly contribute to a violation of any air quality standard and facility-wide emissions of CO do not equal or exceed 100 tons per year.

Robinson Environmental Consulting, LLC (REC) conducted full-impact atmospheric dispersion modeling for Sorrento's Nampa plant. Facility-wide emissions of CO, SO_2 and lead were below modeling thresholds. The ambient air quality impacts resulting from emissions of other criteria pollutants from the plant are summarized in Table 1-1, and demonstrate that these emissions, combined with appropriate background concentrations, do not equal or exceed any NAAQS. Demonstration of compliance with the 1-hr NO_2 National Ambient Air Quality Standard (NAAQS) using a Tier II NO_2 analysis (ambient ratio method, ARM) required increasing the four boiler stacks to heights of 50.8 feet above ground level (AGL).

Table 1-1. FULL-IMPACT MODELING RESULTS FOR CRITERIA POLLUTANTS[a]

Pollutant	Averaging Period	Modeled Ambient Impact (µg/m³)	Background Concentration (µg/m³)	Total Ambient Impact (µg/m³)	NAAQS (µg/m³)	Percent of NAAQS
PM_{10}	24-hr	24.9	70.2	95.1	150	63.4%
$PM_{2.5}$	24-hr	11.8	23.1	34.9	35	99.7%
	Annual	3.56	7.8	11.4	12	94.7%
CO	1-hr	---	1657	---	40,000	---
	8-hr	---	996	---	10,000	---
NO_2	1-hr (ARM)	133 x 0.8 = 106.4	80.9	187.3	188	99.6%
	Annual	10.5[b]	10.9	21.4	100	21.4%
SO_2	1-hr	---	---	---	196	---
	Annual	---	---	---	80	---

[a] Boiler stack heights set at 50.8 feet AGL

[b] Annual NOx 1st high results were 9.93, 10.5, 7.00, 8.42, and 8.44 µg/m³ for 2011, 12, 13, 14, and 2015

Emissions of state-regulated toxic air pollutants (TAPs) from the current plant configuration were compared to applicable screening emission levels (ELs). TAPs emissions from the four boilers and the fire pump engine were excluded from the EL comparison and modeling, as the boilers are subject to an NSPS and the pump engine is subject to a NESHAP. Where the emissions from the whey dryer burners and space heaters exceeded an applicable EL, REC conducted dispersion modeling to ensure that the maximum ambient impacts did not equal or exceed the acceptable ambient concentration (AAC) increment for noncarcinogens or the acceptable ambient concentration for carcinogens (AACC) increment. TAPs modeling results are summarized in Table 1-2, and demonstrate that the ambient impacts from these TAPs emissions do not equal or exceed any AAC or AACC increment.

Table 1-2. MODELING RESULTS FOR TOXIC AIR POLLUTANTS[a]

Toxic Air Pollutant	Averaging Period	Maximum Modeled Ambient Impact ($\mu g/m^3$)	AAC/AACC Increment ($\mu g/m^3$)	Percent of AAC/AACC Increment
Carcinogens				
Arsenic	Annual	2.64E-05	2.3E-04	11.4%
Cadmium	Annual	1.46E-04	5.6E-04	26.1%
Formaldehyde	Annual	1.00E-02	7.7E-02	13.0%
Nickel	Annual	2.80E-04	4.2E-03	6.67%

[a] Boiler stack heights set at 50.8 feet AGL

Compliance with the more stringent NAAQS that have been implemented since the previous dispersion modeling analyses were conducted in 2009 required changes shown in Table 1-3. The reduction in allowable emissions of $PM_{2.5}$ was necessary to demonstrate compliance with the 24-hour $PM_{2.5}$ standard. Because the boilers operate continuously, it was necessary to increase stack heights to demonstrate compliance with the 1-hour NO_2 standard.

Table 1-3. CHANGES TO EMISSION LIMITS AND STACK HEIGHTS (2016 PTC)

Source ID	Source	Permit Limit		Exhaust Height	
		2009-2015	2016[a]	2009-2015	2016 ARM
P1	Meyers-Sterner Whey Dryer (Baghouse Exhaust)	1.66 lb/hr PM_{10} ---	1.66 lb/hr PM_{10} **0.6 lb/hr $PM_{2.5}$**	---	---
P4	TetraPak Whey Dryer Scrubber	5.66 lb/hr PM_{10} ---	5.66 lb/hr PM_{10} **1.9 lb/hr $PM_{2.5}$**	---	---
P5	TetraPak Whey Dryer Baghouse	3.32 lb/hr PM_{10} ---	3.32 lb/hr PM_{10} 3.32 lb/hr $PM_{2.5}$	---	---
P6	Cleaver Brooks 1200 HP boiler	---	---	38 ft	**50.8 ft**
P7	Superior 800 HP boiler	---	---	35 ft	**50.8 ft**
P8	Cleaver Brooks 600 HP boiler	---	---	31 ft	**50.8 ft**
P9	Hurst 800 HP boiler	---	---	38 ft	**50.8 ft**

[a] Source Tests:

P1, February 18, 2013, Results: 0.0808 lb/hr (Method 5) and 0.1637 lb/hr (Method 202), PM_{10} = 0.24 lb/hr
P4, October 2, 2014, Results: 0.0011 lb/hr (Method 5) and 1.3 lb/hr (Method 202), PM_{10} = 1.31 lb/hr
P5, June 3, 2011, Results: 1.22 (Method 5 and 202) PM_{10} = 1.22 lb/hr

Facility-wide emissions of CO from combustion of natural gas and diesel will remain below 100 tons per year if the emergency fire pump engine is limited to 500 hours per year of operation and the facility-wide consumption of natural gas is limited to 2,333 MMscf (23.75 million therms) per year.

2.0 Project Description and Background as it Relates to Modeling Analyses

2.1 General Facility/Project Description

Sorrento's Nampa Cheese Plant produces a variety of cheese and dry whey products from milk. The purpose of this analysis is to demonstrate that facility-wide emissions from Sorrento's Nampa plant, including the increased emissions from the 800 HP Superior boiler and 600 HP Cleaver Brooks boiler, combustion emissions from natural gas-fired AHUs and heaters, and the diesel-fired emergency fire pump engine do not cause or significantly contribute to a violation of any air quality standard, and that facility-wide emissions of CO are below 100 tons per year.

2.2 Location of Project

__X__A map showing the geographical location of the facility is provided in this section.

Sorrento's Swiss Village Cheese Plant is located in the western Snake River Plain in a wide valley defined by the Owyhee Mountains to the south and the Boise Front (Boise Foothills) to the north, as shown in Figure 2-1. The facility is located at 4912 E. Franklin Road just east of Nampa, Canyon County, Idaho. UTM coordinates at the approximate center of the facility are 541.0 kilometers (km) Easting and 4828.3 km Northing (datum WGS84) in UTM Zone 11.

Figure 2-1. SORRENTO LACTALIS' NAMPA CHEESE PLANT, AREA MAP

Sorrento's Nampa Cheese Plant is located on a 38.4-acre parcel at the intersection of E. Franklin Road and Star Road, just west of the boundary separating Canyon and Ada Counties, as shown in Figure 2-2. The I-84 freeway runs east-west about one mile south of the facility, with the Garrity Boulevard exit located about two miles to the south and west of the plant. Adjacent land uses currently are primarily agricultural and light industrial, with residential uses located about 0.3 miles (0.5 km) north of the main plant buildings. Rural dispersion coefficients were used in the modeling analyses.

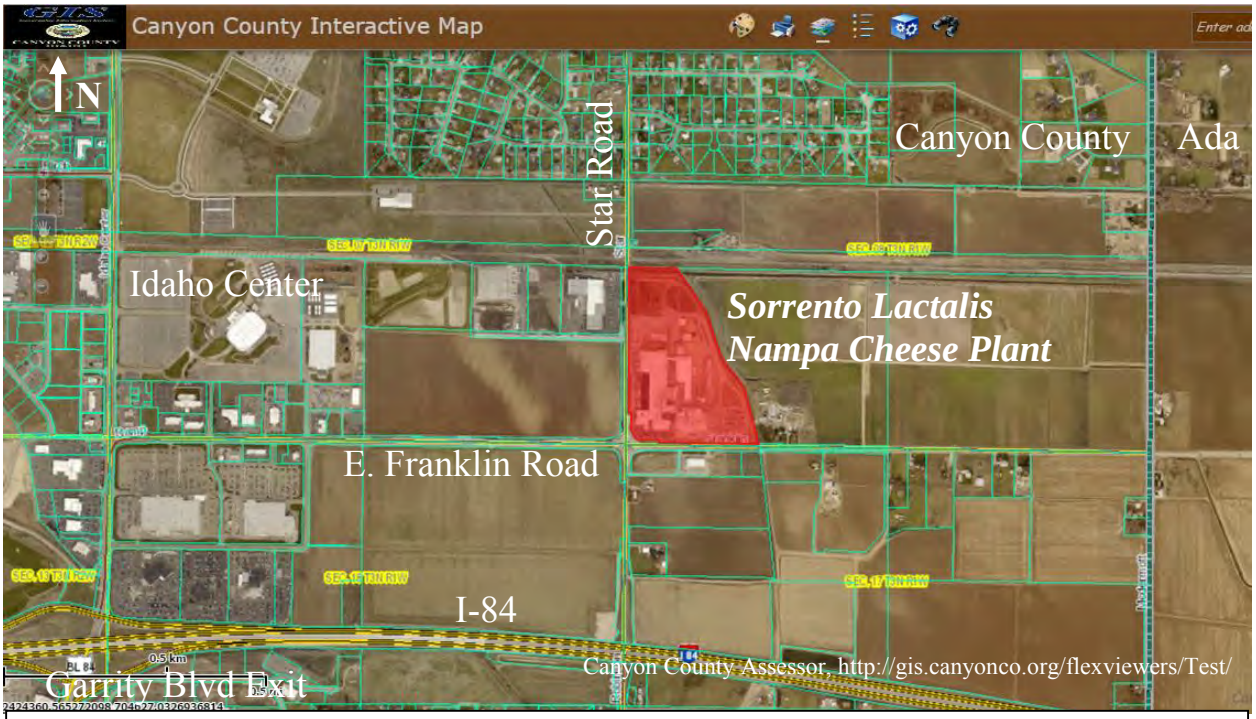

Figure 2-2. SORRENTO LACTALIS' NAMPA CHEESE PLANT – SURROUNDING LAND USES

2.3 Existing Permits and Modeling Analyses Performed

__X__Any existing air quality permits are listed and described in this section, and any associated air quality modeling analyses have been described and referenced, and submitted if appropriate.

Permits that will be superseded by this permitting action are listed in Section 1, Introduction, of this application. Emissions and parameters for the Meyers-Sterner Whey Dryer (P-1) were taken from the 2009 application, which cited the 2001 application (PTC No. 027-00071, issued July 20, 2001).

The most recent dispersion modeling conducted for the plant was for installation of a new whey dryer and boiler in 2009 (PTC P-2009.0023, issued August 28, 2009). Full-impact dispersion modeling using AERMOD was conducted for emissions of PM_{10}, CO, and NOx from the Meyers-Sterner Whey Dryer, TetraPak Whey Dryer Burners 1 and 2, TetraPak Whey Dryer Scrubber, TetraPak Shaking Bed Baghouse, and four boilers: a 1200 HP Cleaver Brooks, 600 HP Superior, 600 HP Cleaver Brooks, and an 800 HP Hurst. These sources were assigned emission point numbers P-1 through P-9 in the 2009 analysis. The combustion sources were presumed to operate continuously, 8760 hours per year.

The 2009 analysis predated implementation of the NAAQS for 24-hour and annual $PM_{2.5}$ (PM_{10} was still being used as a surrogate), 1-hour NO_2, and 1-hour SO_2. The results of the full-impact analysis are shown in Table 2-1.

Table 2-1. RESULTS FOR 2009 CUMULATIVE IMPACT ANALYSIS

Pollutant	Averaging Period	Maximum Modeled Concentration (µg/m³)	Background Concentration (µg/m³)	Total Ambient Impact (µg/m³)	NAAQS (µg/m³)	Percent of NAAQS
PM_{10}	24 hr	25.46	84	109	150	73
	Annual	7.94	27	35	50	70

Table 2-1. RESULTS FOR 2009 CUMULATIVE IMPACT ANALYSIS						
Pollutant	**Averaging Period**	**Maximum Modeled Concentration (µg/m³)**	**Background Concentration (µg/m³)**	**Total Ambient Impact (µg/m³)**	**NAAQS (µg/m³)**	**Percent of NAAQS**
Carbon monoxide (CO)	1-hour	308.8	10,200	10,509	40,000	26
	8-hour	137.9	3,400	3,538	10,000	35
Nitrogen dioxide (NO_2)	Annual	34.72	32	67	100	67

The location of modeled maximum impacts was consistent with the strong bimodal wind flow in the Treasure Valley. Meteorological data used for the 2009 analyses were drawn from surface and upper air data collected at the Boise Airport and at the National Weather Service office located near that airport. Maximum impacts occurred relatively close to the ambient air boundary (fence line), as shown in Figure 2-3.

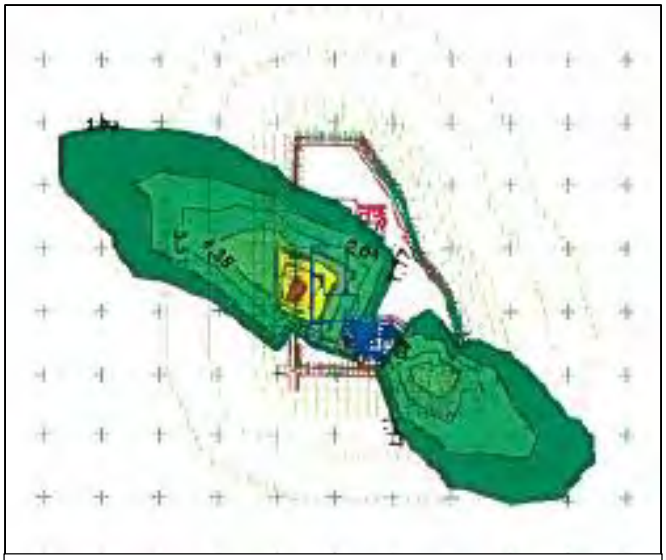

Figure 2-3. ANNUAL PM_{10} IMPACTS (2009)

Emissions of arsenic, cadmium, formaldehyde, and nickel were modeled from the Meyers-Sterner and TetraPak whey dryers and the four boilers, although only the TetraPak burners were new and the new boiler was subject to an NSPS. The results of the TAP analysis are shown in Table 2-2.

Table 2-2. RESULTS FOR 2009 TAPS ANALYSIS				
Pollutant	**Averaging Period**	**Maximum Modeled Concentration (µg/m³)**	**AAC/AACC Increment (µg/m³)**	**Percent of AAC/AACC Increment**
Arsenic	Annual	7.0E-05	2.3E-04	30
Cadmium	Annual	3.9E-04	5.6E-04	70
Formaldehyde	Annual	2.7E-02	7.7E-02	35
Nickel	Annual	7.5E-04	4.2E-03	18

3.0 Modeling Analyses Applicability and Protocol

3.1 Applicable Standards

Criteria pollutant National Ambient Air Quality Standards (NAAQS) are listed in Table 3-1, along with significant impact levels (SILs).

Table 3-1. APPLICABLE REGULATORY LIMITS

Pollutant	Averaging Period	Significant Impact Levels[a] (µg/m³)[b]	Regulatory Limit[c] (µg/m³)	Modeled Design Value Used[d]
PM_{10}[e]	24-hour	5.0	150[f]	Maximum 6th highest[g]
$PM_{2.5}$[h]	24-hour	1.2	35[i]	Mean of maximum 8th highest[j]
	Annual	0.3	12[k]	Mean of maximum 1st highest[l]
Carbon monoxide (CO)	1-hour	2,000	40,000[m]	Maximum 2nd highest[n]
	8-hour	500	10,000[m]	Maximum 2nd highest[n]
Sulfur Dioxide (SO_2)	1-hour	3 ppb[o] (7.8 µg/m³)	75 ppb[p] (196 µg/m³)	Mean of maximum 4th highest[q]
	3-hour	25	1,300[m]	Maximum 2nd highest[n]
	24-hour	5	365[m]	Maximum 2nd highest[n]
	Annual	1.0	80[r]	Maximum 1st highest[n]
Nitrogen Dioxide (NO_2)	1-hour	4 ppb (7.5 µg/m³)	100 ppb[s] (188 µg/m³)	Mean of maximum 8th highest[t]
	Annual	1.0	100[r]	Maximum 1st highest[n]
Lead (Pb)	3-month[u]	NA	0.15[r]	Maximum 1st highest[n]
	Quarterly	NA	1.5[r]	Maximum 1st highest[n]
Ozone (O_3)	8-hour	40 TPY VOC[v]	75 ppb[w]	Not typically modeled

a. Idaho Air Rules Section 006 (definition for significant contribution) or as incorporated by reference as per Idaho Air Rules Section 107.03.b.
b. Micrograms/cubic meter.
c. Incorporated into Idaho Air Rules by reference, as per Idaho Air Rules Section 107.
d. The maximum 1st highest modeled value is always used for the significant impact analysis unless indicated otherwise. Modeled design values are calculated for each ambient air receptor.
e. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.
f. Not to be exceeded more than once per year on average over 3 years.
g. Concentration at any modeled receptor when using five years of meteorological data.
h. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.
i. 3-year mean of the upper 98th percentile of the annual distribution of 24-hour concentrations.
j. 5-year mean of the 8th highest modeled 24-hour concentrations at the modeled receptor for each year of meteorological data modeled. For the SIL analysis, the 5-year mean of the 1st highest modeled 24-hour impacts at the modeled receptor for each year.
k. 3-year mean of annual concentration.
l. 5-year mean of annual averages at the modeled receptor.
m. Not to be exceeded more than once per year.
n. Concentration at any modeled receptor.
o. Interim SIL established by EPA policy memorandum.
p. 3-year mean of the upper 99th percentile of the annual distribution of maximum daily 1-hour concentrations.
q. 5-year mean of the 4th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of 1st highest modeled 1-hour impacts for each year is used.
r. Not to be exceeded in any calendar year.
s. 3-year mean of the upper 98th percentile of the annual distribution of maximum daily 1-hour concentrations.
t. 5-year mean of the 8th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of maximum modeled 1-hour impacts for each year is used.
u. 3-month rolling average.
v. An annual emissions rate of 40 ton/year of VOCs is considered significant for O_3.
w. Annual 4th highest daily maximum 8-hour concentration averaged over three years.

