AI # 131464
DO # 7649

To:

Fiscal Services – 6th Floor

MPCA

520 Lafayette Road North

St. Paul, MN 55155-4194

From:

Adam Miller

Baldinger Bakery

1256 Phalen Blvd

St. Paul, MN 55106

612-201-7658

September 12, 2024

Jennifer Carlson
Minnesota Pollution Control Agency

520 Lafayette Road North
St. Paul, MN 55155
651-757-2538 jennifer.m.carlson@state.mn.us

On August 16, 2024 we received an Administrative Penalty Order (APO) for violations of Minnesota environmental requirements. Thank you for the opportunity to respond, we take all matters of environment, health and safety seriously at Baldinger Bakery.

According to the APO documentation, these corrective actions required:

1. Submit a plan describing steps that will be taken to reduce VOC emissions to less than or equal to 50 tpy as a 12-month rolling sum. ***Answer: we are submitting an air permit application with request to increase our permit level.***

2. Submit a written notification to the commissioner that includes a description of the change that caused excess VOC emissions, and a statement of what type of permit application the owner or operator will submit. ***Answer: Increased sales required us to produce more product which pushed our threshold over the limit. The permit application is attached.***

3. Submit a complete air permit application. ***Answer: permit application is attached and has been sent via mail.***

4. Submit a plan describing steps that will be taken to ensure that future Emissions Inventory Reports are submitted on time. ***Answer: This is a multi-step process. 1. We are now utilizing compliance software (Gensuite) that will not only remind our local EHS Manager when this is due, but corporate as well . This protects us even if we have turnover again in the local EHS department. 2. The local EHS Manager is tracking our monthly emissions and understands when this is due. 3. We partner with American Engineering Testing to aid in our submissions and they are setup to remind us as well. Late submittals will not happen again.***

5. **Penalty $3423.00 was paid on September 5, 2024.**

There has been a lot of collaborative discussion within our organization and with our consultant to correct the gaps in our processes with the above actions to address the process going forward. We are committed to prioritizing our obligations to the guidelines of the permit and, by extension, the environment at large we operate within, and we will carry the lessons learned here to all other sites in our organization.

Sincerely,

Adam Miller, Director of Operations
Baldinger Bakeries, St. Paul, MN 55106
C.H. Guenther & Son, LLC

MINNESOTA POLLUTION CONTROL AGENCY

520 Lafayette Road North
St. Paul, MN 55155-4194

SCP-01: Submittal cover page

Permit application/notification/ determination request fee submittal

Air Quality Permit Program

Doc Type: Permit Application

Instructions on page 6.

RECEIVED SEP 13 2024 BY:

Check From: C H Guenther and Sons
Check # 200512
Amt of Check 1140-
Date of Check

1a) AQ Facility ID number: 12300764 1b) Agency Interest ID number: 131464

2) Facility name: Baldinger Bakery

3) Submittal is (choose from the following options and then complete the remainder of item 3 as directed):

☐ The final certified (or recertified) version of a previously-submitted permit application. **Complete Section 3A.**

☐ Additional or supplemental information requested by permit staff during the permit-writing process. **Complete Section 3A.**

☐ A request that the Minnesota Pollution Control Agency (MPCA) make an applicability determination. **Complete Section 3A.**

☐ An application for a new Individual Part 70 or State Permit – **Complete Section 3B**:

☐ An application for reissuance of an Individual Part 70 or State Permit – **Complete Section 3B.**

Note: Applications for reissuance must be submitted using the MPCA's e-Services website at https://www.pca.state.mn.us/data/e-services. Applications outside of the e-services website will only be accepted if there is a request for confidentiality.