TAPs emitted from the Sorrento Lactalis Nampa plant are the result of combustion of natural gas and diesel in facility equipment. These TAPs are listed in Table 3-2.

Table 3-2. Toxic Air Pollutant ELs and AACs/AACCs			
TAP	**Non-Carcinogen or Carcinogen**	**Screening Emissions Level (EL) (lb/hr)**	**AAC or AACC (µg/m^3)**
PAH HAPs			
2-Methylnaphthalene	Carcinogen	9.10E-05	
3-Methylchloranthrene	"	2.50E-06	
Acenaphthene	"	9.10E-05	
Acenaphthylene	"	9.10E-05	
Anthracene	"	9.10E-05	
Benzo(a)anthracene	"	9.10E-05	See POM
Benzo(a)pyrene	"	2.00E-06	See POM
Benzo(b)fluoranthene	"	9.10E-05	See POM
Benzo(g,h,i)perylene	"	9.10E-05	
Benzo(k)fluoranthene	"	9.10E-05	See POM
Chrysene	"	9.10E-05	See POM
Dibenzo(a,h)anthracene	"	9.10E-05	
Dichlorobenzene	"	9.10E-05	
Fluoranthene	"	9.10E-05	
Fluorene	"	9.10E-05	
Indeno(1,2,3-cd)pyrene	"	9.10E-05	See POM
Naphthalene	Noncarcinogen	3.33	
Naphthalene (as carcinogen)	Carcinogen	9.10E-05	
Phenanathrene	"	9.10E-05	
Pyrene	"	9.10E-05	
Polycyclic Organic Matter (POM) 7-PAH Group	"	2.00E-06	
Non-PAH HAPs			
Acetaldehyde	Carcinogen	3.00E-03	
Acrolein	Noncarcinogen	0.017	
Benzene	Carcinogen	8.00E-04	
1,3-Butadiene	"	2.40E-05	
Formaldehyde	"	**5.10E-04**	**7.7E-02**
Hexane	Noncarcinogen	12	
Toluene	"	25	
Xylene	"	29	
Non-HAP Organic Compounds			
Pentane	"	118	
Metals (HAPs)			
Arsenic	**Carcinogen**	**1.50E-06**	**2.3E-04**
Barium	Noncarcinogen	0.033	
Beryllium	Carcinogen	2.80E-05	
Cadmium	**Carcinogen**	**3.70E-06**	**5.6E-04**
Chromium	Noncarcinogen	0.033	
Cobalt	"	0.0033	
Copper	"	0.013	
Manganese	"	0.067	
Mercury	"	0.003	
Molybdenum	"	0.333	
Nickel	**Carcinogen**	**2.70E-05**	**4.2E-03**
Selenium	Noncarcinogen	0.013	
Vanadium	"	0.003	
Zinc	"	0.667	

3.2 Criteria Pollutant Modeling Applicability

__X__Explanations/documentation why modeling was or was not performed for each criteria pollutant are provided in this section.

__X__ Emissions calculations that clearly show how the modeling applicability determination was performed are provided in this section.

The potential to emit (PTE) regulated pollutants was calculated in accordance with Section 006.88 of the Rules (2015 edition) as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is state or federally enforceable.

Emissions of criteria pollutants for the whey dryers, scrubber, baghouse, and the four boilers were taken from the 2009 modeling analysis, with the exception of $PM_{2.5}$ for process emissions. The ratio of $PM_{2.5}$ to PM_{10} for process emissions was determined based the results from the most recent source tests available. These sources were presumed to operate continuously, 8760 hours per year. Calculations, assumptions, and manufacturer data for those sources are included in Appendix 5 to this application. Copies of the source test reports are included as Appendix 4 to this application.

Emissions of criteria pollutants from natural gas-fired space heaters were calculated using the maximum heat input rating for each unit and were modeled presuming these sources operate continuously, 8760 hours per year. The fire pump engine was presumed to operate no more than 30 minutes per week for routine testing and a maximum of 500 hours per year. $PM_{2.5}$ emissions were presumed to be equal to PM_{10} emissions for these combustion sources. Heat input ratings were provided by Sorrento based on a review of plant design manuals and field inspections. Calculations for space heater emissions are included in Appendix 3 to this application and in an Excel spreadsheet submitted with this application.

Modeling thresholds developed by DEQ are intended ensure that ambient impacts from project emissions would be less than significant. Because part of this analysis is a supplemental "look-back" for the 2009 project, a comparison of facility-wide emissions with DEQ's Level I modeling thresholds is shown in Table 3-2.

It could be argued that the "project" in this case is limited to the increase in emissions associated with the small rating increases for the 600 HP Cleaver Brooks and 800 HP Superior boilers (a total of 9.1 MMBtu/hr, emitting 0.75 lb/hr CO), emissions associated with natural gas heaters installed after the 1-hr NO_2 NAAQS became effective in Idaho (April 7, 2011) [emissions from all natural gas-fired heaters total 2.26 lb/hr], and emissions from the diesel fire pump engine (1.57 lb/hr), for a total increase in CO emissions of 3.83 lb/hr, which is considerably less than the Level I CO threshold of 15 lb/hr.

As shown in Table 2-1, 2009 modeling results demonstrated that ambient CO impacts from the dryers and all four boilers was only 26 and 35 percent of the 1-hr and 8-hr CO NAAQS, respectively.

As shown in the table, modeling was not required for emissions of SO_2, CO, or lead.

Table 3-2. COMPARISON OF FACILITY-WIDE EMISSIONS WITH MODELING THRESHOLDS

Pollutant	Averaging Period	Sources P-1 through P-9 (2009)		Natural Gas-Fired Heaters (2016)		Fire Pump Engine (2016)		Total		DEQ Level I Modeling Thresholds (2013)	
		(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)
PM_{10}	24-hour	5.2		0.20		0.51		5.92		0.22	
$PM_{2.5}$	24-hour	5.0		0.20		0.51		5.75		0.054	
	Annual		22.4		0.90		0.13		23.4		0.35
SO_2	1-hour	0.10		0.016		0.086		**0.20**		**0.21**	
	Annual		0.42		0.07		0.02		**0.51**		**1.2**

Table 3-2. COMPARISON OF FACILITY-WIDE EMISSIONS WITH MODELING THRESHOLDS											
Pollutant	**Averaging Period**	**Sources P-1 through P-9 (2009)**		**Natural Gas-Fired Heaters (2016)**		**Fire Pump Engine (2016)**		**Total**		**DEQ Level I Modeling Thresholds (2013)**	
		(lb/hr)	**(T/yr)**	**(lb/hr)**	**(T/yr)**	**(lb/hr)**	**(T/yr)**	**(lb/hr)**	**(T/yr)**	**(lb/hr)**	**(T/yr)**
NO_x	1-hour	14.2		2.70		7.28		24.2		0.2	
	Annual		46.5		3.87		1.82		52.2		1.2
CO	1 hour, 8-hours	Δ =0.75 **20.9**		2.26		1.57		Δ =3.83 **24.7**		15 **(II, 175)**	
VOCs	Annual		3.86		0.65		0.15		**4.65**		**40**
Lead	Rolling 3-month average							**0.06** lb/mo		**14** lb/mo	

3.3 TAP Modeling Applicability

__X__ Explanation/documentation on why modeling was or was not performed for emissions of each TAP identified in the emissions inventory are provided in this section.

Controlled TAPs emissions from natural gas combustion were calculated in accordance with Section 210.02.b of the Rules using the maximum capacity of the source or modification under its physical and operational design without the effect of any physical or operational limitations. Emissions were calculated presuming each combustion source operates at its maximum rated heat input capacity 24 hours per day and 8,760 hours per year. Emissions from all sources were summed and compared to screening emission levels (ELs) listed in Sections 585 and 586 of the Rules.

Note that TAP emissions from operating the natural gas-fired boilers and the diesel emergency engine were excluded from this applicability review because the boilers are subject to an NSPS (Subpart Dc) and engine is subject to a NESHAP (Subpart ZZZZ). In accordance with Section 006.20.a and 20.b of the Rules, and the approved modeling protocol, no further procedures will be required for demonstrating preconstruction compliance for TAPs emissions regulated by an NSPS and/or a NESHAP, provided adequate provisions implementing the federal standard are appropriately addressed.

Calculations and a summary sheet for TAPs emissions from all sources are included in Appendix 3 to this application and in an Excel spreadsheet submitted with this application. As shown in Table 3-4, facility-wide emissions of formaldehyde, arsenic, cadmium and nickel exceeded the applicable ELs. Dispersion modeling for the controlled facility-wide emissions of these four carcinogenic pollutants was conducted.

Table 3-4. TAPS EXCEEDING SCREENING EMISSION LEVELS (LB/HR)							
Pollutant	**Meyers-Sterner Whey Dryer w/Cyclone & BH**	**TetraPak Whey Dryer – Burner 1**	**TetraPak Whey Dryer – Burner 2**	**Natural Gas-Fired Heaters**	**Total**	**EL**	**Modeling Required?**
Arsenic	1.18E-06	2.46E-06	2.46E-06	5.37E-06	**1.15E-05**	1.5E-06	Yes
Cadmium	6.48E-06	1.35E-05	1.35E-05	2.95E-05	**6.30E-05**	3.7E-06	Yes
Formaldehyde	4.42E-04	9.21E-04	9.21E-04	2.01E-03	**4.30E-03**	5.1E-04	Yes
Nickel	1.24E-05	2.58E-05	2.58E-05	5.64E-05	**1.20E-04**	2.7E-05	Yes

3.4 Modeling Protocol

REC submitted a modeling protocol to DEQ on January 26, 2016. DEQ issued a protocol approval letter with comments on February 16, 2016, and transmitted revised background concentrations for PM_{10} and $PM_{2.5}$ on February 27, 2016. Project-specific modeling and other required impact analyses were generally conducted using data and methods described in the protocol and in the *Idaho Air Quality Modeling Guideline*.

REC submitted Addendum No. 1 to the protocol in an email to Kevin Schilling on March 7, 2016, requesting to use DEQ's Level II modeling threshold instead of the Level I threshold for CO emissions. DEQ recommended that the justification for using the Level II threshold for CO be included in this report (see Section 3.2).

__X__ The protocol and DEQ's conditional protocol approval notice are included in Appendix A to this modeling report.

__X__ Concerns identified by DEQ in the protocol approval notice have been addressed in the analyses performed and in this modeling report.

4.0 Modeled Emissions Sources

__X__The modeling emissions inventory and the emissions inventory presented in other parts of the application are consistent, and if they are not identical numbers, it is clearly shown, with calculations submitted, how the modeled value was derived from the value provided in the emissions inventory.

4.1 Criteria Pollutants

Hourly emissions of PM_{10} from whey drying processes match the lb/hr emission limits in the current (2015) permit. New limits on emissions of $PM_{2.5}$ from whey drying processes were determined by the modeling analyses for this pollutant (recent source test results demonstrate compliance with these new limits). For all averaging periods, all combustion sources were presumed to operate 24 hours per day except for the fire pump engine. In accordance with DEQ's modeling guideline, the pump engine emissions were omitted from 1-hour NO_2 modeling. Emission rates for NO_x modeling from all other sources presumed 100 percent conversion of NOx to NO_2.

As recommended in DEQ's conditional protocol approval letter, weekly testing of the pump engine for 30 minutes was handled by spreading the emissions over daylight hours every day. "Daylight hours" for each month were determined based on the earliest sunrise and latest sunset for each month of the year (see Appendix 3 to this application). A set of factors was input into AERMOD using the month, hour-of-day, and day of week (MHRDOW) option in BEEST, to be applied to the lb/hr emissions rate for the fire pump for all pollutants and averaging times. The factors used for each month and hour-of-day are shown in Table 4-1.

Table 4-1. "DAYLIGHT HOUR" FACTORS APPLIED TO FIRE PUMP ENGINE EMISSIONS

Hour	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0.031	0.0294	0.0294	0	0	0	0	0
6	0	0	0	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0	0	0
7	0	0	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0.042	0.042	0
8	0.0455	0.045	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0.042	0.042	0.045
9	0.0455	0.045	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0.042	0.042	0.045
10	0.0455	0.045	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0.042	0.042	0.045
11	0.0455	0.045	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0.042	0.042	0.045
12	0.0455	0.045	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0.042	0.042	0.045
13	0.0455	0.045	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0.042	0.042	0.045
14	0.0455	0.045	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0.042	0.042	0.045

Table 4-1. "DAYLIGHT HOUR" FACTORS APPLIED TO FIRE PUMP ENGINE EMISSIONS												
Hour	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
15	0.0455	0.045	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0.042	0.042	0.045
16	0.0455	0.045	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0.042	0.042	0.045
17	0.0455	0.045	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0.042	0.042	0.045
18	0.0455	0.045	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0.042	0.042	0.045
19	0	0	0.038	0.033	0.031	0.0294	0.0294	0.0333	0.0357	0	0	0
20	0	0	0	0.033	0.031	0.0294	0.0294	0.0333	0	0	0	0
21	0	0	0	0	0	0.0294	0.0294	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0
	0.5/11	0.5/11	0.5/13	0.5/15	0.5/16	0.5/17	0.5/17	0.5/15	0.5/14	0.5/12	0.5/12	0.5/11

Full impact dispersion modeling was conducted for facility-wide emissions of PM_{10}, $PM_{2.5}$, and NOx. Modeled emission rates are shown in Table 4-2.

Table 4-2. MODELED EMISSION RATES – CRITERIA POLLUTANTS (LB/HR)					
Source ID	**Description**	**PM_{10} (24-hr)**	**$PM_{2.5}$ (24-hr & Annual)**	**NOx (1-hr)**	**NOx (Annual)**
P-1	Meyers-Sterner Whey Dryer w/ Cyclone/BH	1.66	0.6	0.27	0.27
P-2	TetraPak Whey Dryer - Burner 1	0.0933	0.0933	0.499	0.499
P-3	TetraPak Whey Dryer – Burner 2	0.0933	0.0933	0.499	0.499
P-4	TetraPak Whey Dryer Scrubber	5.66	1.9	---	---
P-5	TetraPak Whey Dryer Baghouse	3.32	3.32	---	---
P-6	Boiler 4, Cleaver Brooks 1200 HP	0.366	0.366	2.41	2.41
P-7	Boiler 2, Superior 800 HP	0.185	0.185	2.44	2.44
P-8	Boiler 1, Cleaver Brooks 600 HP	0.183	0.183	1.20	1.20
P-9	Boiler 3, Hurst 800 HP	0.251	0.251	3.3	3.3
P-35	CH-AC01, Cheese Plant, Engineering	3.76E-04	3.76E-04	1.09E-04	1.09E-04
P-10	CH-AC02, Cheese Plant, Main Conf. Rm	5.51E-04	5.51E-04	1.60E-04	1.60E-04
P-11	CH-AC03, Cheese Plant, Main Breakroom	1.34E-03	1.34E-03	3.88E-04	3.88E-04
P-12	CH-AC04, Cheese Plant, Office, East side	8.57E-04	8.57E-04	2.48E-04	2.48E-04
P-13	CH-AC05, Cheese Plant, Office, West side	8.57E-04	8.57E-04	2.48E-04	2.48E-04
P-37	CH-AC14, Cheese Plant, QA Offices	8.57E-04	8.57E-04	2.48E-04	2.48E-04
P-14	CH-AC15, Cheese Plant, Micro Lab	8.57E-04	8.57E-04	2.48E-04	2.48E-04
P-15	CH-AC16, Cheese Plant, Intake Breakroom	8.57E-04	8.57E-04	2.48E-04	2.48E-04
P-16	CH-AC17, Cheese Plant, Main Lab	9.31E-04	9.31E-04	2.70E-04	2.70E-04
P-17	CH-AC24, Cheese Plant, Warehouse	8.57E-04	8.57E-04	2.48E-04	2.48E-04
P-18	WH-MA01, Whey Plant, Crystallizer room	0.0186	0.0186	5.39E-03	5.39E-03
P-19	WH-MA02, Whey Plant, HTST room	0.0163	0.0163	4.72E-03	4.72E-03
P-20	WH-MA03, Whey Plant, Permeate dryer burner room	0.0163	0.0163	4.72E-03	4.72E-03
P-21	WH-MA06, Whey Plant, Permeate dryer cyclone room	0.0186	0.0186	5.39E-03	5.39E-03
P-22	WH-MA07, Whey Plant, Dungeon room	0.014	0.014	4.04E-03	4.04E-03
P-23	WH-AC01, Whey Plant, Packaging blower room	2.79E-03	2.79E-03	8.09E-04	8.09E-04
P-24	WH-AC02, Whey Plant, Powder silo room	3.73E-03	3.73E-03	1.08E-03	1.08E-03
P-25	WH-AC03, Whey Plant, Packaging bag room	6.98E-03	6.98E-03	2.02E-03	2.02E-03
P-26	WH-AC04, Whey Plant, Packaging bulk room	0.00931	0.00931	2.70E-03	2.70E-03
P-27	WH-AC09, Whey Plant, Offices	8.05E-04	8.05E-04	2.33E-04	2.33E-04

Table 4-2. MODELED EMISSION RATES – CRITERIA POLLUTANTS (LB/HR)					
Source ID	**Description**	**PM_{10} (24-hr)**	**$PM_{2.5}$ (24-hr & Annual)**	**NOx (1-hr)**	**NOx (Annual)**
P-28	WH-AC11, Whey Plant, Lab	8.94E-04	8.94E-04	2.59E-04	2.59E-04
P-29	WH-AC12, Whey Plant, Breakroom	9.31E-04	9.31E-04	2.70E-04	2.70E-04
P-30	WH-MA04, Whey Plant (Greenheck)	5.22E-03	5.22E-03	1.51E-03	1.51E-03
P-31	FM-AC01, Fresh Mozzarella Plant, 1st floor	8.57E-04	8.57E-04	2.48E-04	2.48E-04
P-32	FM-AC02, Fresh Mozzarella Plant, 2nd floor	8.57E-04	8.57E-04	2.48E-04	2.48E-04
P-34	Fire Pump Engine	0.512	0.512	---	7.28
P-40	Cheese Plant Donaldson Dust Collection Unit	3.82E-05	3.82E-05	---	---
AHU 7/8	CH-AHU07 (Shred) and CH-AHU08(Mozzarella)	0.041	0.041	0.0119	0.0119
AHU 9	CH-AHU09 (Mascarpone)	0.0224	0.0224	6.47E-03	6.47E-03
AHU 10	WH-AHU10 (Membrane Room)	0.0157	0.0157	4.56E-03	4.56E-03

Four of the largest natural gas-fired heaters are direct-fired heaters located on the rooftops of the Cheese Plant (CH_AHU07 (Shred), 08 (Mozzarella), and 09 (Mascarpone)), and the Whey Plant (WH_AHU10 (Membrane Room)). Combustion gases are entrained in the air flow directed into large production spaces within the buildings, where they mix with—and are diluted by—building air. These diluted exhaust gases ultimately exit the building envelope as fugitive emissions through building vents and through any of several building exhaust fan vents. These emissions were included in the modeling analyses, presuming that emissions from AHU 7 and 8, AHU 9, and AHU 10 each exhaust through a single roof vent located near the heaters. No dilution of the exhaust gases was presumed.

4.2 Toxic Air Pollutants

__X__TAP emissions rates have been listed for each TAP that has project cumulative emissions exceeding the applicable EL.
__*__Emissions rates in Table 4-3 are identical to those in the model input file for TAP analyses.

As described in Section 3.3 above, modeling was conducted only for emissions of four carcinogenic TAPs subject to an annual standard: arsenic, cadmium, formaldehyde, and nickel.

*Modeled emission rates are shown in Table 4-3, which reflect the calculated emission rates multiplied by a factor of 1 x 10^6. Detailed emission inventory calculations are included in the Excel file submitted with this application.

Table 4-3. MODELED EMISSION RATES – CARCINOGENIC TAPS					
Source ID	**Source Description**	**Carcinogenic TAPs**			
		Arsenic (annual avg lb/hr)	**Cadmium (annual avg lb/hr)**	**Formaldehyde (annual avg lb/hr)**	**Nickel (annual avg lb/hr)**
P-1	Meyers-Sterner Whey Dryer w/ Cyclone/BH	1.18	6.48	442	12.4
P-2	TetraPak Whey Dryer - Burner 1	2.46	13.5	921	25.8
P-3	TetraPak Whey Dryer – Burner 2	2.46	13.5	921	25.8
P-4	TetraPak Whey Dryer Scrubber	---	---	---	---
P-5	TetraPak Whey Dryer Baghouse	---	---	---	---
P-6	Boiler 4, Cleaver Brooks 1200 HP	---	---	---	---
P-7	Boiler 2, Superior 800 HP	---	---	---	---
P-8	Boiler 1, Cleaver Brooks 600 HP	---	---	---	---
P-9	Boiler 3, Hurst 800 HP	---	---	---	---
P-35	CH-AC01, Cheese Plant, Engineering	0.00988	0.0544	3.71	0.104

Table 4-3. MODELED EMISSION RATES – CARCINOGENIC TAPS					
Source ID	Source Description	Carcinogenic TAPs			
		Arsenic (annual avg lb/hr)	Cadmium (annual avg lb/hr)	Formaldehyde (annual avg lb/hr)	Nickel (annual avg lb/hr)
P-10	CH-AC02, Cheese Plant, Main Conf. Rm	0.0145	0.0798	5.44	0.152
P-11	CH-AC03, Cheese Plant, Main Breakroom	0.0353	0.194	13.2	0.371
P-12	CH-AC04, Cheese Plant, Office, East side	0.0225	0.124	8.46	0.237
P-13	CH-AC05, Cheese Plant, Office, West side	0.0225	0.124	8.46	0.237
P-37	CH-AC14, Cheese Plant, QA Offices	0.0225	0.124	8.46	0.237
P-14	CH-AC15, Cheese Plant, Micro Lab	0.0225	0.124	8.46	0.237
P-15	CH-AC16, Cheese Plant, Intake Breakroom	0.0225	0.124	8.46	0.237
P-16	CH-AC17, Cheese Plant, Main Lab	0.0225	0.135	9.19	0.257
P-17	CH-AC24, Cheese Plant, Warehouse	0.0225	0.124	8.46	0.237
P-18	WH-MA01, Whey Plant, Crystallizer room	0.49	2.7	184	5.15
P-19	WH-MA02, Whey Plant, HTST room	0.429	2.36	161	4.5
P-20	WH-MA03, Whey Plant, Permeate dryer burner room	0.429	2.36	161	4.5
P-21	WH-MA06, Whey Plant, Permeate dryer cyclone room	0.49	2.7	184	5.15
P-22	WH-MA07, Whey Plant, Dungeon room	0.368	2.02	138	3.86
P-23	WH-AC01, Whey Plant, Packaging blower room	0.0735	0.404	27.6	0.772
P-24	WH-AC02, Whey Plant, Powder silo room	0.098	0.539	36.8	1.03
P-25	WH-AC03, Whey Plant, Packaging bag room	0.184	1.01	68.9	1.93
P-26	WH-AC04, Whey Plant, Packaging bulk room	0.245	1.35	91.9	2.57
P-27	WH-AC09, Whey Plant, Offices	0.0212	0.116	7.94	0.222
P-28	WH-AC11, Whey Plant, Lab	0.0235	0.129	8.82	0.247
P-29	WH-AC12, Whey Plant, Breakroom	0.0245	0.135	9.19	0.257
P-30	WH-MA04, Whey Plant (Greenheck)	0.137	0.755	51.5	1.44
P-31	FM-AC01, Fresh Mozzarella Plant, 1st floor	0.0225	0.124	8.46	0.237
P-32	FM-AC02, Fresh Mozzarella Plant, 2nd floor	0.0225	0.124	8.46	0.237
P-34	Fire Pump Engine	---	---	---	---
P-40	Cheese Plant Donaldson Dust Collection Unit	---	---	---	---
AHU 7/8	CH-AHU07 (Shred) and CH-AHU08(Mozzarella)	1.08	5.93	404	11.3
AHU 9	CH-AHU09 (Mascarpone)	0.588	3.24	221	6.18
AHU 10	WH-AHU10 (Membrane Room)	0.414	2.28	155	4.35

4.3 Emissions Release Parameters

__X__Thorough justification/documentation of release parameters for all modeled sources is provided in this section.
__X__The specific methods used to determine/calculate given release parameters is described in this section.
__X__The release orientation of existing point source stacks (horizontal, rain-capped, or uninterrupted vertical release) has been field-verified.

Table 4-4 lists stack parameters for modeled point sources. Exit velocities for capped and horizontal heater and fire pump engine stacks were set at 0.001 m/s in accordance with EPA guidance. Stack location and exhaust configurations for natural gas-fired heaters, the fire pump engine, and the Donaldson baghouse were field-verified by Wendy York, Safety and Environmental Manager for Sorrento. Exhaust

temperatures for the heaters and the baghouse were determined by reviewing plant design documents. The exhaust temperature for the fire pump engine was set to 850°F, which is on the low end of typical temperatures for emergency engines.

Stack parameters for Sources P-1 through P-9 were taken from the 2009 modeling analyses. Justification for these parameters was provided in the 2009 documents included as Appendix 5 to this PTC application. The exit orientations for the four boiler stacks were changed from Default to "Capped" based on 2016 field verifications.

Table 4-4. POINT SOURCE STACK PARAMETERS

Source ID	UTM [a] Zone 11 (NAD83/WGS84)		Base Elev. (m) [b]	Stack or Exit Height (ft) [b]	Exit Temp. (°F) [c]	Exit Velocity (m/s) [d]	Stack Diameter (inches)	Exit Orientation
	Easting (m) [b]	Northing (m) [b]						
P-1	541064.9	4828191.2	766.85	78	160	11.59	38.04	Default [e]
P-2	541102.6	4828227.5	766.69	136	241	17.71	18.11	Default
P-3	541098.1	4828221.9	766.73	136	241	17.71	18.11	Default
P-4	541092.2	4828208.8	766.74	136	104	17.74	62.2	Default
P-5	541100.7	4828210.6	766.75	136	126	18.32	44.09	Default
P-6	540992.1	4828199.1	766.98	**50.8**	325	10.1	35.83	RAINCAP
P-7	541000.4	4828179.3	767.04	**50.8**	275	9.26	25.98	RAINCAP
P-8	540989.7	4828193.0	767.01	**50.8**	275	10.64	24.02	RAINCAP
P-9	540991.9	4828190.8	767.02	**50.8**	275	9.34	29.92	RAINCAP
P-35	540978.0	4828186.5	767.04	25.5	185	0.001	2.76	Horizontal
P-10	540968.6	4828185.5	767.05	25.5	185	0.001	2.76	Horizontal
P-11	540956.6	4828188.6	767.04	25.5	185	0.001	2.76	Horizontal
P-12	540943.2	4828188.9	767.09	25.5	185	0.001	2.76	Horizontal
P-13	540933.4	4828189.3	767.12	25.5	185	0.001	2.76	Horizontal
P-37	540971.1	4828283.3	766.76	40	185	0.001	2.76	Horizontal
P-14	540993.7	4828295.3	766.71	36.5	185	0.001	2.76	Horizontal
P-15	540991.0	4828299.9	766.72	36.5	185	0.001	2.76	Horizontal
P-16	540988.6	4828282.9	766.73	36.5	185	0.001	2.76	Horizontal
P-17	540920.9	4828271.1	766.86	32.5	185	0.001	2.76	Horizontal
P-18	541060.4	4828214.9	766.85	49.75	185	0.001	6	Capped
P-19	541037.0	4828210.4	766.88	46.75	185	0.001	6	Capped
P-20	541104.4	4828209.3	766.76	139.75	185	0.001	6	Capped
P-21	541099.1	4828202.5	766.75	42.6	185	0.001	6	Capped
P-22	541089.3	4828227.0	766.71	128.75	185	0.001	6	Capped
P-23	541083.9	4828235.9	766.67	42	185	0.001	56.05	Horizontal
P-24	541111.7	4828219.5	766.76	109	185	0.001	6	Capped
P-25	541112.0	4828212.4	766.77	71	185	0.001	6	Capped
P-26	541111.5	4828202.2	766.77	47.42	185	0.001	6	Capped
P-27	541045.0	4828175.0	766.91	22	185	0.001	2.59	Horizontal
P-28	541042.7	4828170.2	766.92	20.58	185	0.001	12	Horizontal
P-29	541054.5	4828173.7	766.89	22	185	0.001	4.51	Horizontal
P-30	541110.1	4828185.7	766.77	40	185	0.001	5.53	Horizontal
P-31	541028.8	4828341.4	766.5	38.5	185	0.001	2.59	Horizontal
P-32	541034.1	4828341.4	766.48	38.5	185	0.001	2.59	Horizontal
P-34	541080.6	4828351.1	766.34	8.33	850	0.001	4	Horizontal
P-40	540967.0	4828289.6	766.77	46	70	16	17	Default
AHU7/8	540967.7	4828265.1	766.8	41	70	5	36	Default
AHU 9	540964.1	4828199.3	767	25	70	5	36	Default
AHU10	541046.2	4828191.5	766.88	29	70	5	36	Default

[a.] Universal Transverse Mercator. [b.] Feet, meters [c.] Degrees Fahrenheit [d.] Meters per second. [e.] Default =Vertical uninterrupted

5.0 Modeling Methodology

Table 5-1 summarizes the key modeling parameters used in the impact analyses.

Table 5-1. MODELING PARAMETERS		
Parameter	**Description/Values**	**Documentation/Addition Description**
General Facility Location	Canyon County	Attainment/Unclassifiable for all criteria pollutants.
Model	AERMOD	AERMOD with the PRIME downwash algorithm, version 15181
Meteorological Data	Boise 2011-2015 NWS surface data NWS upper air data	The meteorological model input files for this project were developed by DEQ. See Section 5.2 of this memorandum for additional details of the meteorological data.
Terrain	Considered	3-dimensional receptor coordinates were obtained from USGS National Elevation Dataset (NED) files and were used to establish elevation of ground level receptors. AERMAP version 15181 was used to determine each receptor elevation and hill height scale. Rural dispersion coefficients were used.
Building Downwash	Considered	Plume downwash was considered for the structures associated with the facility. BPIP-PRIME v.04274 was used to evaluate building dimensions for consideration of downwash effects in AERMOD.
NOx Chemistry	None	Modeled emissions presumed 100% conversion of NOx to NO_2. Reported 1-hr NO_2 impacts presumed 80% conversion of NOx to NO_2 (EPA Tier II, ARM)
Receptor Grid	**Full-Impact and TAPs Analyses**	
	Grid 1	25-meter (m) spacing along the ambient air boundary
	Grid 2	25-meter spacing from the fence line to a distance of 100 m.
	Grid 3	50-meter spacing from 100 to 300 m
	Grid 4	100-meter spacing from 300 to 500 m
	Grid 5	250-m spacing from 500 to 1000 m
	Grid 6	500-m spacing from 1000 to 3000 m (3 km)
	Grid 7	1000-m spacing from 3 to 10 km.

5.1 Model Selection

__X__The current versions of all models and associated programs were used in analyses, or alternate versions were specifically approved by DEQ.

__*___Any non-default model options used were approved by DEQ in advance.

The modeling analyses used Providence Engineering and Environmental Group's BEEST AERMOD suite, version 11.04. REC confirmed using information available on EPA's SCRAM website[1] that the versions of the modeling programs used in this BEEST version are the current approved versions.

*It was confirmed late in the project that all four boiler stacks were provided with rain caps rather than being vertical and unobstructed releases (as shown in the 2009 analyses). Given that the exhaust flows were known, each of the stacks was subject to downwash from adjacent structures, recent EPA guidance [2] recommending the use of the POINTCAP and POINTHOR beta options, and because the maximum 1-hr NOx impacts are due primarily to boiler emissions, the beta POINTCAP option was used for these four sources. Beta options were not used for the space heater or emergency engine exhaust points because the exhaust flows were not readily available.

[1] EPA, Support Center for Regulatory Atmospheric Modeling (SCRAM), accessed March 1, 2016 at http://www3.epa.gov/scram001/

[2] EPA Model Clearinghouse, February 10, 2016, accessed March 1, 2016 at https://cfpub.epa.gov/oarweb/MCHISRS/index.cfm?fuseaction=main.resultdetails&recnum=16-X-01

5.2 Meteorological Data

__X___Meteorological data files are provided with the application.

_n/a__If meteorological data used for modeling were not provided by DEQ, then a detailed discussion of the data is provided along with documentation of the processing steps.

An AERMOD-ready meteorological data set with surface and upper air data collected at or near the Boise Airport for the five-year period from 2011 through 2015 was recently provided by DEQ for another REC project. The files received from DEQ included a wind rose, wind class frequency profile graphic, and concatenated SFC and PFL files for the five-year period.

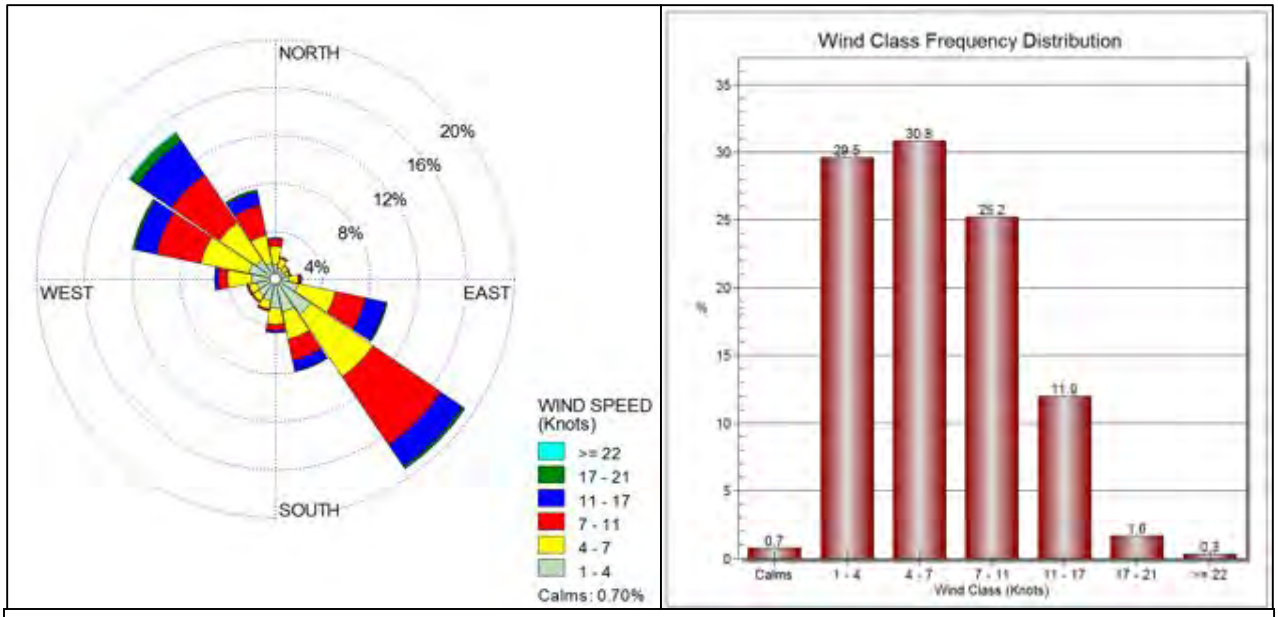

Figure 5-1. BOISE AIRPORT WIND ROSE AND WIND CLASS FREQUENCY

5.3 Effects of Terrain

__X__The datum of terrain data, building corner locations, emissions sources, and the ambient air boundary are specified and are consistent such that the modeled plot plan accurately represents the facility and surroundings.

The terrain in the vicinity of the Sorrento Lactalis Nampa Plant is relatively flat but there are some nearby areas of slightly elevated terrain to the south. Digital terrain data were obtained from the National Elevation Database (NED) in datum WGS84 at a horizontal resolution of one arc-second (about 30 meters) for a domain calculated using an algorithm in the BEEST software package. The domain was calculated to ensure inclusion of all terrain features that penetrate a plane formed by a 10 percent slope extending from the approximate center of the facility. Terrain data was downloaded for the area between 116.250 and 116.750°W longitude and 43.500 and 43.750° N latitude.