☐ An application for an amendment to an existing Individual Part 70 or State Permit – **Complete Section 3B.**

☒ An application for a Registration Permit, Capped Permit, or General Permit – **Complete Section 3C.**

☒ An application for an administrative change to an existing Registration, Capped, or General Permit – **Complete Section 3C.**

☐ A notification required under Minn. R. 7007.1150(C); Minn. R. 7007.1250, subp. 4; Minn. R. 7007.1350; Minn. R. 7007.0800, subp. 10, item B. **Complete Section 3D.**

☐ A notification from a hot mix asphalt plant holding a Registration Permit of the intent to incorporate ground tear-off shingles and/or manufacturer scrap shingles in the hot mix asphalt. **Complete Section 3D.**

Section 3A – Request for applicability determination, recertification of a previously-submitted permit application, or supplement to a previously-submitted permit application

Use this section only if your submittal is one of the following:

- The final version of a previously submitted permit application, incorporating changes negotiated through the permitting process, or
- Submittal of additional or supplemental information requested by permit staff during the permit-writing process, or
- A request for the MPCA to make an applicability determination.

For final versions and supplemental information, enter the "tracking number" which can be obtained from the MPCA permit staff working on the permit.

Check one of the boxes below. Do not complete Sections 3B, 3C, or 3D. Continue with item 4 of the form.

Choose one of the following:	Quantity	Points	Total points
☐ Recertification of a previously-submitted permit application – tracking number: _____	NA	NA	NA
☐ Supplement to a previously-submitted permit application – tracking number: _____	NA	NA	NA
☐ An Applicability Determination Request		x 10 =	

Section 3B – Application for an Individual Part 70 or State Permit, reissuance of an Individual Part 70 or State Permit, or amendment of an Individual Part 70 or State Permit

Choose one of the following:

- ☐ This is the original application or replacement for a denied or withdrawn application. Complete the table below.
- ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is exactly the same as in the incomplete application. Enter the tracking number of the incomplete application being replaced: _____. A new fee is not required, so completion of the table below is not necessary.
- ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is different than the incomplete application. Enter the tracking number of the incomplete application being replaced: _____. Complete the table below.

If your submittal includes notifications that do not require a permit application, also complete Section 3D.

Choose one of the following:	**Quantity**	**Points**	**Total points**
☐ Application for an Individual Part 70 Permit		x 75 =	
☐ Application for an Individual State Permit		x 50 =	
☐ Application for reissuance of an expiring Individual Part 70 or State Permit (does not include modifications to a permit that require an amendment) **Note:** Applications outside of the e-services website will only be accepted if there is a request for confidentiality.			
Expiration date: _____ *(mm/dd/yyyy)* Application due date (180 days prior to expiration): _____ *(mm/dd/yyyy)*	NA	NA	NA
☐ Application for a major amendment to an Individual State or Part 70 Permit ☐ Includes reconstruction or modification of a New Source Performance Standards (NSPS) Affected Facility not subject to New Source Review		x 25 =	
☐ Application for a moderate amendment to an Individual State or Part 70 Permit		x 15 =	
☐ Application for a minor amendment to an Individual State or Part 70 Permit		x 4 =	
☐ Application for an administrative amendment to an Individual State or Part 70 Permit. For administrative amendments to individual permits, use the MPCA's e-Services website at https://www.pca.state.mn.us/data/e-services. Administrative amendment applications outside of the e-services website will only be accepted if there is a request for confidentiality.		x 1 =	

Additional information (check all that apply):

- ☐ Submittal was preceded by pre-application work with the MPCA (for example: dispersion modeling or modeling protocol review, Air Emission Risk Analysis (AERA) review, environmental review). The tracking number associated with the preapplication work is: _____
  Date preapplication work was submitted: _____
- ☐ Permit will replace an existing permit of a different type (e.g., replacing a Capped Permit with an Individual State Permit, or replacing a Part 70 General Permit with an Individual Part 70 Permit).
- ☐ Permit is for construction of a new facility.
- ☐ Permit is required because of a modification to an existing facility, making the facility subject for the first time for the requirement for an Air Emission Permit.
- ☐ Project is subject to Prevention of Significant Deterioration (PSD) (40 CFR § 52.21). Send a complete copy of the application to U.S. Environmental Protection Agency (EPA) Region V (see instructions).
- ☐ Permit is required because of installation or modification of a Part 61 National Emission Standards for Hazardous Air Pollutants (NESHAP) and/or a Part 60 NSPS Affected Facility at a Stationary Source with Potential-to-Emit below all permit thresholds (Minn. R. 7007.0500, subp. 2.C.(1)).