5.4 Facility Layout

__X__The facility layout plot plan is provided in this section that clearly and accurately depicts buildings, emissions points, and the ambient air boundary.

__X__This section of the Modeling Report has thoroughly described how locations of emissions sources, building corners, and the ambient air boundary were determined, specifying the datum used.

A scaled facility plot plan is included as Appendix 1 to this application. The locations of the buildings, property boundary, and sources were confirmed by comparing the scaled plot plan with an overlay of the model input UTM coordinates on the scaled satellite image of the area in Google Earth.

As shown in Figure 5-2, there is considerable variability in the heights of tanks and structures at the Sorrento facility. Roof heights were determined from two sources: the 2009 modeling files and roof heights noted on a D-size engineering drawing provided by Sorrento (used to identify locations of space heater and fire pump exhaust points). The modeled building layout is shown in Figure 5-3.

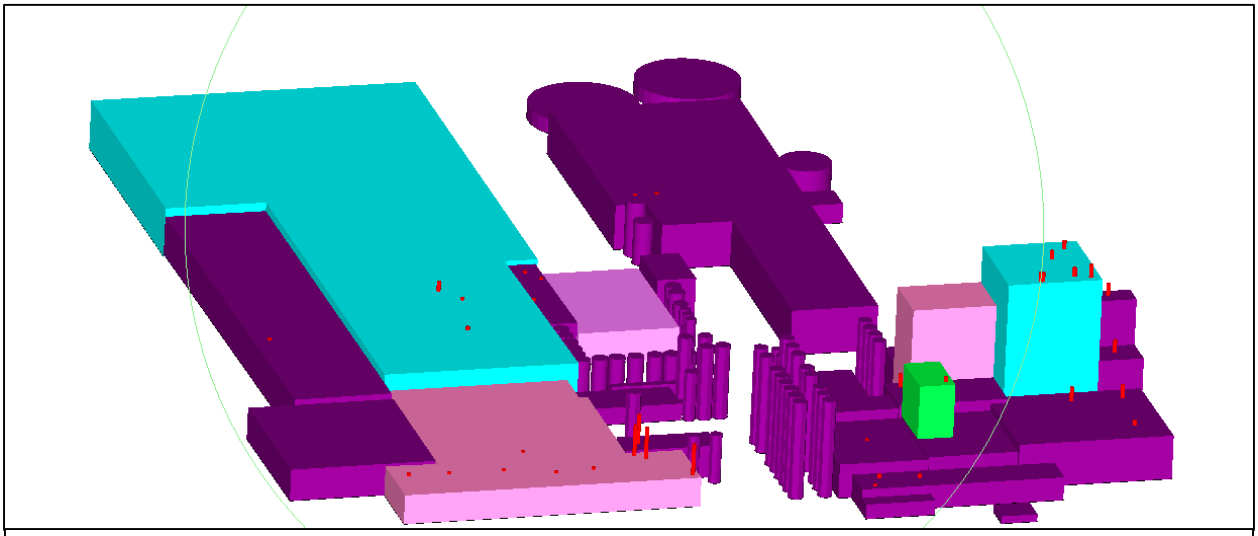

Figure 5-2. VARIATION IN ROOF/TANK HEIGHTS

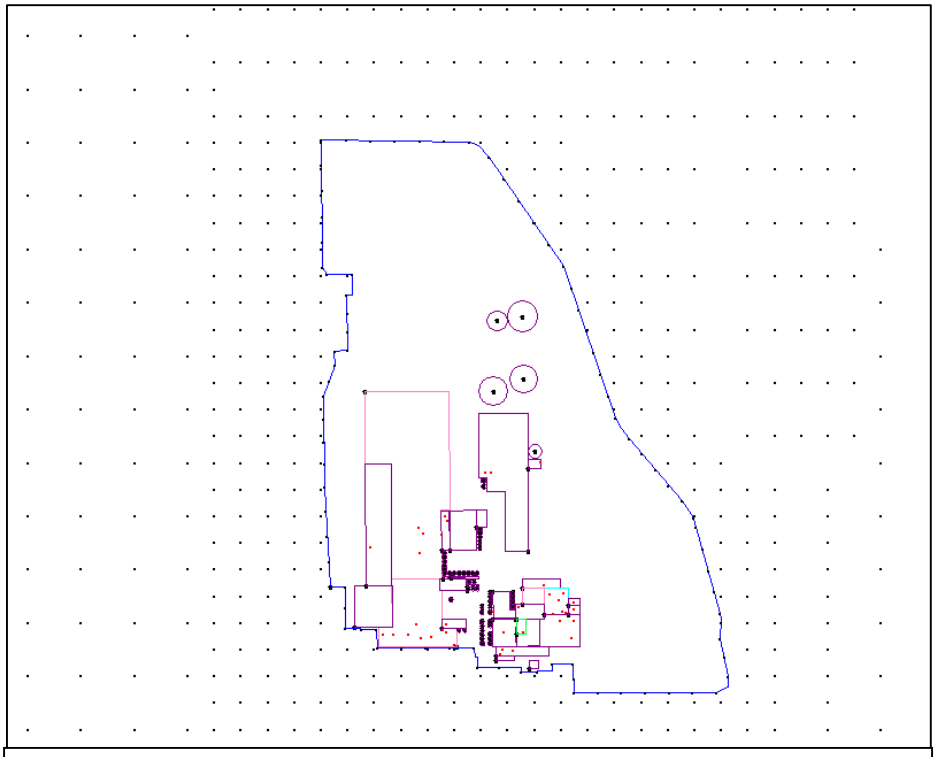

Figure 5-3. BUILDING LAYOUT AND AMBIENT AIR BOUNDARY

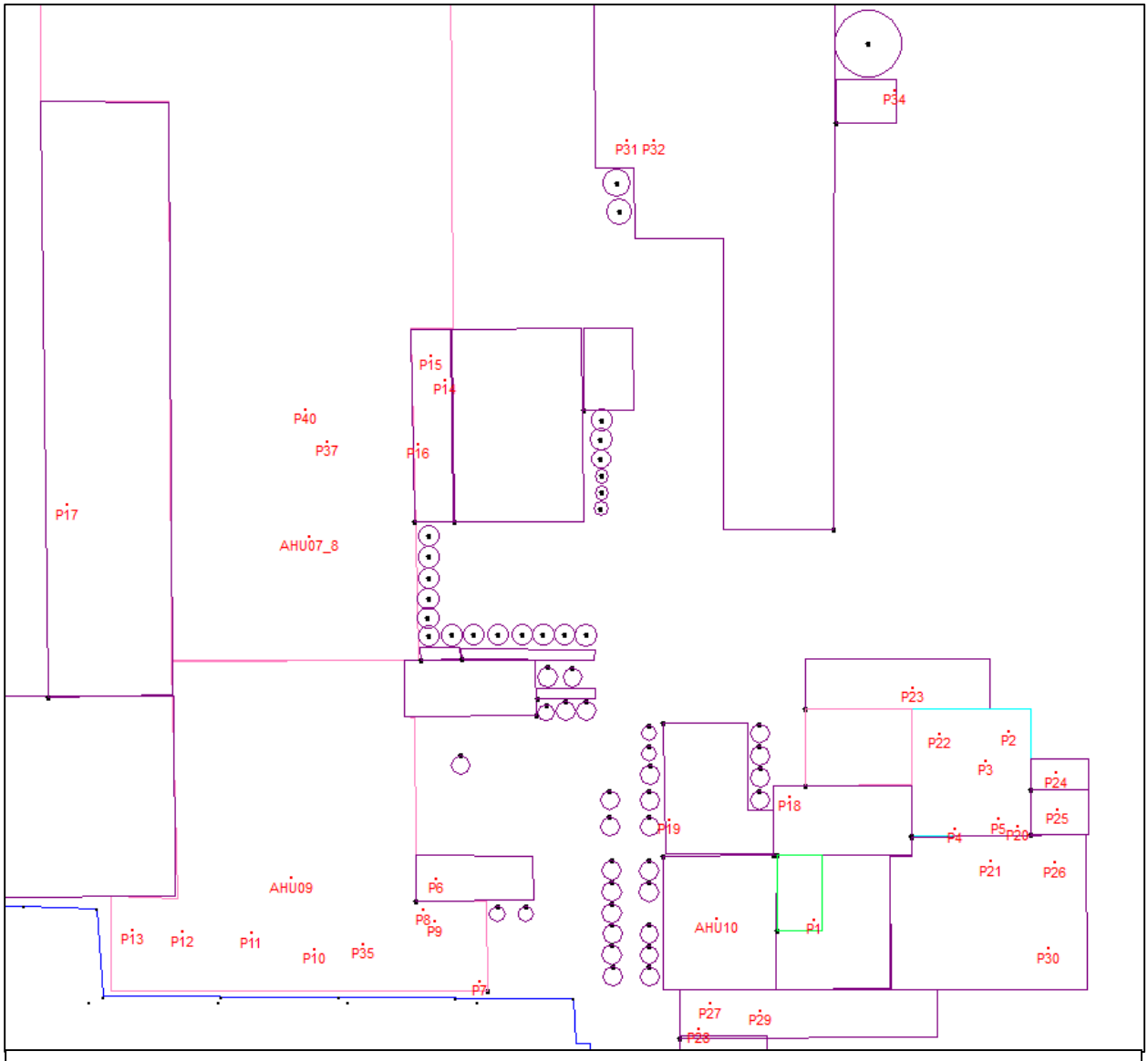

Figure 5-4. MODELED LAYOUT SHOWING BUILDINGS AND EXHAUST POINTS

5.5 Effects of Building Downwash

Building downwash was considered. Prior to running the modeling analyses, REC ran the Building Profile Input Program (BPIP) with the Plume Rise Model Enhancements (PRIME) algorithm, which calculates downwash values for input into AERMOD.

5.6 Ambient Air Boundary

__n/a__If any of the following apply, the effect on areas excluded from ambient air is thoroughly described in this section: a river/stream bisecting the facility; the facility is on leased property or is leasing property to another entity; the facility is not completely fenced; there are right-of-way areas on the facility; the nature of business is such that the general public have access to part or all of the facility.

__X__This section thoroughly describes how the facility can legally preclude public access (and practically preclude access) to areas excluded from ambient air in the modeling analyses.

The ambient air boundary is shown in Figure 5-3. Public access to the Sorrento Lactalis Nampa facility is precluded by a fence and posted signage on the west, north, and east boundaries and on a part of the southern property boundary. Buildings with secure entrances preclude unexpected access by members of the public along the remainder of the south side of the facility. Publicly accessible parking areas on the south side of the facility were considered ambient air. There are no streams or right-of-way easements through the Sorrento property.

5.7 Receptor Network

__X__This section of the Modeling Report provides justification that receptor spacing used in the air impact analyses was adequate to reasonably resolve the maximum modeled concentrations to the point that NAAQS or TAP compliance is assured.

The full-impact receptor grid spacing extending to a distance of 10 kilometers is described in Table 5-1. Initial receptor spacing on the ambient air boundary and near-field spacing is shown in Figures 5-3 and 5-5. Modeling conducted in 2009 and initial modeling runs conducted in 2016 demonstrated that maximum ambient impacts occur at or near the ambient air boundary. Additional receptors were added as needed to ensure that maximum impacts had been fully resolved. To ensure that the maximum impact was resolved, the ambient impacts at receptors closest to the receptor with the reported maximum were reviewed. In general, the maximum impact was determined to be adequately resolved if the difference between the maximum reported impact and the impacts at nearby receptors was within about ten (10) percent of the reported maximum concentration. Where the differences were greater than about 10 percent, additional receptors were added and the model was run again.

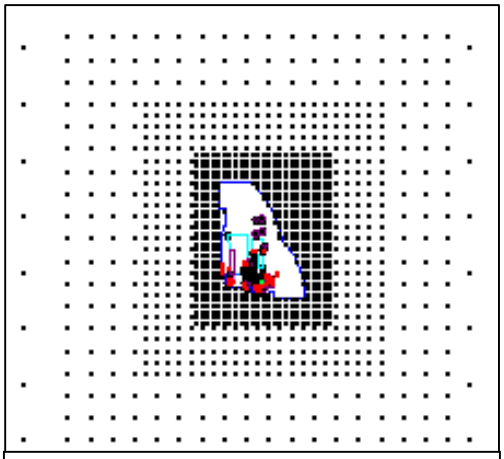

Figure 5-5. NEAR-FIELD RECEPTORS

5.8 Background Concentrations

___X__Background concentrations have been thoroughly documented and justified for all criteria pollutants where a cumulative NAAQS impact analysis was performed.

In the modeling protocol approval letter, DEQ concurred with REC's proposed background concentrations taken from the Northwest Airquest Consortium's website,[3] based on latitude/longitude coordinates for the approximate center of the Sorrento Lactalis Nampa facility: 43.606710° N, 116.491747° W. These values were based on monitoring conducted between 2009 and 2011.

DEQ provided alternative background concentrations for PM_{10} and $PM_{2.5}$ based on more recent data collected in the Nampa area from 2010 through 2015 (with data from 2013 excluded). Those values are shown in bold text in Table 5-2.

Table 5-2. BACKGROUND CONCENTRATIONS

Parameter and Unit	NW AirQuest Results	MW	µg/m³
Lat_or_UTMN	43.607		
Lon_or_UTME	-116.492		
UTM_zone			
In_Washington_Oregon_or_Idaho	YES		
PM2.5_24hr_ugm3	25 **(23.1)**		
PM2.5_annual_ugm3	9.6 **(7.8)**		
NO2_1hr_ppb	43	46	80.9
NO2_annual_ppb	5.8	46	10.9
SO2_1hr_ppb	6.8	64	17.8
SO2_3hr_ppb	11	64	28.8
SO2_24hr_ppb	4.7	64	12.3
SO2_annual_ppb	1.4	64	3.66
CO_1hr_ppb	1447	28	1657
CO_8hr_ppb	870	28	996
PM10_24hr_ugm3	96		
PM10_no_extremes_24hr_ugm3	74 **(70.2)**		
		µg/m³ = (MW x ppb)/	24.45

5.9 NOx Chemistry

__n/a___If OLM or PVMRM was used to address NOx chemistry, reasons for selecting one algorithm over the other are provided in this section.

Modeled emissions of NOx presumed 100 percent conversion of NOx to NO_2. The final reported ambient impact for the 1-hr NO_2 NAAQS presumed 80 percent conversion of NOx to NO_2 (EPA Tier II, ambient ratio method).

[3] Accessed January 21, 2016 at http://lar.wsu.edu/nw-airquest/lookup.html

6.0 Results and Discussion

6.1 Criteria Pollutant Impact Results

Full-impact modeling was conducted for emissions of PM_{10}, $PM_{2.5}$, and NOx. As shown in Table 6-1, dispersion modeling results demonstrate that the cumulative ambient impact (impacts from the facility combined with representative background concentrations) do not cause a violation of these air quality standards.

Table 6-1. FULL-IMPACT MODELING RESULTS FOR CRITERIA POLLUTANTS

Pollutant	Averaging Period	Modeled Ambient Impact (µg/m³)	Background Concentration (µg/m³)	Total Ambient Impact (µg/m³)	NAAQS (µg/m³)	Percent of NAAQS	File
PM_{10}	24-hr	24.9	70.2	95.1	150	63.4%	Full Impact Final2
$PM_{2.5}$	24-hr	11.8	23.1	34.9	35	99.7%	Full Impact Final2
	Annual	3.56	7.8	11.4	12	94.7%	Full Impact FinalPM25ANN
CO	1-hr	---	---	---	40,000	---	---
	8-hr	---	---	---	10,000	---	---
NO_2	1-hr (ARM)	133 x 0.8 = 106.4	80.9	187.3	188	99.6%	Full Impact Final2
	Annual	10.5[b]	10.9	21.4	100	21.4%	Full Impact FinalNO2ANN
SO_2	1-hr	---	---	---	188	---	---
	Annual	---	---	---	80	---	---

6.2 TAP Impact Analysis

As shown in Table 6-2, the modeling results demonstrate that the ambient air quality impacts from TAPs emissions are below the acceptable ambient concentration for carcinogens (AACC) listed in Section 586 of the Rules.

Table 6-2. MODELING RESULTS FOR TOXIC AIR POLLUTANTS

Toxic Air Pollutant	Averaging Period	Maximum Modeled Ambient Impact (µg/m³)	AAC.AACC Increment (µg/m³)	Percent of AAC/AACC Increment	File
Carcinogens					
Arsenic	Annual	2.64E-05	2.3E-04	11.4%	Full Impact Final2
Cadmium	Annual	1.46E-04	5.6E-04	26.1%	Full Impact Final2
Formaldehyde	Annual	1.00E-02	7.7E-02	13.0%	Full Impact Final2
Nickel	Annual	2.80E-04	4.2E-03	6.67%	Full Impact Final2

7.0 Quality Assurance/Control

To ensure that modeled emissions matched the emissions inventory, the emissions inventory spreadsheet was structured in a way that the emission rates could be copied and pasted directly into the AERMOD GUI (BEEST). Heater, pump engine, and baghouse exhaust points were field-verified by Sorrento staff. The ambient air boundary, model layout, and source locations (in plan view and in 3D) were compared against a base map taken from Google Earth, Google Earth street views, and engineering design drawings. The emissions inventory was developed in concert with Sorrento Lactalis' environmental staff.

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REC

Robinson Environmental Consulting, LLC
3979 N. Oak Park Place, Boise, Idaho 83703
Tel: 208.473.0183 | www.robinsonenvironmental.us

January 26, 2016

Sent Via Email

Mr. Kevin Schilling, NSR Modeling Coordinator
Air Quality Division
Idaho Department of Environmental Quality
1410 N. Hilton
Boise, Idaho 83706

Re: Facility ID 027-0071, Sorrento Lactalis, Inc., Cheese Plant, Nampa, Idaho
Consent Order Case Nos. E-2014.0007 and E-2015.0003, Modeling Protocol

Dear Kevin:

Robinson Environmental Consulting, LLC (REC) is assisting Sorrento Lactalis, Inc. (Sorrento) in preparing an application to modify their current permit to construct (PTC) to incorporate the following changes:

1. Define the minimum pressure drop and minimum liquid flow rate for the TetraPak whey dryer scrubber, based on the results of an October 2, 2014 source test for PM_{10} emissions. Describe periodic parametric monitoring to be conducted for these two parameters. The PM_{10} emissions limit for this scrubber in the current permit is 5.66 lb/hr.

   Modeled emissions of PM_{10} and $PM_{2.5}$ from the scrubber will be based on an emissions rate equal to at least 5.66 lb/hr.

2. Reflect the increase in emissions from the Superior boiler (P-7) associated with a September 2014 replacement of the 20.1 MMBtu/hr burner (600 boiler horsepower) with a 31.5 MMBtu/hr burner that had been down-rated by the manufacturer to 24.8 MMBtu/hr. The consent order notes that DEQ and Sorrento have not yet come to an agreement whether the burner had been de-rated such that it had undergone a permanent physical change that could not easily be undone (pursuant to EPA guidance).

   Modeled emissions of criteria pollutants from the Superior boiler will be based on a maximum heat input capacity equal to 31.5 MMBtu/hr. This boiler is subject to an NSPS (Subpart Dc or Subpart Db, depending on the final determination regarding the boiler derating). In accordance with Section 210.20 of the Idaho Air Rules, TAPs emissions from this source will not be modeled.

3. Reflect the increase in emissions from heating, ventilating and air conditioning (HVAC) units installed at the facility. The consent order notes that 13 of 28 existing natural gas-fired HVAC units were added with the installation of the Meyers-Sterner whey dryer plant (PTC No. P-000726, issued July 20, 2001), the TetraPak whey dryer plant (PTC No. P-2009.0023, issued August 28, 2009), and other expansions (e.g., the Fresh Mozzarella Cheese Plant in 2014, the Shredded Cheese Plant) without accounting for the HVAC units' emissions or impacts to ambient air quality.

   Modeling will include criteria pollutant and TAPs emissions from all natural gas-fired HVAC units at the facility, which were identified by Wendy York, Sorrento's Safety and Environmental

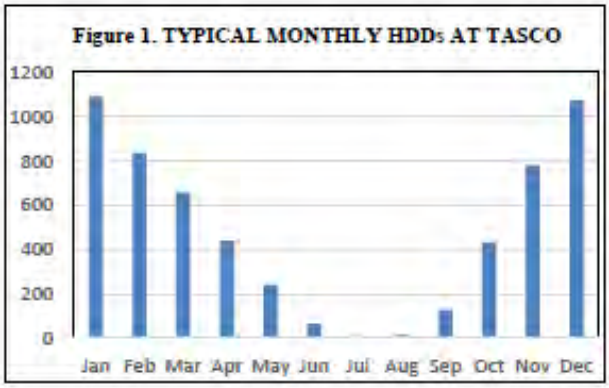
Manager in January 2016. Ms. York confirmed that all of the natural gas-fired heaters exhaust horizontally or are capped. The exit velocity for each of these sources will be set to 0.001 m/sec in accordance with EPA and DEQ modeling guidance.

Burners in HVAC units do not typically run 100 percent of the time, but cycle on and off. HVAC burners will be presumed to run a maximum of 45 minutes out of each operating hour to account for cycling. In addition, there is substantial seasonal variation in the amount and timing of heating required to maintain the buildings at nominal temperatures. The timing of lower-temperature hours (typically in the early morning before dawn) and duration of operating hours for the heaters each month will be determined by:

- *Reviewing National Weather Service hourly temperature data collected at the Nampa Airport (KMAN) for the year 2012, downloaded in degrees Fahrenheit from the MesoWest site,[1] and*
- *Heating-degree-day (HDD) data collected at the nearby Amalgamated Sugar Plant for the years 1976 – 2010.[2] Heaters will be presumed to operate at maximum capacity for 24 hr/day during December and January, with hours and intensity for other months determined based on a ratio of the HDDs for that month compared to the highest monthly HDD in January.*

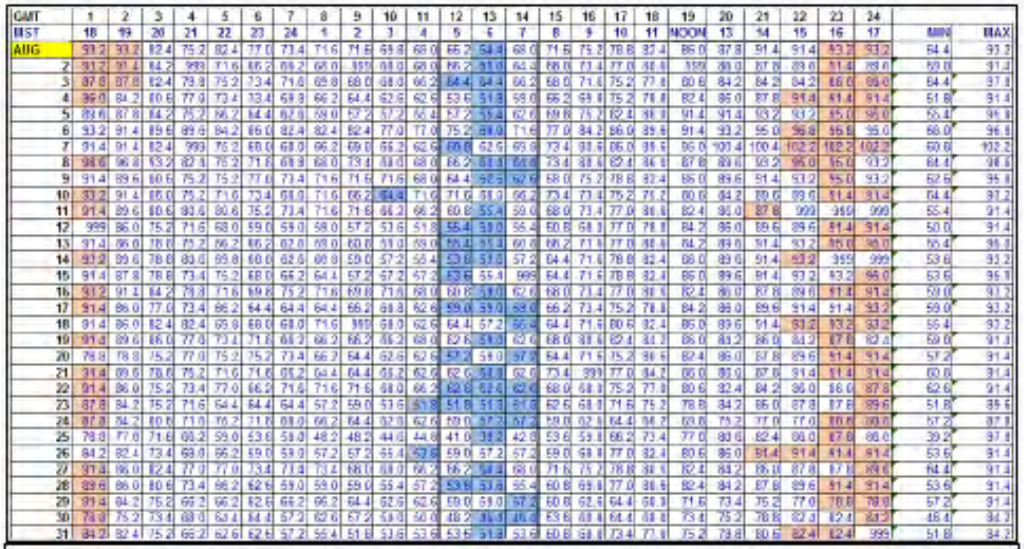
Table 1. TYPICAL MONTHLY HDD AT TASCO, 1976-2010

Month	HDD	Percent	HRS per day	Round Up HRS per day
Jan	1091	100.0%	24	24
Feb	836	76.6%	18.4	19
Mar	658	60.3%	14.5	15
Apr	440	40.3%	9.7	10
May	241	22.1%	5.3	6
Jun	65	5.96%	1.4	2
Jul	9	0.825%	0.2	1
Aug	**15**	**1.37%**	0.3	**1**
Sep	127	11.6%	2.8	3
Oct	432	39.6%	9.5	10
Nov	781	71.6%	17.2	18
Dec	1073	98.4%	23.6	24



[1] University of Utah, Department of Atmospheric Sciences, Mesowest, http://mesowest.utah.edu/
[2] Western Regional Climate Center, Desert Research Institute, http://www.wrcc.dri.edu/htmlfiles/id/id.hdd.html

As an example, the hourly temperatures at the Nampa Airport for August 2012 are shown in Figure 2. Minimum temperature hours are shaded in blue, and hours at the maximum temperature for each day are shaded in red. For August of each year, REC proposes to model heaters operating during hours 5 through 7 local time (MST), at an intensity level of 0.33 for each hour (equivalent to operating one hour per day at maximum capacity).



GMT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
MST	18	19	20	21	22	23	24	1	2	3	4	5	6	7	8	9	10	11	NOON	13	14	15	16	17	MIN	MAX
AUG	93.2	93.2	82.4	75.2	82.4	77.0	73.4	71.6	71.6	69.8	68.0	66.2	64.4	68.0	71.6	75.2	78.8	82.4	86.0	87.8	91.4	91.4	93.2	93.2	64.4	93.2
2	91.2	91.4	84.2	999	71.6	66.2	66.2	66.0	999	68.0	68.0	66.2	64.4	64.4	68.0	73.4	77.0	80.6	999	89.0	87.8	89.6	91.4	89.6	59.0	91.4
3	87.8	87.8	82.4	79.8	75.2	73.4	71.6	69.8	68.0	68.0	66.2	64.4	64.4	66.2	68.0	71.6	75.2	77.8	80.6	84.2	84.2	84.2	86.0	86.0	64.4	87.8
4	86.0	84.2	80.6	77.0	73.4	73.4	68.8	66.2	64.4	62.6	62.6	53.6	51.8	59.0	66.2	69.8	75.2	78.8	82.4	86.0	87.8	91.4	91.4	91.4	51.8	91.4
5	89.6	87.8	84.2	75.2	66.2	64.4	62.6	59.0	57.2	57.2	55.4	57.2	55.4	62.6	69.8	75.2	82.4	86.0	91.4	91.4	93.2	93.2	95.0	95.0	55.4	95.0
6	93.2	91.4	89.6	89.6	84.2	86.0	82.4	82.4	82.4	77.0	77.0	75.2	68.0	71.6	77.0	84.2	86.0	89.6	91.4	93.2	95.0	96.8	96.8	95.0	68.0	96.8
7	91.4	91.4	82.4	999	75.2	68.0	68.0	66.2	68.0	66.2	62.6	60.8	62.6	69.8	73.4	80.6	86.0	89.6	86.0	100.4	100.4	102.2	102.2	102.2	60.8	102.2
8	96.8	96.8	93.2	82.4	75.2	71.6	68.8	68.0	73.4	68.0	68.0	66.2	64.4	64.4	73.4	80.6	89.4	94.1	87.8	89.6	93.2	96.0	96.0	93.2	64.4	96.8
9	91.4	89.6	80.6	75.2	75.2	77.0	73.4	71.6	71.6	71.6	68.0	64.4	62.6	62.6	68.0	75.2	78.8	82.4	86.0	89.6	91.4	93.2	95.0	93.2	62.6	95.0
10	93.2	91.4	86.0	75.2	71.6	73.4	68.0	71.6	66.2	64.4	71.6	71.6	68.0	66.2	73.4	73.4	75.2	75.2	80.6	84.2	89.6	89.6	91.4	91.4	64.4	93.2
11	91.4	89.6	80.6	80.6	80.6	75.2	73.4	71.6	71.6	66.2	66.2	60.8	55.4	59.0	68.0	73.4	77.0	80.6	82.4	86.0	87.8	999	999	999	55.4	91.4
12	999	86.0	75.2	71.6	68.0	59.0	59.0	58.0	57.2	53.6	51.8	55.4	59.0	55.4	60.8	68.0	77.0	78.8	84.2	86.0	89.6	89.6	91.4	91.4	50.0	91.4
13	91.4	86.0	78.8	75.2	66.2	66.2	62.6	59.0	62.6	59.0	59.0	55.4	51.8	60.8	66.2	71.6	77.0	80.6	84.2	89.6	91.4	93.2	95.0	95.0	55.4	95.0
14	93.2	89.6	78.8	80.6	89.8	86.0	82.6	80.8	59.0	57.2	55.4	53.6	51.8	57.2	64.4	71.6	78.8	82.4	86.0	89.6	91.4	93.2	999	999	53.6	93.2
15	91.4	87.8	78.8	73.4	75.2	68.0	66.2	64.4	57.2	57.2	57.2	53.6	55.4	999	64.4	71.6	78.8	82.4	86.0	89.6	91.4	93.2	93.2	95.0	53.6	95.0
16	93.2	91.4	84.2	78.8	71.6	69.8	75.2	71.6	69.8	71.6	68.0	60.8	59.0	62.6	68.0	73.4	77.0	80.6	82.4	86.0	87.8	89.6	91.4	91.4	59.0	93.2
17	91.4	86.0	77.0	73.4	66.2	64.4	64.4	64.4	66.2	68.8	62.6	59.0	59.0	68.0	66.2	73.4	75.2	78.8	84.2	86.0	89.6	91.4	91.4	93.2	59.0	93.2
18	91.4	86.0	82.4	82.4	69.8	68.0	68.0	71.6	999	68.0	62.6	64.4	57.2	66.2	64.4	71.6	80.6	82.4	86.0	89.6	91.4	93.2	93.2	93.2	55.4	93.2
19	91.4	89.6	86.0	77.0	73.4	71.6	66.2	66.2	66.2	68.0	62.6	62.6	59.0	62.6	68.0	68.0	69.4	84.2	86.0	86.2	86.0	84.2	87.8	82.4	59.0	91.4
20	78.8	78.8	75.2	77.0	75.2	75.2	73.4	66.2	64.4	62.6	62.6	57.2	59.0	57.2	64.4	71.6	75.2	86.6	82.4	86.0	87.8	89.6	91.4	91.4	57.2	91.4
21	91.4	89.6	78.8	75.2	71.6	71.6	66.2	64.4	64.4	66.2	62.6	62.6	59.0	62.6	73.4	999	77.0	84.2	86.0	86.0	87.8	91.4	91.4	91.4	60.8	91.4
22	91.4	86.0	75.2	73.4	77.0	66.2	71.6	71.6	71.6	68.0	66.2	62.6	62.6	62.6	68.0	68.0	75.2	77.0	80.6	82.4	84.2	86.0	86.0	87.8	62.6	91.4
23	87.8	84.2	75.2	71.6	64.4	64.4	64.4	57.2	59.0	53.6	51.8	51.8	51.8	51.8	62.6	68.0	71.6	75.2	78.8	84.2	86.0	87.8	87.8	89.6	51.8	89.6
24	87.8	84.2	80.6	71.6	66.2	71.6	68.0	66.2	64.4	62.6	62.6	59.0	57.2	57.2	59.0	62.6	64.4	84.2	80.6	75.2	77.0	77.0	80.6	89.6	57.2	87.8
25	78.8	77.0	71.6	66.2	59.0	53.6	53.6	48.2	48.2	44.6	44.6	41.0	39.2	42.8	53.6	53.6	66.2	73.4	77.0	80.6	82.4	86.0	87.8	86.0	39.2	87.8
26	84.2	82.4	73.4	68.0	66.2	59.0	53.6	57.2	57.2	55.4	57.2	59.0	57.2	57.2	59.0	68.0	77.0	82.4	80.6	86.0	91.4	91.4	91.4	91.4	53.6	91.4
27	91.4	86.0	82.4	77.0	77.0	73.4	71.6	73.4	66.0	68.0	66.2	66.2	64.4	68.0	71.6	75.2	78.8	84.6	82.4	84.2	86.0	87.8	87.8	89.6	64.4	91.4
28	89.6	86.0	80.6	73.4	66.2	62.6	59.0	59.0	59.0	55.4	57.2	53.6	53.6	55.4	60.8	68.0	77.0	80.6	82.4	84.2	87.8	89.6	91.4	91.4	53.6	91.4
29	91.4	84.2	75.2	66.2	66.2	62.6	66.2	66.2	64.4	62.6	62.6	59.0	59.0	57.2	60.8	62.6	64.4	66.2	71.6	73.4	75.2	77.0	78.8	78.8	57.2	91.4
30	78.8	75.2	73.4	68.0	62.4	64.4	57.2	62.6	57.2	53.6	50.0	48.2	46.4	46.4	53.6	60.8	64.4	68.0	73.4	75.2	78.8	82.4	82.4	84.2	46.4	84.2
31	84.2	82.4	75.2	66.2	62.6	62.6	57.2	55.4	51.8	53.6	53.6	53.6	51.8	53.6	60.8	68.0	73.4	77.0	75.2	78.8	80.6	82.4	82.4	999	51.8	84.2

Figure 2. TYPICAL HEATING HOURS FOR AUGUST: HOURS 5 THROUGH 7, MST

4. Reflect emissions from operation of the existing fire pump engine, which was installed in 2001. *In accordance with DEQ Rules, TAPs emissions will not be modeled for this engine, which is subject to a NESHAP: 40 CFR 63, Subpart ZZZZ. In accordance with DEQ's modeling guideline, engine emissions will also be excluded from modeling to demonstrate compliance with the 1-hr NO_2 NAAQS. Short-term emissions will be based on testing the pump engine for 30 minutes each week, during daylight hours. Annual emissions will be based on routine testing and emergency operations for a maximum of 100 hours per year.*

5. NO_2 impacts in the full impact analysis will be evaluated using a Tier 1 (100 percent conversion of NO_x to NO_2) or Tier 2 (ambient ratio method [ARM] or ambient ratio method 2 [ARM2]) approach, and will be conducted in accordance with the most recent EPA guidance issued September 30, 2014.[3] If a Tier 3 (PVMRM or OLM) approach is needed for full-impact NO_2 analyses, REC will submit an addendum to this modeling protocol describing proposed in-stack ratios and requesting DEQ recommendations for NO_2 and ozone data.

[3] Owen and Brode, Clarification on the Use of AERMOD Dispersion Modeling for Compliance with the NO_2 National Ambient Air Quality Standard, dated September 30, 2014, accessible at http://www.epa.gov/scram001/guidance/clarification/NO2_Clarification_Memo-20140930.pdf

REC's proposed approach for dispersion modeling to demonstrate compliance with applicable ambient air quality standards is summarized in Table 2.

Table 2. PROPOSED PARAMETERS FOR NEAR-FIELD DISPERSION MODELING

Parameter	Values	Description
Model	AERMOD	The current version of AERMOD as of this date (v. 15181). If a newer version of AERMOD becomes available before final modeling analyses have been completed for this project, REC will use the most recently-released version.
Meteorological data	Boise Airport upper air and surface met data.	**REC requests that DEQ provide the most current AERMOD-ready meteorological data set with upper air soundings collected at the Boise NWS station and surface data collected at the Boise Airport.**
Land use	Rural	The cheese plant is located in a light industrial area east of the city of Nampa. **As shown in Figure 3 below**, the surrounding land use is predominantly agricultural, low- to medium-density residential, and commercial/light industrial. Urban heat-island effects on nighttime dispersion characteristics would not be expected in this area.
Terrain	AERMAP, 1-arc-second NED	The current version of AERMAP as of this date (v. 11103). If a newer version of AERMAP becomes available before final modeling analyses have been completed for this project, REC will use the most recently-released version. Terrain data with a minimum resolution of about 30 meters (1-arc-second) will be downloaded from the National Elevation Database (NED).
Datum	NAD83/WGS84	Locations of the ambient air boundary, structures, emission points, and receptors will be described in UTM coordinates (in meters) using datum NAD83/WGS84.
Modeling Domain	BEEST Domain Calculator	The modeling domain will be large enough so that the AERMOD receptor network will be both sufficiently detailed and extensive enough so as to fully represent the immediate surrounding terrain and the entire domain being modeled. The domain determination option available in Providence/Oris' BEEST graphical user interface for AERMOD will be used to facilitate this determination.
Building Downwash	BPIP-PRM	The current version (v. 04274) of the non-regulatory Building Profile Input Program for PRIME (BPIP-PRM) will be used to address building downwash.
Receptor Grid		As a starting point, the following receptor spacing is proposed: Fence line: 25-m spacing Fence line to 200 m: 50-m grid 200 m to 500 m: 100-m grid 500 m to 2,000 m (2 km): 250-m grid 2 km to 5 km: 500-m grid 5 km to 10 km: 1,000-m grid Additional receptors may be added to ensure that the maximum ambient impacts have been adequately resolved.