Section 3C – Application for a Registration, Capped, or General Permit

Choose one of the following:

- ☐ This is the original application or replacement for a denied or withdrawn application. Complete the table below.
- ☒ This is the replacement for an application returned as incomplete (not denied) **and** the scope is exactly the same as in the incomplete application. Enter the tracking number of the incomplete application being replaced: 7416. A new fee is not required, so completion of the table below is not necessary.
- ☐ This is the replacement for an application returned as incomplete (not denied) **and** the scope is different than the incomplete application. Enter the tracking number of the incomplete application being replaced: _____. Complete the table below.

If your submittal includes notifications that do not require a permit application, also complete Section 3D.

Choose one of the following:	Quantity	Points	Total points
☐ Application for a Registration Permit ☐ Option A ☐ Option B ☐ Option C ☐ Option D		x 2 =	
☒ Application for a Capped Permit ☐ Option 1 ☒ Option 2	1	x 4 =	4
☐ Application for a Part 70 General Permit ☐ Manufacturing General Permit ☐ Low Emitting Facility General Permit		x 4 =	
☐ Application for a State General Permit ☐ Nonmetallic Mineral Processing General Permit		x 3 =	
☐ Application for an administrative change to an existing Registration, Capped, or General Permit (e.g., change of facility ownership)		x 1 =	

Additional information (check all that apply):

☒ Permit will replace an existing permit of a different type (e.g., replacing a Registration Permit with a Capped Permit; replacing an Option B Registration Permit with an Option D Registration Permit; etc.)

☐ Permit is required for construction of a new facility

☐ Permit is required because of a modification to an existing facility, making the facility subject for the first time for the requirement for an Air Emission Permit.

☐ Permit is required because of a modification or change making the facility ineligible for its existing Air Emission Permit.

Section 3D – Notifications

If your submittal also includes a permit application, then also complete Section 3A, 3B, or 3C as applicable. Check all applicable boxes below, then continue with item 4 of the form.

☐ A notification of accumulated insignificant activities (Minn. R .7007.1250, subp. 4)

☐ A notification of installation of pollution control equipment (Minn. R. 7007.1150, item C)

☐ A notification of replacement of a unit (Minn. R. 7007.1150, item C)

☐ A notification of replacement of controls with listed controls (Minn. R. 7007.1150, item C)

☐ A notification of changes that contravene a permit term (Minn. R .7007.1350)

☐ A notification from a hot mix asphalt plant including a request to incorporate ground tear-off shingles and/or manufacturer scrap shingles in the hot mix asphalt (applies to Registration Permits) Minn. R. 7011.0913, subp. 3)

4) Total points ("total points" from Section 3A, 3B, or 3C)

4

5) Total application fee

4 (total points from item 4) x $285 = $ 1140 (fee amount)

The application fee amount is $285 per point, payable to the MPCA. Send your payment ("fee amount") with your submittal. The fee is not refundable, per Minn. R. 7002.0016, subp. 1. There may be additional fees assessed during processing of your request, as required by Minn. R. ch. 7002.

Note: If an application is resubmitted for a different type of amendment or permit, the original fee is not refundable nor transferable. The resubmitted application fee must be paid in full.

6a) Confidentiality statement

☒ This application does not contain material claimed to be confidential under Minn. Stat. §§ 13.37, subd. 1(b) and 116.075. Skip item 6b, go to item 7.

☐ This application contains material which is claimed to be confidential under Minn. Stat. §§ 13.37, subd. 1(b) and 116.075. Complete Item 6b. Your submittal must include both Confidential and Public versions of your application.

Registration Permit applicants may not claim any portion of their application as confidential. If applying for a Registration Permit or an administrative change to a Registration Permit, you must check the first box above ("This application does not contain.....").

☐ Confidential copy of application attached ☐ Public copy of application attached

6b) Confidentiality certification

To certify data for the confidential use of the MPCA, a responsible official must read the following, certify to its truth by filling in the signature block on the following page, and provide the stated attachments.

☐ I certify that the enclosed permit application(s) and all attachments have been reviewed by me and do contain confidential material. I understand that only specific data can be considered confidential and not the entire application or permit. I certify that I have enclosed the following to comply with the proper procedure for confidential material:

- ☐ I have enclosed a statement identifying which data contained in my application I consider confidential, and I have explained why I believe the information qualifies for confidential (or non-public) treatment under Minnesota Statutes.
- ☐ I have explained why the data for which I am seeking confidential treatment should not be considered "emissions data" which the MPCA is required to make available to the public under federal law.
- ☐ I have enclosed an application containing all pertinent information to allow for completion and issuance of my permit. This document has been clearly marked "confidential".
- ☐ I have enclosed a second copy of my application with the confidential data blacked out (not omitted or deleted entirely). It is evident from this copy that information was there, but that it is not for public review. This document has been clearly marked "public copy".

Permittee responsible official:	**Co-Permittee responsible official (if applicable)**
Print name:	Print name:
Title:	Title:
Signature:	Signature:
Date (mm/dd/yyyy):	Date (mm/dd/yyyy):

7) Submittal certification

I certify under penalty of law that the enclosed documents and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I also certify, in accordance with Minn. R. 7007.0500, subp. 2 (K)(2) and subp. 2 (K)(3), that I have reviewed the procedures implemented by my facility to maintain compliance and that those procedures are, to the best of my knowledge and belief, reasonable to maintain compliance with all applicable requirements, including those that will become applicable during the term of the permit.

I also certify, in accordance with Minn. R. 7007.1450, subp. 4(D), that if this application requests the use of the minor or moderate permit amendment procedures, the proposed change is not part of a larger project which, taken as a whole, would not qualify for treatment as a minor or moderate permit amendment.

Choose one of the following:

☒ I certify that no construction is associated with the permit action sought by this permit application.

☐ I certify that my project includes construction, but construction has not yet been started except as allowed under Minn. R. 7007.1110, subp. 10 or Minn. R. 7007.1250, subp. 4, and will not begin until the permit is issued except as allowed under Minn. R. 7007.1110, subp. 12; Minn. R. 7007.1142, subp. 2; Minn. R. 7007.1150, item C; or Minn. R. 7007.1450, subp. 7.

☐ My project includes construction, and construction other than what is allowed under Minnesota Rules has been started

Permittee responsible official:	**Co-Permittee responsible official (if applicable)**
Print name: Adam Miller	Print name:
Title: Director of Operations	Title:
Signature:	Signature:
Date (mm/dd/yyyy): 9/16/24	Date (mm/dd/yyyy):

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-GI-01

Facility Information for Capped Permits

Air Quality Permit Program

Doc Type: Permit Application

Instructions on Page 3.

1a) AQ Facility ID number: 12300764 **1b)** Agency Interest ID number: 7416

2) Facility name: Baldinger Bakery

3) Facility location

Street Address: 1256 Phalen Blvd

City: St. Paul County: Ramsey Zip code: 55106

Note: If the facility is or will be located within the city limits of Minneapolis, attach a map showing the exact location.

Mailing Address:

City: State: Zip code:

4) Corporate/Company Owner

Name: C.H. Guenther & Son

Mailing Address: 2201 Broadway

City: San Antonio State: TX Zip code: 78215

Owner Classification: ☒ Private ☐ Local Govt. ☐ State Govt. ☐ Federal Govt. ☐ Utility

Legally responsible official

Name: Adam Miller Phone: 612-201-7658

Title: Director of Operations Fax: 651-224-9047

Mailing Address: 1256 Phalen Blvd

City: St. Paul State: MN Zip code: 55106

Email address: AMiller@chg.com

Indicate ownership interest in percent: 0%

5) Corporate/Company Operator (if different than owner)

Name:

Mailing Address:

City: State: Zip code:

Legally responsible official:

Name: Phone:

Title: Fax:

Mailing Address:

City: State: Zip code:

Email address:

6) Additional Corporate/Company owner or operator (if applicable)

Check applicable: ☐ Owner ☐ Operator.