Figure 3. LAND USE WITHIN 3 KM OF SORRENTO'S NAMPA CHEESE PLANT

6. For full-impact analyses, REC proposes to use background concentrations taken from the Northwest Airquest Consortium's website,[4] based on latitude/longitude coordinates for the approximate center of the Sorrento Cheese Plant: 43.606710° N, 116.491747° W. Although the resulting concentrations shown in Table 2 are based on monitoring data collected during the three-year period from 2009 through 2011, REC believes these are the best representative data available at this time for this location. REC also believes that these values adequately represent contributions from Amalgamated Sugar's Nampa plant (TASCO) and the relatively small contributions from the Materne and Plexus plants to the west.

Table 2. PROPOSED BACKGROUND CONCENTRATIONS

Parameter and Unit	NW AirQuest Results	MW	µg/m³
Lat_or_UTMN	43.607		
Lon_or_UTME	-116.492		
UTM_zone			
In_Washington_Oregon_or_Idaho	YES		
PM2.5_24hr_ugm3	25		
PM2.5_annual_ugm3	9.6		
O3_daily_8hr_max_ppb	71		
O3_for_PVMRM_ppb	59		
NO2_1hr_ppb	43	46	80.9
NO2_annual_ppb	5.8	46	10.9

[4] Accessed January 21, 2016 at http://lar.wsu.edu/nw-airquest/lookup.html

Table 2. PROPOSED BACKGROUND CONCENTRATIONS			
Parameter and Unit	NW AirQuest Results	MW	µg/m³
SO2_1hr_ppb	6.8	64	17.8
SO2_3hr_ppb	11	64	28.8
SO2_24hr_ppb	4.7	64	12.3
SO2_annual_ppb	1.4	64	3.66
CO_1hr_ppb	1447	28	1657
CO_8hr_ppb	870	28	996
PM10_24hr_ugm3	96		
PM10_no_extremes_24hr_ugm3	74		
	µg/m³ = (MW x ppb)/		24.45

REC will provide a modeling report that complies with Section 6.12 of DEQ's September 2013 Modeling Guideline. Modeling assumptions will be clearly stated, sample calculations will be included, and justification for release parameters will be provided. The facility layout, configuration of structures, and release point configurations will be verified in the field by Sorrento where possible.

I look forward to working with you. If you have any questions, please do not hesitate to contact me at 208.473.0183 or by email at cheryl@robinsonenvironmental.us.

Best Regards,

Cheryl A. Robinson

Cheryl A. Robinson, P.E.
REC, Managing Member

ec: Kevin Schilling, NSR Modeling Coordinator, Kevin.Schilling@deq.idaho.gov
Wendy R. York, CSP, Safety & Environmental Manager, Sorrento Lactalis, Inc., wendy.york@lactalis.us
File

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 NORTH HILTON, BOISE, ID 83706 • (208) 373-0502

C. L. "BUTCH" OTTER, GOVERNOR
JOHN TIPPETS, DIRECTOR

February 16, 2016

Cheryl Robinson, P.E.
Robinson Environmental Consulting, LLC

RE: Modeling Protocol for the Sorrento Lactalis, Inc. Facility near Nampa, Idaho

Cheryl:

DEQ received your initial dispersion modeling protocol submitted to me via email on January 26, 2016. The modeling protocol was submitted on behalf of Sorrento Lactalis, Inc. (Sorrento). The modeling protocol proposes methods and data for use in the ambient impact analyses of a Permit to Construct application for proposed modifications to their Cheese Plant near Nampa, Idaho.

The modeling protocol has been reviewed and DEQ has the following comments:

- **Comment 1: Project Scope**. The submitted application should thoroughly discuss the scope of the project, specifically addressing what is required by the consent order and how the submitted analyses meet that requirement. This will dictate how DEQ will review project, whether it is handled as a modification were only the emissions increase is evaluated or whether a rework of the previous permitting analyses is required. If the applicant elects to simply model facility-wide emissions to evaluate compliance with all NAAQS, then a detailed description of how the modeling approach satisfies the consent order may not be necessary.

- **Comment 2: Approach for Heaters**. The approach you outline for the heaters seems reasonable and conservative as an estimation of potential to emit for the source. However, the DEQ permit writer reviewing the application will be responsible for the review and approval of calculations of potential to emit.

- **Comment 3: Fire Pump Emissions**. The protocol correctly states that the fire pump can be excluded from modeling for 1-hour NO_2. For 24-hour standards, divide the 30 minutes of emissions evenly over the potential operational period (daytime hours in this case). Whether this operational condition is translated to a permit condition will be the decision of the permit writer. For annual emissions, I recommend using 500 hours. However, if showing compliance is difficult, DEQ would consider an argument that a shorter period represents potential to emit for the source.

- **Comment 4: NOx Chemistry**. Please consider that project-specific approval for Tier 3 methods (OLM or PVMRM) and Tier 2 ARM2 is needed from DEQ. To obtain approval, the applicant/consultant must provide justification for the specific method proposed as described in

available EPA guidance. ARM2 should be a reasonably easy justification if the default minimum NO_2/NOx ratio of 0.5 is used and the maximum NO_2/NOx ratio of 0.9 is used.

- **Comment 5: Stack Parameters for Capped and Horizontal Releases**. Use of the more refined and less conservative BETA option within AERMOD may be acceptable for capped stacks and horizontal releases. Since these are non-default options, specific DEQ approval is required for their use. This can be handled in a separate request to DEQ that identifies and describes the sources and provides justification for using the BETA option.

- **Comment 6: Meteorological Data**: DEQ strives to use the most representative meteorological data available. DEQ concurs that Boise meteorological data are reasonably representative for the application site. These data have recently been reprocessed and should have been provided to you at an earlier date.

- **Comment 7: Background Concentrations**: DEQ concurs that use of the NWAIRQUEST 2009-2011 design values of criteria pollutants lookup tool is appropriate for the site. These values were generated from regional-scale airshed modeling, with modeled results adjusted by monitored concentrations. However, there are more-recent monitoring data available and DEQ has determined it is appropriate to adjust NWAIRQUEST values for PM_{10} and $PM_{2.5}$ using these monitoring data.

  The NWAIRQUEST value for 24-hour PM at the Sorrento site is 96 $\mu g/m^3$ and 74 $\mu g/m^3$ with extreme values removed. Data collected in Nampa from 2011 through 2015 indicate the following upper level values (with exceptional events excluded): 2011: 108 $\mu g/m^3$, 68 $\mu g/m^3$, 68 $\mu g/m^3$; 2012: 151 $\mu g/m^3$, 133 $\mu g/m^3$, 133 $\mu g/m^3$; 2013: 97 $\mu g/m^3$, 90 $\mu g/m^3$, 77 $\mu g/m^3$, 75 $\mu g/m^3$; 2014: 62 $\mu g/m^3$, 61 $\mu g/m^3$, 59 $\mu g/m^3$, 58 $\mu g/m^3$; 2015: 81 $\mu g/m^3$, 68 $\mu g/m^3$, 68 $\mu g/m^3$, 64 $\mu g/m^3$. The PM_{10} design value is 90 $\mu g/m^3$, as determined by the 6th high value. The NWAIRQUEST value at the monitoring site is 77 $\mu g/m^3$. The adjusted background for the site is then obtained by multiplying the NWAIRQUEST value for the site by the ratio of the design value for the recent monitoring data to the NWAIRQUEST value given for the monitoring site:

$$\frac{74\ \mu g/m^3 \text{ NWAIRQUEST at site} \mid 90\ \mu g/m^3 \text{ monitored value}}{77\ \mu g/m^3 \text{ NWAIRQUEST at monitor}} = 86.5\ \mu g/m^3$$

  The NWAIRQUEST value for 24-hour $PM_{2.5}$ at the Sorrento site is 25 $\mu g/m^3$. Data collected in Nampa from 2011 through 2015 indicate the following design values for each year: 2011 = 23 $\mu g/m^3$; 2012 = 20 $\mu g/m^3$; 2013 = 50 $\mu g/m^3$; 2014 = 27 $\mu g/m^3$; 2015 = 26 $\mu g/m^3$. The 5-year average design value is 29.2 $\mu g/m^3$. The adjusted background for the site is then obtained by multiplying the NWAIRQUEST value for the site by the ratio of the design value for the recent monitoring data to the NWAIRQUEST value given for the monitoring site:

$$\frac{25\ \mu g/m^3 \text{ NWAIRQUEST at site} \mid 29.2\ \mu g/m^3 \text{ monitored value}}{24\ \mu g/m^3 \text{ NWAIRQUEST at monitor}} = 30.4\ \mu g/m^3$$

  The NWAIRQUEST value for annual $PM_{2.5}$ at the Sorrento site is 9.6 $\mu g/m^3$. Data collected in Nampa from 2011 through 2015 indicate the following design values for each year: 2011 = 5.97 $\mu g/m^3$; 2012 = 10.57 $\mu g/m^3$; 2013 = 12.86 $\mu g/m^3$; 2014 = 8.41 $\mu g/m^3$; 2015 = 8.70 $\mu g/m^3$. The 5-year average design value is 9.30 $\mu g/m^3$. The adjusted background for the site is then obtained by

multiplying the NWAIRQUEST value for the site by the ratio of the design value for the recent monitoring data to the NWAIRQUEST value given for the monitoring site:

$$\frac{9.6\ \mu g/m^3 \text{ NWAIRQUEST at site}}{\dfrac{9.3\ \mu g/m^3 \text{ monitored value}}{9.8\ \mu g/m^3 \text{ NWAIRQUEST at monitor}}} = 9.1\ \mu g/m^3$$

DEQ modeling staff considers the submitted dispersion modeling protocol, with consideration and resolution of the additional items noted above, to be approved. It should be noted, however, that the approval of this modeling protocol is not meant to imply approval of a completed dispersion modeling analysis. Please refer to the *State of Idaho Air Quality Modeling Guideline*, which is available on the Internet at http://www.deq.state.id.us/air/permits_forms/permitting/modeling_guideline.pdf, for further guidance.

If air impact analyses are required for the proposed project, a modeling analysis report must be submitted with the application. DEQ has developed an Air Impact Modeling Analyses Report Template Form (available on the DEQ webpage) and requests that it be used to submit model results and detailed descriptions of the analyses and inputs to DEQ as part of the permit application process. DEQ modeling staff also request submission of electronic copies of all modeling input and output files (including BPIP and AERMAP input and output files) with the analysis report. If DEQ provided model-ready meteorological data files, then resubmission of these files to DEQ with the application is not required.

If you have any further questions or comments, please contact me at (208) 373-0112.

Sincerely,

Kevin Schilling

Kevin Schilling
Stationary Source Air Modeling Coordinator
Idaho Department of Environmental Quality
208 373-0112
kevin.schilling@deq.idaho.gov

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 NORTH HILTON, BOISE, ID 83706 · (208) 373-0502

C. L. "BUTCH" OTTER, GOVERNOR
JOHN TIPPETS, DIRECTOR

February 20, 2016

Cheryl Robinson, P.E.
Robinson Environmental Consulting, LLC

RE: Revision to Modeling Protocol Approval for the Sorrento Lactalis, Inc. Facility near Nampa, Idaho

Cheryl:

DEQ provided a protocol approval notice on February 16, 2016 for the Sorrento Lactalis, Inc. facility. Since then, DEQ has determined that the 2013 monitoring data should be excluded from consideration in determination of background concentrations on the basis that conditions affecting pollutant dispersion in the region can be considered extraordinarily poor and resulting monitored pollutant concentrations cannot be considered to be reasonably representative of the area.

The following are revised background concentrations, and Comment 7 below should replace Comment 7 in DEQ's issued protocol approval.

- **Comment 7: Background Concentrations**: DEQ concurs that use of the NWAIRQUEST 2009-2011 design values of criteria pollutants lookup tool is appropriate for the site. These values were generated from regional-scale airshed modeling, with modeled results adjusted by monitored concentrations. However, there are more-recent monitoring data available and DEQ has determined it is appropriate to adjust NWAIRQUEST values for PM_{10} and $PM_{2.5}$ using these monitoring data.

  The NWAIRQUEST value for 24-hour PM_{10} at the Sorrento site is 96 $\mu g/m^3$ and 74 $\mu g/m^3$ with extreme values removed. Data collected in Nampa from 2010 through 2015, with 2013 excluded, indicate the following upper level values (with exceptional events excluded): 2011: 73 $\mu g/m^3$, 66 $\mu g/m^3$, 2011: 108 $\mu g/m^3$, 68 $\mu g/m^3$, 68 $\mu g/m^3$; 2012: 151 $\mu g/m^3$, 133 $\mu g/m^3$, 133 $\mu g/m^3$; 2013: excluded as an outlier; 2014: 62 $\mu g/m^3$, 61 $\mu g/m^3$, 59 $\mu g/m^3$, 58 $\mu g/m^3$; 2015: 81 $\mu g/m^3$, 68 $\mu g/m^3$, 68 $\mu g/m^3$, 64 $\mu g/m^3$. The PM_{10} design value is 73 $\mu g/m^3$, as determined by the 6th high value. The NWAIRQUEST value at the monitoring site is 77 $\mu g/m^3$. The adjusted background for the site is then obtained by multiplying the NWAIRQUEST value for the site by the ratio of the design value for the recent monitoring data to the NWAIRQUEST value given for the monitoring site:

$$\frac{74\ \mu g/m^3\ \text{NWAIRQUEST at site}}{\dfrac{73\ \mu g/m^3\ \text{monitored value}}{77\ \mu g/m^3\ \text{NWAIRQUEST at monitor}}} = 70.2\ \mu g/m^3$$

The NWAIRQUEST value for 24-hour $PM_{2.5}$ at the Sorrento site is 25 $\mu g/m^3$. Data collected in Nampa from 2010 through 2015 indicate the following design values for each year: 2010 = 15 $\mu g/m^3$, 2011 = 23 $\mu g/m^3$; 2012 = 20 $\mu g/m^3$; 2013 = none; 2014 = 27 $\mu g/m^3$; 2015 = 26 $\mu g/m^3$. The 5-year average design value is 22.2 $\mu g/m^3$. The adjusted background for the site is then obtained by multiplying the NWAIRQUEST value for the site by the ratio of the design value for the recent monitoring data to the NWAIRQUEST value given for the monitoring site:

$$\frac{25\ \mu g/m^3 \text{ NWAIRQUEST at site}}{\left|\begin{array}{l}22.2\ \mu g/m^3 \text{ monitored value}\\ 24\ \mu g/m^3 \text{ NWAIRQUEST at monitor}\end{array}\right.} = 23.1\ \mu g/m^3$$

The NWAIRQUEST value for annual $PM_{2.5}$ at the Sorrento site is 9.6 $\mu g/m^3$. Data collected in Nampa from 2011 through 2015 indicate the following design values for each year: 2011 = 5.97 $\mu g/m^3$; 2012 = 10.57 $\mu g/m^3$; 2013 = 12.86 $\mu g/m^3$; 2014 = 8.41 $\mu g/m^3$; 2015 = 8.70 $\mu g/m^3$. The 5-year average design value is 9.30 $\mu g/m^3$. The adjusted background for the site is then obtained by multiplying the NWAIRQUEST value for the site by the ratio of the design value for the recent monitoring data to the NWAIRQUEST value given for the monitoring site:

$$\frac{9.6\ \mu g/m^3 \text{ NWAIRQUEST at site}}{\left|\begin{array}{l}7.9\ \mu g/m^3 \text{ monitored value}\\ 9.8\ \mu g/m^3 \text{ NWAIRQUEST at monitor}\end{array}\right.} = 7.8\ \mu g/m^3$$

If you have any further questions or comments, please contact me at (208) 373-0112.