Name: I

Mailing Address:

City: I State: Zip code:

Legally responsible official *(continued from question 6 on previous page)*

Name: Adam Miller Phone: 612-201-7658
Title: Director of Operations Fax: 651-224-9047
Mailing Address: 1256 Phalen Blvd
City: St. Paul State: MN Zip code: 55106
Email address: AMiller@chg.com
If owner, indicate ownership interest in percent:

7) **Do you have more** Corporate/Company **owners and/or operators?** ☐ Yes ☒ No
If yes, attach additional sheets with the information indicated in item 6 for each owner and/or operator not listed above.

8) **Contact person for this permit**

Name: Adam Miller Phone: 612-201-7658
Title: Director of Operations Fax: 651-224-9047
Organization: C.H. Guenther & Son, Baldinger Bakery St. Paul
Mailing Address: 1256 Phalen Blvd
City: St. Paul State: MN Zip code: 55106
Email address: AMiller@chg.com

9) All billings for annual fees should be addressed to:

Name: Baldinger Bakery - Accounts Payable Phone: 651-224-5761
Title: Fax: 651-224-9047
Organization: C.H. Guenther & Son
Mailing Address: 1256 Phalen Blvd
City: St. Paul State: MN Zip code: 55106
Email address:

10) Standard Industrial Classification (SIC) Code and description**, and North American Industry Classification System (NAICS) code and description** for the facility:

Primary: 2050 / Bakery Products
Secondary (if applicable): /
Tertiary (if applicable): /
Primary NAICS code: 311812 / Commercial Bakeries

11) Primary product produced (or activity performed) at the facility is:

Bun & Hard Roll Baking Operations

12) Facility is: ☒ Stationary ☐ Portable

13) Check the one that applies best to your facility:

☐ New facility planned or under construction (first permit application)
☒ Existing facility, currently operating under Air Emission Permit number:
☐ Existing facility, but have never had an Air Emission Permit issued by the MPCA

14) (Reserved for future use)

15) Is environmental review required (either an Environmental Assessment Worksheet (EAW) or an Environmental Impact Statement (EIS)) for this facility?.

☐ Yes ☒ No

Note: If you answered "Yes" to this question, you may also be required to perform an Air Emissions Risk Assessment (AERA). Please call 800-657-3864 or 651-296-6300.

16) Are you required to submit a Toxics Release Inventory (Form R) under SARA Title 313 for this facility? Call the Minnesota Emergency Planning and Community Right-to-Know Act (EPCRA) Program for more information (651-201-7400).

☐ Yes ☒ No

17) Is this facility within 50 miles of another state or the Canadian border:

☐ Yes (specify which ones) _____ ☒ No

18) Brief description of the facility or proposed facility to be permitted (attach additional sheet if necessary):

19) (Reserved for future use)

20) Person preparing this permit application:

Name: Kelli Rose

Title: Senior Scientist Email address: krose@teamaet.com

Organization: American Engineering Testing

Mailing address 550 Cleveland Avenue North

City: St Paul State: MN Zip code: 55114

Phone: 651-523-1262 Fax: _____ Date (mm/dd/yyyy): 2/8/2024

Instructions for Form CAP-GI-01

1a) **AQ Facility ID number** -- Fill in your Air Quality (AQ) Facility Identification (ID) number. This is the first eight digits of the permit number for all new permits issued under the current operating permit program. If your facility has never been issued a permit under this program, leave this line blank.

1b) **Agency Interest ID number** -- Fill in your agency interest ID number. This is an ID number assigned to your facility through the Tempo database. If you don't know this number, leave this line blank.

2) **Facility name** -- Enter your facility name.

3) **Facility location** -- Fill in the facility's street address and the city and county where the facility is located. Also indicate the facility's mailing address. You may use a P.O. Box number for the mailing address, but not for the street address. If the facility is or will be located within the limits of the City of Minneapolis, include a map showing the exact location of the facility.

To determine if your facility is in or within one mile of an area of environmental justice concern anywhere in the state, use the MPCA's environmental justice screening tool, available here https://arcg.is/vqaGa.

To proactively consider actions for environmental improvement and community engagement, refer to this resource document https://www.pca.state.mn.us/sites/default/files/aq1-69.pdf.

The MPCA's screening tool will be used to determine if the facility's location is within or near an area of environmental justice concern. For facilities within or near areas of environmental justice concern, MPCA may request a meeting to discuss environmental justice, if the facility is already incorporating actions to address environmental justice, and voluntary actions the facility could further take. The EPA's EJScreen tool is available here for additional information on environmental justice indices https://www.epa.gov/ejscreen.

Note: All owners and operators must be listed on the permit application and are included on the permit. An owner or operator is a corporation, partnership, sole proprietorship, municipality, state, federal or other public agency who owns, leases, operates, controls, or supervises, to any degree, an emissions unit, emission facility or stationary source. For example, if the facility is owned by a partnership, then the second owner's name and information are included at item 6 of this form. Another example is two facilities, owned separately, where one facility exists to support the other; both facilities are subject to one permit, the two owners are listed on the permit, and need to be included on this form, one at item 4 and one at item 6. A legally responsible official needs to be listed for each owner and operator. The legally responsible official must be a person meeting the criteria for signing the application (defined in Minn. R. 7007.0100, subp. 21), which is the person who performs policy or decision-making functions for the company. (A delegate may be allowed in some cases. Please refer to the rule section listed above.)

4) **Corporate/Company Owner** -- Fill in the owner name and mailing address. The owner receives the air emission permit from the MPCA. The owner is the "Permittee". All other owners and operators need to be listed in items 5-7 and are "Co-permittees". Check the one "owner classification box" that most closely describes your facility.

5) **Corporate/Company Operator (if different from owner)** -- The operator runs the facility on a day-to-day basis. If a separate management company operates the facility, its name goes here. The operator is also a "Permittee." Fill in if applicable; if not, fill in "N/A".

6) **Additional corporate/company owner or operator (if applicable)** -- If the emission facility has more than one owner, for example a partnership, then the second owner's name and address go here.

7) **Do you have more corporate/company owners and/or operators?** If you have additional owners or operators attach additional sheets with the information indicated in item 6 for each additional corporate/company owner and/or operator.

8) **Contact-person for this permit** -- Fill in the name, title, organization, mailing address, phone number, fax number (if applicable) and email of the individual to whom the permit and other permitting correspondence should be sent. Indicate

Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-ADM

Capped Permit Administrative Changes

Air Quality Permit Program

Doc Type: Permit Application

Use this document to identify administrative changes that have occurred or will occur at a facility holding a capped permit and that require a permit action under Minn. R. 7007.1142, subp. 5.

Facility name: Baldinger Bakery

Facility permit number: _____

Who can we call if we have questions about the information completed on this document?

Name: Adam Miller Phone: 612-201-7658

Check all that apply:

☐ Change in facility name

☐ Change in facility ownership or control; date of change: _____ *(mm/dd/yyyy)* Include all information listed in Minn. R. 7007.1400, subp. 1.E. (a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee)

☐ Change in owner's or operator's name

The three options above require a permit action.

If you need to change the general contact information for your facility (e.g., contact or billing name, phone number, e-mail, etc.), this does not require a permit action. but you do need to notify the Minnesota Pollution Control Agency (MCPA) so that we have current information for your facility. Do not use this form, but instead submit a letter to the MPCA's Air Quality Permit Document Coordinator, IND/AQP, explaining the changed information.

Complete items 1) – 8) with the new information that should be put on record for the facility:

1) Facility Name: **Baldinger Bakery**

2) Facility Location: (If the facility is located within the city limits of Minneapolis, provide a map showing the exact location.)