Sincerely,

Kevin Schilling

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Stationary Source Air Modeling Coordinator
Idaho Department of Environmental Quality
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APPENDIX 3. EMISSIONS INVENTORY

1. References for Emissions
2. Input & Common Factors
3. Facility Classification – Total HAPs, Mercury, and GHGs
4. Facility Classification – Total Criteria Pollutants (T/yr) and (lb/hr)
5. Total TAPs Emissions (lb/hr)

1. REFERENCES FOR EMISSIONS

1 Heat Content of Gas Delivered to Consumers (Btu/scf)

State	2009	2010	2011	2012	2013	2014	Average
Alaska	1,005	1,005	1,013	1,012	1,002	1,001	**1,006**
California	1,027	1,023	1,020	1,022	1,028	1,030	**1,025**
Idaho	1,022	1,021	1,017	1,015	1,015	1,017	**1,018**
Montana	1,011	1,012	1,016	1,025	1,028	1,025	**1,020**
Oregon	1,024	1,015	1,021	1,022	1,015	1,029	**1,021**
Utah	1,044	1,045	1,038	1,043	1,047	1,040	**1,043**
Washingto	1,030	1,032	1,029	1,028	1,030	1,044	**1,032**
Wyoming	1,031	1,031	1,034	1,034	1,041	1,040	**1,035**

U.S. Energy Information Administration (EIA), Heat Content of Natural Gas Consumed
http://www.eia.gov/dnav/ng/ng_cons_heat_a_epg0_vgth_btucf_a.htm

2 Natural Gas Combustion in Space Heaters

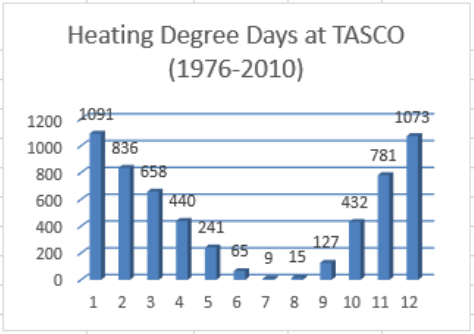
Presume that heaters operate 24 hours per day during the month with the greatest number of Heating Degree Days (HDD)
Reduce daily operating hours for other months based on a ratio of HDDs
Heating units cycle on and off rather than running continuously. Presume natural gas combustion for **45** min/hour.

http://www.wrcc.dri.edu/htmlfiles/id/id.hdd.html

IDAHO **MONTHLY AVERAGE HEATING DEGREE DAYS (BASE 65 DEG F)**

NAMPA SUGAR FACTORY | 1976-2010 | 1091 836 658 440 241 65 9 15 127 432 781 1073 5769

Month	HDD	Percent	Hr/day	NG Comb. (hr/day)	Days/Mo.	NG Comb. (hr/mo)
Jan	1091	100.0%	**24**	18	31	558
Feb	836	76.6%	18.4	13.8	28	386
Mar	658	60.3%	14.5	10.9	31	337
Apr	440	40.3%	9.68	7.26	30	218
May	241	22.1%	5.30	3.98	31	123
Jun	65	5.96%	1.43	1.07	30	32.2
Jul	9	0.825%	0.198	0.148	31	4.60
Aug	15	1.37%	0.330	0.247	31	7.67
Sep	127	11.6%	2.79	2.10	30	62.9
Oct	432	39.6%	9.50	7.13	31	221
Nov	781	71.6%	17.2	12.9	30	387
Dec	1073	98.4%	23.6	17.7	31	549



3 Greenhouse Gas Global Warming Potential (GWP)

GHG	GWP (100-yr)	
	4th	**5th**
CO2 (carbon dioxide)	1	**1**
N2O (nitrous oxide)	298	**265**
CH4 (methane)	25	**28**

4th = IPCC Fourth Assessment Report, 2007 (AR4), Section 2.10.2, Direct Global Warming Potentials,
accessed July 7, 2015 at https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html
5th = IPCC Fifth Assessment Report, 2014 (AR5),
adapted GWP values taken from http://ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values.pdf

2. INPUT & COMMON FACTORS

				Natural Gas Heating Value	1018	MMBtu/MMscf	*This was set to 1000 in 2009*					
Addressed in PTC	**Emissions**	**Stack ID**	**Unit ID**	**Description**	**Mfr/Make**	**Model**	**Mfr/ Install Year**	**Input Heat Capacity (Btu/hr)**	**Input Heat Capacity (MMBtu/ hr)**	**Max Hrly Fuel Use (MMscf/ hr)**	**Operating Hrs/Day**	**Operating Hr/Yr**
7/20/2001	PM	P-01	WHDRYBH	Meyers-Sterner Whey Dryer w/ Cyclone/BH	Meyers-Sterner	**Production rate = 1496 lb/day**	2001		**6.0**	0.0059	24	8760
8/28/2009	PM	P-04	WHTETRSC	TetraPak Whey Dryer Scrubber	Fisher Klosterman, Inc.	MS-1200 Scrubber, SS316 **16,667 lb/hr**	4/1/2009					
8/28/2009	PM	P-05	WHTETRBH	TetraPak Whey Dryer Baghouse	TetraPak	13-243-14; **16,667 lb/hr**	4/1/2009					
2016	PM	P-40	CH-DONBH	Cheese Plant Donaldson Dust Collection Unit	Donaldson							

Addressed in PTC	**Emissions**	**Stack ID**	**Unit ID**	**Description**	**Mfr/Make**	**Model**	**Mfr/ Install Year**	**Input Heat Capacity (Btu/hr)**	**Input Heat Capacity (MMBtu/**	**Max Hrly Fuel Use (MMscf/ hr)**	**Operating Hrs/Day**	**Operating Hr/Yr**
8/28/2009	NG Combustion Products	P-02	WHDRY01	TetraPak Whey Dryer - Burner 1	Eclipse, Inc.	Winnox WX1000	4/1/2009		12.5	0.0123	24	8760
8/28/2009	"	P-03	WHDRY02	TetraPak Whey Dryer - Burner 2	Eclipse, Inc.	Winnox WX1000	4/1/2009		12.5	0.0123	24	8760
8/28/2009	NG Combustion Products	P-06	BLR4	Boiler 4, Low NOx (FGR)	Cleaver Brooks 1200 HP	CBL-700-1200-150 150SC	4/1/2009		49	0.0481	24	8760
7/20/2001	"	P-07	BLR2	Boiler 2, new 800 burner & downrated in 2014	Superior 800 HP	4-05-3005	2001		24.8	0.0244	24	8760
7/20/2001	"	P-08	BLR1	Boiler 1, Low NOx (FGR)	Cleaver Brooks 600 HP	CBLE 700-600	2001		24.49	0.0241	24	8760
8/28/2009	"	P-09	BLR3	Boiler 3, exempt from PTC action when installed in 2007	Hurst 800 HP	54000-150-26	2007		33.6	0.0330	24	8760
2016	"	P-35	CH-AC01	Cheese Plant, Engineering	Carrier	48SS-03006031AA	2000	**50,400**	0.0504	4.95E-05	**24**	**8760**
2016	"	P-10	CH-AC02	Cheese Plant, Main Conf. Rm	Carrier	48TME004-A-501	2007	74,000	0.074	7.27E-05	24	8760
2016	"	P-11	CH-AC03	Cheese Plant, Main Breakroom	Carrier	48TM3008-A-501	2004	180,000	0.180	1.77E-04	24	8760
2016	"	P-12	CH-AC04	Cheese Plant, Office, East side	Carrier	448TFE007-511	2004	115,000	0.115	1.13E-04	24	8760
2016	"	P-13	CH-AC05	Cheese Plant, Office, West side	Carrier	48TJE007---521--	2004	115,000	0.115	1.13E-04	24	8760
2016	"	P-38	CH-AC06					0	0.000	0.00E+00	24	8760
2016	"	P-14	CH-AC15	Cheese Plant, Micro Lab	Carrier	48HJE006-351	2004	115,000	0.115	1.13E-04	24	8760
2016	"	P-15	CH-AC16	Cheese Plant, Intake Breakroom	Carrier	48TJE005-611GA	2000	115,000	0.115	1.13E-04	24	8760
2016	"	P-16	CH-AC17	Cheese Plant, Main Lab	Carrier	48TFD009-611	2008	125,000	0.125	1.23E-04	24	8760
2016	"	P-17	CH-AC24	Cheese Plant, Warehouse	Carrier	48TCEA04A2A5A0A0A0	2008	115,000	0.115	1.13E-04	24	8760

2. INPUT & COMMON FACTORS, continued

Addressed in PTC	Emissions	Stack ID	Unit ID	Description	Mfr/Make	Model	Mfr/ Install Year	Input Heat Capacity (Btu/hr)	Input Heat Capacity (MMBtu/	Max Hrly Fuel Use (MMscf/ hr)	Operating Hrs/Day	Operating Hr/Yr
2016	"	CH_AHU09	CH-AHU09	Cheese Plant, Mascarpone	Reyco[1]		1999	3,000,000	3.00	2.95E-03	24	8760
2016	"	CH_AHU07	CH-AHU07	Cheese Plant, Shred	Reyco[1]		1999	3,000,000	3.00	2.95E-03	24	8760
2016	"	CH_AHU08	CH-AHU08	Cheese Plant, Mozzarella	Reyco[1]		1999	2,500,000	2.50	2.46E-03	24	8760
2016	"	P-37	CH-AC14	Cheese Plant, QA Offices	BDP	580DJV060115AAAA	2000	115,000	0.115	1.13E-04	24	8760
2016	"	P-18	WH-MA01	Whey Plant, Crystallizer room	York/Johnson Controls	DF-200-GMFH-LH-B200R10LGGAA	2010	2,500,000	2.500	2.46E-03	24	8760
2016	"	P-19	WH-MA02	Whey Plant, HTST room	York/Johnson Controls	DF-175-GMFH-LH-B175R10LGGAA	2010	2,187,000	2.187	2.15E-03	24	8760
2016	"	P-20	WH-MA03	Whey Plant, Permeate dryer burner room	York/Johnson Controls	DF-175-GMFH-LH-B175R10LGGAA	2010	2,187,000	2.187	2.15E-03	24	8760
2016		P-30	WH-MA04	Whey Plant	Greenheck	PVF350H	2010	700,000	0.700	6.88E-04	24	8760
2016	"	P-21	WH-MA06	Whey Plant, Permeate dryer cyclone room	York/Johnson Controls	DF-200-GMFH-LH-B200R10LGGAA	2010	2,500,000	2.500	2.46E-03	24	8760
2016	"	P-22	WH-MA07	Whey Plant, Dungeon room	York/Johnson Controls	DF-150-GMFH-LH-B150R10LGGAA	2010	1,875,000	1.875	1.84E-03	24	8760
2016	"	P-23	WH-AC01	Whey Plant, Packaging blower room	York/Johnson Controls	0EA700030101	2010	375,000	0.375	3.68E-04	24	8760
2016	"	P-24	WH-AC02	Whey Plant, Powder silo room	York/Johnson Controls	DF-40-GMFH-LH-B40R10LGGAA	2010	500,000	0.500	4.91E-04	24	8760
2016	"	P-25	WH-AC03	Whey Plant, Packaging bag room	York/Johnson Controls	DF-75-GMFH-LH-B75R10LGGAA	2010	937,000	0.937	9.21E-04	24	8760
2016	"	P-26	WH-AC04	Whey Plant, Packaging bulk room	York/Johnson Controls	DF-100-GMFH-LH-B100R10LGGAA	2010	1,250,000	1.250	1.23E-03	24	8760
2016	"	P-27	WH-AC09	Whey Plant, Offices	Carrier	D1NA048N090253	unknown	108,000	0.108	1.06E-04	24	8760
2016	"	P-28	WH-AC11	Whey Plant, Lab	Carrier	J06ZHN10P4AZZ50005A	2010	120,000	0.120	1.18E-04	24	8760
2016	"	P-29	WH-AC12	Whey Plant, Breakroom	Carrier	48TFD009-611	2000	125,000	0.125	1.23E-04	24	8760
2016	"	WH_AHU10	WH-AHU10	Whey Plant, Membrane room	Industrial Commercial Equipment	DMA125X	2000	2,112,000	2.112	2.07E-03	24	8760
2016	"	P-31	FM-AC01	Fresh Mozzarella Plant, 1st floor	Carrier	48TCEA07A2A5A0A0A0	2013	115,000	0.115	1.13E-04	24	8760
2016	"	P-32	FM-AC02	Fresh Mozzarella Plant, 2nd floor	Carrier	48TCEA07A2A5A0A0A0	2013	115,000	0.115	1.13E-04	24	8760
							TOTAL, NG Heaters		**27.33**			

Addressed in PTC	Emissions	Stack ID	Unit ID	Description	Mfr/Make	Model	Mfr/ Install Year	Engine Rating (bhp)	Fuel Sulfur Content (%)	Annual Flow Test (hrs)	Weekly Test (Hrs)	Operating Hr/Yr
2016	ULSD Combustion Products	P-34	FPUMP	Diesel Fire Pump	Peerless	Model # JD/RG6081H132189 (horizontal)	2001	235.9	0.05	2	0.5	500

3. FACILITY CLASSIFICATION

TOTAL HAPs and MERCURY EMISSIONS (Tons per Year)

	Meyers-Sterner Whey Dryer w/ Cyclone/BH	TetraPak Whey Dryer - Burner 1	TetraPak Whey Dryer - Burner 2	Cleaver Brooks 600 HP	Superior 800 HP	Hurst 800 HP	Cleaver Brooks 1200 HP	Natural Gas-Fired Heaters @8760	Fire Pump Engine @500 hr/yr	TOTAL
MMscf/yr	51.64	107.58	107.58	210.77	213.44	289.18	421.72	235.18		1637
MMBtu/yr									825.65	825.7
Mercury, lb/MMscf:	2.60E-04	2.60E-04	2.60E-04	2.60E-04	2.60E-04	2.60E-04	2.60E-04	2.60E-04		
Total HAPs, lb/MMscf:	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93		
Total HAPs, lb/MMBtu:									3.87E-03	
Mercury, lbs/yr	1.34E-02	2.80E-02	2.80E-02	5.48E-02	5.55E-02	7.52E-02	1.10E-01	6.11E-02		**0.43**
HAPs, lbs/yr	99.44	207.16	207.16	405.86	411.00	556.84	812.06	452.85	3.20	**3156**
HAPs, Tons/yr	**4.97E-02**	**1.04E-01**	**1.04E-01**	**2.03E-01**	**2.06E-01**	**2.78E-01**	**4.06E-01**	**2.26E-01**	**1.60E-03**	**1.58**

NOT a major facility:	*Does not emit or have the potential to emit >*	*10*	*TPY*	*of any HAP*
	Does not emit or have the potential to emit >	*25*	*TPY*	*of all HAPs, combined*
	Does not emit or have the potential to emit >	*25*	*lbs/yr*	*of Mercury*

TOTAL GHG EMISSIONS (Tons per Year)

	Meyers-Sterner Whey Dryer w/ Cyclone/BH	TetraPak Whey Dryer - Burner 1	TetraPak Whey Dryer - Burner 2	Cleaver Brooks 600 HP	Superior 800 HP	Hurst 800 HP	Cleaver Brooks 1200 HP	Natural Gas-Fired Heaters @8760	Fire Pump Engine @500 hr/yr	TOTAL
CO2, Tons/yr	3,098	6,455	6,455	12,646	12,806	17,351	25,303	14,111	67.70	**98,293**
CO2e, Tons/yr	3,115	6,467	6,467	12,715	12,876	17,444	25,440	14,187	67.70	**98,779**

NOT a major facility:	*Does not emit or have the potential to emit >*	*100*	*TPY*	*of CO2*
	Does not emit or have the potential to emit >	*100*	*TPY*	*of CO2e*

4. FACILITY CLASSIFICATION

TOTAL CRITERIA POLLUTANT EMISSIONS (Tons per Year) — **@ 2885** @500 hr/yr

Pollutant	Meyers-Sterner Whey Dryer w/ Cyclone/BH	TetraPak Whey Dryer - Burner 1	TetraPak Whey Dryer - Burner 2	Cleaver Brooks 600 HP	Superior 800 HP	Hurst 800 HP	Cleaver Brooks 1200 HP	Natural Gas-Fired Heaters	Fire Pump Engine	TetraPak Wet Scrubber	TetraPak BH	S&S Donaldson BH	TOTAL
PM	7.3	0.41	0.41	0.80	0.81	1.10	1.60	0.29	0.13	24.79	14.54	0.335	**52.49**
PM10	7.3	0.41	0.41	0.80	0.81	1.10	1.60	0.29	0.13	24.79	14.54	0.335	**52.49**
PM2.5	2.6	0.41	0.41	0.80	0.81	1.10	1.60	0.29	0.13	24.79	14.54	0.335	**47.85**
SO2	0.02	0.03	0.03	0.06	0.06	0.09	0.13	0.02	0.02				**0.47**
NOx	1.20	2.19	2.19	5.27	10.67	14.46	10.54	3.87	1.82				**52.21**
CO	9.81	17.05	17.05	8.85	8.96	12.15	17.71	3.25	0.39				**95.23**
VOCs	0.14	0.30	0.30	0.58	0.59	0.80	1.16	0.21	0.15				**4.22**
Lead	1.29E-05	2.69E-05	2.69E-05	5.27E-05	5.34E-05	7.23E-05	1.05E-04	1.94E-05					3.70E-04
											Lead, lb/month =		**0.06**

"INCREASE" IN REGULATED POLLUTANTS (Tons per Year) — @8760 — **@ 2885** @500 hr/yr — @8760

Change:	Meyers-Sterner Whey Dryer w/ Cyclone/BH	TetraPak Whey Dryer - Burner 1	TetraPak Whey Dryer - Burner 2	Cleaver Brooks 600 HP	Superior 800 HP	Hurst 800 HP	Cleaver Brooks 1200 HP	Natural Gas-Fired Heaters	Fire Pump Engine	TetraPak Wet Scrubber	TetraPak BH	S&S Donaldson BH	TOTAL
				4.4 MMBtu/hr	4.7 MMBtu/hr								
PM				0.30				0.29	0.13			0.335	**1.05**
PM10				0.30				0.29	0.13			0.335	**1.05**
PM2.5				0.30				0.29	0.13			0.335	**1.05**
SO2				0.023				0.023	0.021				**0.07**
NOx				3.92				3.87	1.82				**9.61**
CO				3.29				3.25	0.39				**6.94**
VOCs				0.22				0.21	0.15				**0.58**
Lead				1.96E-05				1.94E-05					**3.89E-05**
HAPs				7.54E-02				7.25E-02					**0.15**
													20.50

5.TOTAL TAPs EMISSIONS (lb/hr)