Street Address: 1256 Phalen Blvd

City: St. Paul MN County: Ramsey Zip code: 55106

Mailing Address: 1256 Phalen Blvd

City: St. Paul State: MN Zip code: 55106

3) Corporate/Company Owner(s):

Name: **C.H. Guenther & Son**

Mailing Address: 2201 Broadway

City: San Antonio State: TX Zip code: 78215

Owner Classification: ☒ Private ☐ Local Govt. ☐ State Govt. ☐ Federal Govt. ☐ Utility

4) Corporate/Company Operator(s) (if different than owner):

Name: _____

Mailing Address: _____

City: _____ State: _____ Zip code: _____

5) Co-permittee(s) (if applicable):

Name: _____

Mailing Address: _____

City: _____ State: _____ Zip code: _____

6) Legally responsible official for this permit/facility:

Mr./Ms.: Adam Miller Phone: 612- 201-7658

Title: Director of Operations - Baldinger St. Paul Fax: 651 224-9047

At (check one): ☐ Owner Address ☐ Operator Address ☒ Emission Facility Address

☐ Other (specify):

7) Contact person for this permit:

Mr./Ms.: Adam Miller Phone: 612 201-7658

Title: Director of Operations Fax: 651 224-9047

At (check one): ☐ Owner Address ☐ Operator Address ☒ Emission Facility Address

☐ Other (specify):

E-mail address: **AMiller@chg.com**

8) All billings for annual fees should be addressed to:

Mr./Ms.: Michele Willkom Phone: 651 265-6191

Title: Accounts Payable Manager Fax: 651 224-9047

At (check one): ☐ Owner Address ☐ Operator Address ☒ Emission Facility Address

☐ Other (specify):

Complete item 9) if this includes a change in ownership and/or operational control:

9) Certification:

I am applying for change of ownership/operational control. I certify that the new owner/operator will comply with the terms of the existing permit. I further certify that the owners and operator identified in this form are all of the owners and operators of the permitted facility. Person certifying this permit application:

Mr/Ms: Phone:

Title: Fax:

Signature: Date:

Date transfer of ownership will occur:

Complete item 10) to identify a change in facility location:

10) Facility relocation.

☒ Facility will not be relocated.

☐ Facility is a portable plant and will be relocated to location authorized by the existing permit. Notify the MPCA each time the facility changes location by submitting Form RE-01, Relocation Notification.

☐ Facility is not a portable plant and will be relocated. The following conditions apply:

You must submit a new application for a capped permit to the MPCA prior to relocation. You may supplement information provided in a previous application to meet the application content requirements in Minn. R. 7007.1145 (Capped permit application) and simply reference forms previously submitted that have not changed. If the MPCA determines that your facility remains eligible, a new capped permit will be issued for the new location and the MPCA will void the permit for the previous location. You must receive the new capped permit **prior** to relocation.

If you plan to relocate your facility and you will no longer qualify for any capped permit option, you must apply for a new permit type and receive the new permit **before** moving to a different location. This form is not the tool for applying for such a permit. Obtain the appropriate permit application forms from http://www.pca.state.mn.us/air/permits/forms.html.

Copies of the forms mentioned in this document are available on the MPCA website at http://www.pca.state.mn.us/air/permits/forms.html.

Minnesota Rules can be found at: http://www.pca.state.mn.us/air/air_mnrules.html.

If any of the above administrative changes requiring a permit action have been made, return this form and Form SCP-01 to:

Fiscal Services – 6th floor
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155

If none of the above administrative changes have been made, please do not return this document. If you need to change the general contact information for your facility (e.g., contact or billing name, phone number, e-mail, etc.), this does not require a permit action. but you do need to notify the MPCA so that we have current information for your facility. Do not use this form, but instead submit a letter to the MPCA's Air Quality Permit Document Coordinator, IND/AQP, explaining the changed information.

The MPCA appreciates your efforts in providing up-to-date information about your facility. If you have any questions, please feel free to contact the MPCA at 651-296-6300 or 1-800-657-3864.

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

GI-02

Process Flow Diagram

Air Quality Permit Program

Doc Type: Permit Application

Instructions on Page 2.