	Meyers-Sterner Whey Dryer w/ Cyclone/BH	TetraPak Whey Dryer - Burner 1	TetraPak Whey Dryer - Burner 2	Cleaver Brooks 600 HP	Superior 800 HP	Hurst 800 HP	Cleaver Brooks 1200 HP	Natural Gas-Fired Heaters	Fire Pump Engine	TOTAL	EL (lb/hr)	Exceeds EL/ Modeling Required ?
Subject to NSPS or NESHAP?	No	No	No	Yes: Dc	Yes: Dc	Yes: Dc	Yes: Dc	No	Yes: ZZZZ			
PAH HAPs												
2-Methylnaphthalene	1.41E-07	2.95E-07	2.95E-07	5.77E-07	5.85E-07	7.92E-07	1.16E-06	6.47E-07		1.38E-06	9.10E-05	
3-Methylchloranthrene	1.06E-08	2.21E-08	2.21E-08	4.33E-08	4.39E-08	5.94E-08	8.67E-08	4.85E-08		1.03E-07	2.50E-06	No
Acenaphthene	1.06E-08	2.21E-08	2.21E-08	4.33E-08	4.39E-08	5.94E-08	8.67E-08	4.85E-08	1.34E-07	1.03E-07	9.10E-05	No
Acenaphthylene	1.06E-08	2.21E-08	2.21E-08	4.33E-08	4.39E-08	5.94E-08	8.67E-08	4.85E-08	4.77E-07	1.03E-07	9.10E-05	No
Anthracene	1.41E-08	2.95E-08	2.95E-08	5.77E-08	5.85E-08	7.92E-08	1.16E-07	6.47E-08	1.76E-07	1.38E-07	9.10E-05	No
Benzo(a)anthracene	1.06E-08	2.21E-08	2.21E-08	4.33E-08	4.39E-08	5.94E-08	8.67E-08	4.85E-08	1.58E-07	1.03E-07	9.10E-05	See POM
Benzo(a)pyrene	7.07E-09	1.47E-08	1.47E-08	2.89E-08	2.92E-08	3.96E-08	5.78E-08	3.24E-08	1.77E-08	6.89E-08	2.00E-06	See POM
Benzo(b)fluoranthene	1.06E-08	2.21E-08	2.21E-08	4.33E-08	4.39E-08	5.94E-08	8.67E-08	4.85E-08	9.34E-09	1.03E-07		See POM
Benzo(g,h,i)perylene	7.07E-09	1.47E-08	1.47E-08	2.89E-08	2.92E-08	3.96E-08	5.78E-08	3.24E-08	4.61E-08	6.89E-08	9.10E-05	No
Benzo(k)fluoranthene	1.06E-08	2.21E-08	2.21E-08	4.33E-08	4.39E-08	5.94E-08	8.67E-08	4.85E-08	1.46E-08	1.03E-07		See POM
Chrysene	1.06E-08	2.21E-08	2.21E-08	4.33E-08	4.39E-08	5.94E-08	8.67E-08	4.85E-08	3.33E-08	1.03E-07		See POM
Dibenzo(a,h)anthracene	7.07E-09	1.47E-08	1.47E-08	2.89E-08	2.92E-08	3.96E-08	5.78E-08	3.24E-08	5.49E-08	6.89E-08		See POM
Dichlorobenzene	7.07E-06	1.47E-05	1.47E-05	2.89E-05	2.92E-05	3.96E-05	5.78E-05	3.24E-05		6.89E-05	9.10E-05	No
Fluoranthene	1.77E-08	3.68E-08	3.68E-08	7.22E-08	7.31E-08	9.90E-08	1.44E-07	8.09E-08	7.17E-07	1.72E-07	9.10E-05	No
Fluorene	1.65E-08	3.44E-08	3.44E-08	6.74E-08	6.82E-08	9.24E-08	1.35E-07	7.55E-08	2.75E-06	1.61E-07	9.10E-05	No
Indeno(1,2,3-cd)pyrene	1.06E-08	2.21E-08	2.21E-08	4.33E-08	4.39E-08	5.94E-08	8.67E-08	4.85E-08	3.53E-08	1.03E-07		See POM
Naphthalene	3.60E-06	7.49E-06	7.49E-06	1.47E-05	1.49E-05	2.01E-05	2.94E-05	1.64E-05	7.99E-06	3.50E-05	3.33	No
Naphthalene (as carcinogen)	3.60E-06	7.49E-06	7.49E-06	1.47E-05	1.49E-05	2.01E-05	2.94E-05	1.64E-05	7.99E-06	3.50E-05	9.10E-05	No
Phenanathrene	1.00E-07	2.09E-07	2.09E-07	4.09E-07	4.14E-07	5.61E-07	8.18E-07	4.58E-07	2.77E-06	9.76E-07	9.10E-05	No
Pyrene	2.95E-08	6.14E-08	6.14E-08	1.20E-07	1.22E-07	1.65E-07	2.41E-07	1.35E-07	4.51E-07	2.87E-07	9.10E-05	No
Polycyclic Organic Matter (POM) 7-PAH Group	6.72E-08	1.40E-07	1.40E-07	2.74E-07	2.78E-07	3.76E-07	5.49E-07	3.07E-07	3.24E-07	6.55E-07	2.00E-06	No
Non-PAH HAPs												
Acetaldehyde									7.23E-05	0.00E+00	3.00E-03	No
Acrolein									3.18E-06	0.00E+00	0.017	No
Benzene	1.24E-05	2.58E-05	2.58E-05	5.05E-05	5.12E-05	6.93E-05	1.01E-04	5.66E-05	8.79E-05	1.21E-04	8.00E-04	No
1,3-Butadiene									3.69E-06	0.00E+00	2.40E-05	No
Formaldehyde	4.42E-04	9.21E-04	9.21E-04	1.80E-03	1.83E-03	2.48E-03	3.61E-03	2.02E-03	1.11E-04	4.31E-03	5.10E-04	**YES**
Hexane	1.06E-02	2.21E-02	2.21E-02	4.33E-02	4.39E-02	5.94E-02	8.67E-02	4.85E-02		1.03E-01	12	No
Toluene	2.00E-05	4.18E-05	4.18E-05	8.18E-05	8.28E-05	1.12E-04	1.64E-04	9.17E-05	1.41E-05	1.95E-04	25	No
Xylene									9.80E-06	0.00E+00	29	No
Non-HAP Organic Compounds												
7,12-Dimethylbenz(a)anthracene	9.43E-08	1.96E-07	1.96E-07	3.85E-07	3.90E-07	5.28E-07	7.70E-07	4.31E-07		9.19E-07		
Butane	1.24E-02	2.58E-02	2.58E-02	5.05E-02	5.12E-02	6.93E-02	1.01E-01	5.66E-02		1.08E-01		
Ethane	1.83E-02	3.81E-02	3.81E-02	7.46E-02	7.55E-02	1.02E-01	1.49E-01	8.36E-02		1.60E-01		
Pentane	1.53E-02	3.19E-02	3.19E-02	6.26E-02	6.34E-02	8.58E-02	1.25E-01	7.01E-02		1.34E-01	118	No
Propane	9.43E-03	1.96E-02	1.96E-02	3.85E-02	3.90E-02	5.28E-02	7.70E-02	4.31E-02		8.24E-02		
Metals (HAPs)										0.00E+00		
Arsenic	1.18E-06	2.46E-06	2.46E-06	4.81E-06	4.87E-06	6.60E-06	9.63E-06	5.39E-06		1.03E-05	1.50E-06	**YES**
Barium	2.59E-05	5.40E-05	5.40E-05	1.06E-04	1.07E-04	1.45E-04	2.12E-04	1.19E-04		2.27E-04	0.033	No
Beryllium	7.07E-08	1.47E-07	1.47E-07	2.89E-07	2.92E-07	3.96E-07	5.78E-07	3.24E-07		6.18E-07	2.80E-05	No
Cadmium	6.48E-06	1.35E-05	1.35E-05	2.65E-05	2.68E-05	3.63E-05	5.30E-05	2.97E-05		5.67E-05	3.70E-06	**YES**
Chromium	8.25E-06	1.72E-05	1.72E-05	3.37E-05	3.41E-05	4.62E-05	6.74E-05	3.78E-05		7.21E-05	0.033	No
Cobalt	4.95E-07	1.03E-06	1.03E-06	2.02E-06	2.05E-06	2.77E-06	4.04E-06	2.27E-06		4.33E-06	0.0033	No
Copper	5.01E-06	1.04E-05	1.04E-05	2.05E-05	2.07E-05	2.81E-05	4.09E-05	2.29E-05		4.38E-05	0.013	No
Manganese	2.24E-06	4.67E-06	4.67E-06	9.14E-06	9.26E-06	1.25E-05	1.83E-05	1.02E-05		1.96E-05	0.067	No
Mercury	1.53E-06	3.19E-06	3.19E-06	6.26E-06	6.34E-06	8.58E-06	1.25E-05	7.01E-06		1.34E-05	0.003	No
Molybdenum	6.48E-06	1.35E-05	1.35E-05	2.65E-05	2.68E-05	3.63E-05	5.30E-05	2.97E-05		5.67E-05	0.333	No
Nickel	1.24E-05	2.58E-05	2.58E-05	5.05E-05	5.12E-05	6.93E-05	1.01E-04	5.66E-05		1.08E-04	2.70E-05	**YES**
Selenium	1.41E-07	2.95E-07	2.95E-07	5.77E-07	5.85E-07	7.92E-07	1.16E-06	6.47E-07		1.24E-06	0.013	No
Vanadium	1.36E-05	2.82E-05	2.82E-05	5.53E-05	5.60E-05	7.59E-05	1.11E-04	6.20E-05		1.19E-04	0.003	No
Zinc	1.71E-04	3.56E-04	3.56E-04	6.98E-04	7.07E-04	9.57E-04	1.40E-03	7.82E-04		1.49E-03	0.667	No

NOTE: TAPs lb/hr emissions are 24-hour averages unless shown in bold. Bold emissions are annual averages for carcinogens.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Units - Industrial Boiler Information **Form EU5**
Revision 5
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3 Facility ID No:
SORRENTO LACTALIS	SORRENTO LACTALIS	027-00071
4. Brief Project Description:	MODIFY PERMIT PER CONSENT ORDERS E-2014.0007 & E-2015.0003	

EXEMPTION

Please see IDAPA 58.01.01.222 for a list of industrial boilers that are exempt from Permit to Construct requirements.

BOILER (EMISSION UNIT) DESCRIPTION AND SPECIFICATIONS

5. Type of Request: ☐ New Unit ☐ Unpermitted Existing Unit ☒ Modification to a Unit with Permit #:P-2009.0023

6. Use of Boiler: ☒ % Used For Process ☐ % Used For Space Heat ☐ % Used For Generating Electricity ☐ Other: 100%

7. Boiler ID Number: 4	8. Rated Capacity: ☒ 48.99 Million British Thermal Units Per Hour (MMBtu/hr) ☐ 1,000 Pounds Steam Per Hour (1,000 lb steam/hr)	
9. Construction Date: 2009	10. Manufacturer: CLEAVER BROOKS	11. Model: CBL-700-1200-150
12. Date of Modification (if applicable):	13. Serial Number (if available):	14. Control Device (if any): **Note: Attach applicable control equipment form(s)**

FUEL DESCRIPTION AND SPECIFICATIONS

15. Fuel Type	☐ Diesel Fuel (#) (gal/hr)	☒ Natural Gas (cf/hr)	☐ Coal (unit: /hr)	☐ Other Fuels (unit: /hr)
16. Full Load Consumption Rate		48.99 MMBTU/HR		
17. Actual Consumption Rate		48.99 MMBTU/HR		
18. Fuel Heat Content (Btu/unit, LHV)		1018 BTU/SCF		
19. Sulfur Content wt%				
20. Ash Content wt%		N/A		

STEAM DESCRIPTION AND SPECIFICATIONS

21. Steam Heat Content	NA	NA		
22. Steam Temperature (^{o}F)	N/A	N/A		
23. Steam Pressure (psi)	N/A	N/A		
24 Steam Type	N/A	N/A	☐ Saturated ☐ Superheated	☐ Saturated ☐ Superheated

OPERATING LIMITS & SCHEDULE

25. Imposed Operating Limits (hours/year, or gallons fuel/year, etc.):	N/A	
26. Operating Schedule (hours/day, months/year, etc.):	24 HR/DAY, 365 DAYS/YR	
27. NSPS Applicability: ☐ Yes ☐ No	If Yes, which subpart:	

Instructions for Form EU5

Please refer to IDAPA 58.01.01.222 for a list of industrial boilers which are exempt from the Permit to Construct requirements.

1 – 4. Provide the same company name, facility name (if different), and facility ID number as on Form CS. This is useful in case any pages of the application are separated.

Boiler Description and Specification:

5. Indicate whether the unit is new, existing but unpermitted, or being modified.

6. Indicate the percentage of the steam used for process, space heat, generating electricity, or others.

7. Provide the boiler identification (ID) number. Each boiler in the application must have its own number. If boilers included in this permit application are not identical in make and model, fill out a separate EU5 form for each boiler. If the boilers are identical, attach a separate sheet labeled EU5A listing them by ID number and date of construction or modification. The boiler ID numbers should match the boiler ID numbers used on other construction permit applications and within this application. It can be any number. However, if you submitted an operating permit application, the numbers used for identification purposes in this application should be consistent with the ID numbers used in your operating permit application.

8. The boiler's rated capacity should be read from the boiler's nameplate or from the manufacturer's literature.

9. The date of construction of the emission unit is the date, month, and year in which construction or modification begins as defined in EU0 Form Instruction item 7.

10. Provide the name of the manufacturer of the boiler.

11. Provide the model number of the boiler. This number should be available from the nameplate of the boiler.

12. If the boiler has been or will be modified, give the date, month and year of the most recent or future modification.

13. Provide the manufacturer's serial number for this boiler, if available.

14. Provide the control device name and number if a pollution control device is attached to this emission unit. The name and number of the control device should be consistent with control equipment forms throughout the application. **Note: a separate control equipment form(s) should be attached for all applicable control equipment serving this unit.**

Fuel Description and Specifications:

15. Indicate the fuel type used by the boiler. If diesel fuel is used, you need to indicate the ranking number. If the boiler is a dual-fuel engine, please check all appropriate fuel type boxes in this row.

16. The full-load consumption rate is the fuel consumption rate at the boiler's rated capacity.

17. The actual consumption rate is the fuel consumption rate (usually daily average) under typical operational conditions.

18. Provide fuel net or lower heating value (LHV).

19. Provide the weight percentage of the sulfur content in the fuel.

20. Provide the weight percentage of the ash content in the fuel. For gaseous fuel, this information is not required.

Steam Description and Specifications:

21. Provide the steam heat content. This information is not required for gaseous or liquid fuel.

22. Provide the steam temperature in ^{o}F. This information is not required for gaseous or liquid fuel.

23. Provide the steam pressure in pound per square inch (psi). This information is not required for gaseous or liquid fuel.

24. Provide the steam type (i.e. saturated or superheated). This information is not required for gaseous or liquid fuel.

Operation Limits:

25. If any, indicate the operating limits you imposed on this boiler in the units of operating hours per year, or gallons fuel per hour, per year, etc.

26. Indicate your operation schedule for the projected maximum operation of the engine.

27. Provide NSPS (new source performance standards) applicability determination and, if applicable, subpart reference.

DEQ AIR QUALITY PROGRAM
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For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Emissions Units - Industrial Boiler Information **Form EU5**
Revision 5
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3 Facility ID No:
SORRENTO LACTALIS	SORRENTO LACTALIS	027-00071
4. Brief Project Description:	MODIFY PERMIT PER CONSENT ORDERS E-2014.0007 & E-2015.0003	

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Please see IDAPA 58.01.01.222 for a list of industrial boilers that are exempt from Permit to Construct requirements.

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12. Date of Modification (if applicable):	13. Serial Number (if available):	14. Control Device (if any): **Note: Attach applicable control equipment form(s)**

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15. Fuel Type	☐ Diesel Fuel (#) (gal/hr)	☒ Natural Gas (cf/hr)	☐ Coal (unit: /hr)	☐ Other Fuels (unit: /hr)
16. Full Load Consumption Rate		48.99 MMBTU/HR		
17. Actual Consumption Rate		48.99 MMBTU/HR		
18. Fuel Heat Content (Btu/unit, LHV)		1018 BTU/SCF		
19. Sulfur Content wt%				
20. Ash Content wt%		N/A		

STEAM DESCRIPTION AND SPECIFICATIONS

21. Steam Heat Content	NA	NA		
22. Steam Temperature (^{o}F)	N/A	N/A		
23. Steam Pressure (psi)	N/A	N/A		
24 Steam Type	N/A	N/A	☐ Saturated ☐ Superheated	☐ Saturated ☐ Superheated

OPERATING LIMITS & SCHEDULE

25. Imposed Operating Limits (hours/year, or gallons fuel/year, etc.):	N/A	
26. Operating Schedule (hours/day, months/year, etc.):	24 HR/DAY, 365 DAYS/YR	
27. NSPS Applicability: ☐ Yes ☐ No	If Yes, which subpart:	

Instructions for Form EU5

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1 – 4. Provide the same company name, facility name (if different), and facility ID number as on Form CS. This is useful in case any pages of the application are separated.

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5. Indicate whether the unit is new, existing but unpermitted, or being modified.

6. Indicate the percentage of the steam used for process, space heat, generating electricity, or others.

7. Provide the boiler identification (ID) number. Each boiler in the application must have its own number. If boilers included in this permit application are not identical in make and model, fill out a separate EU5 form for each boiler. If the boilers are identical, attach a separate sheet labeled EU5A listing them by ID number and date of construction or modification. The boiler ID numbers should match the boiler ID numbers used on other construction permit applications and within this application. It can be any number. However, if you submitted an operating permit application, the numbers used for identification purposes in this application should be consistent with the ID numbers used in your operating permit application.

8. The boiler's rated capacity should be read from the boiler's nameplate or from the manufacturer's literature.

9. The date of construction of the emission unit is the date, month, and year in which construction or modification begins as defined in EU0 Form Instruction item 7.

10. Provide the name of the manufacturer of the boiler.

11. Provide the model number of the boiler. This number should be available from the nameplate of the boiler.

12. If the boiler has been or will be modified, give the date, month and year of the most recent or future modification.

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19. Provide the weight percentage of the sulfur content in the fuel.

20. Provide the weight percentage of the ash content in the fuel. For gaseous fuel, this information is not required.

Steam Description and Specifications:

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24. Provide the steam type (i.e. saturated or superheated). This information is not required for gaseous or liquid fuel.

Operation Limits:

25. If any, indicate the operating limits you imposed on this boiler in the units of operating hours per year, or gallons fuel per hour, per year, etc.

26. Indicate your operation schedule for the projected maximum operation of the engine.

27. Provide NSPS (new source performance standards) applicability determination and, if applicable, subpart reference.

Elevation 10'
Elevation 14'
Elevation 16'
Elevation 21'
Elevation 26'
Elevation 31'
Elevation 37'
Elevation 40'
Elevation 118'
Elevation 129'
SCALE
FEET
METRE
0
0
100
25
200
50
300
75
100
NORTH
TRUCK
CAR
CAR
TRUCK SCALE
Blower Extension
258'-6 7/8"
601'-2 15/16"
152'-11"
39'-4 1/16"
156'-10"
180'-2 5/16"
60'-4"
100'-0"
#14
#13
#16
#15
#12
#10
#10
#11
#08
#06
#05
#04
#03
#07
#02
#01
FIRE SYSTEM ROOM
GLYCOL SUPPLY
GLYCOL RETURN
CHEESE
LAB
P31
P32
P34
P15
P14
P16
P40
P37
P17
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11
P12
P13
P18
P19
P20
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
P35
ROOF ACCESS
ROOF ACCESS
MAIN ROOF ACCESS
34'-7 1/32"
127'-4 1/32"
75'-10 1/4"
59'-11 1/16"
238'-1 1/8"
77'-1 3/32"
27'-5 19/32"
37'-1 7/32"
55'-1 7/8"
167'-3 1/32"
44'-10"
174'-0 1/16"
116'-0 1/32"
73'-4 1/32"
40'-10 1/32"
79'-0 1/32"
145'-4 1/32"
90'-2 1/16"
5# NATURAL GAS