1a) AQ Facility ID number: 12300764

1b) Agency Interest ID number: 131464

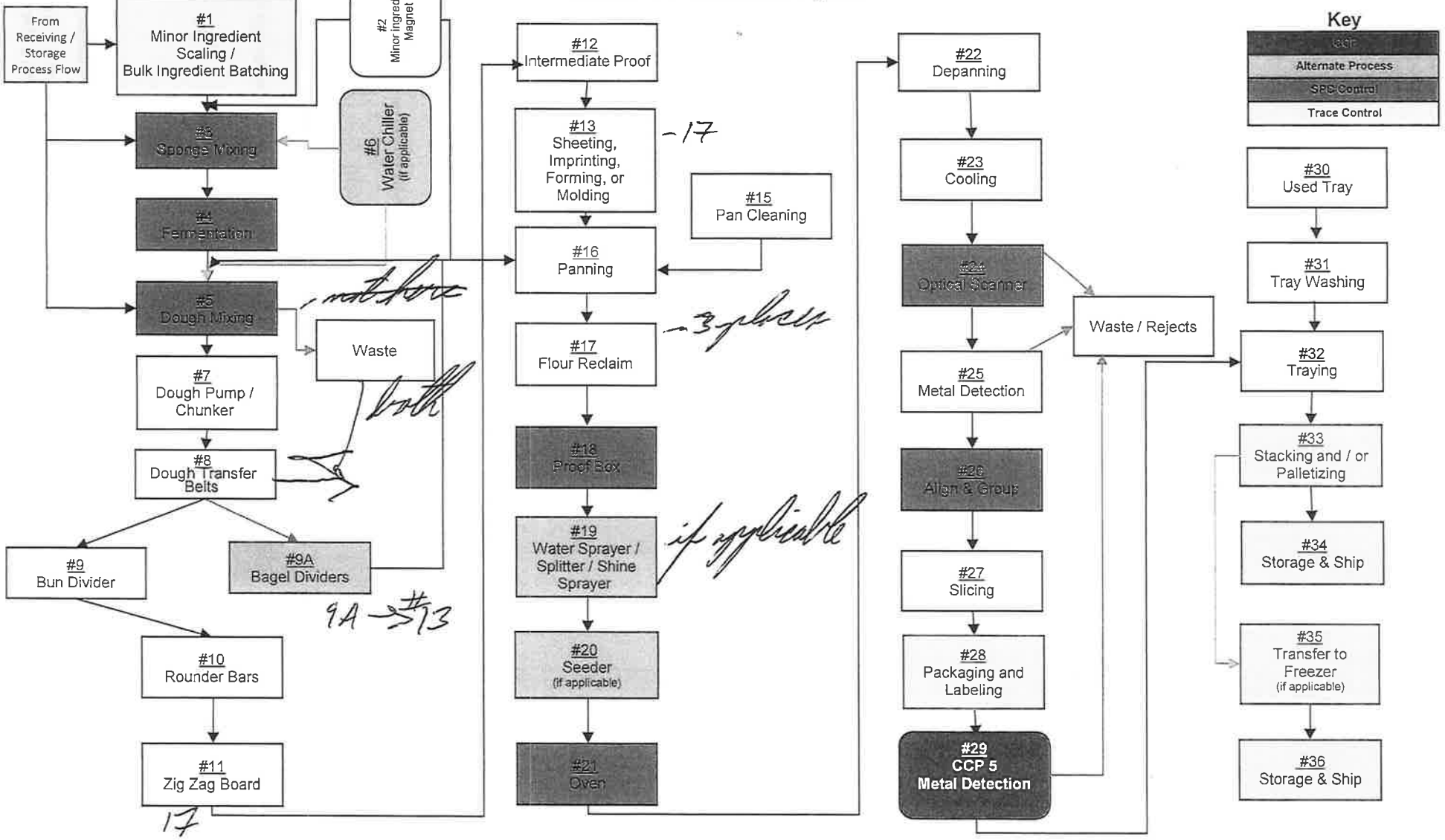
2) Facility name: Baldinger Bakery

3) Flow diagram: (insert flow diagram below or attach a separate sheet)

Baldinger Baking Co.

Line 1 Process Flow

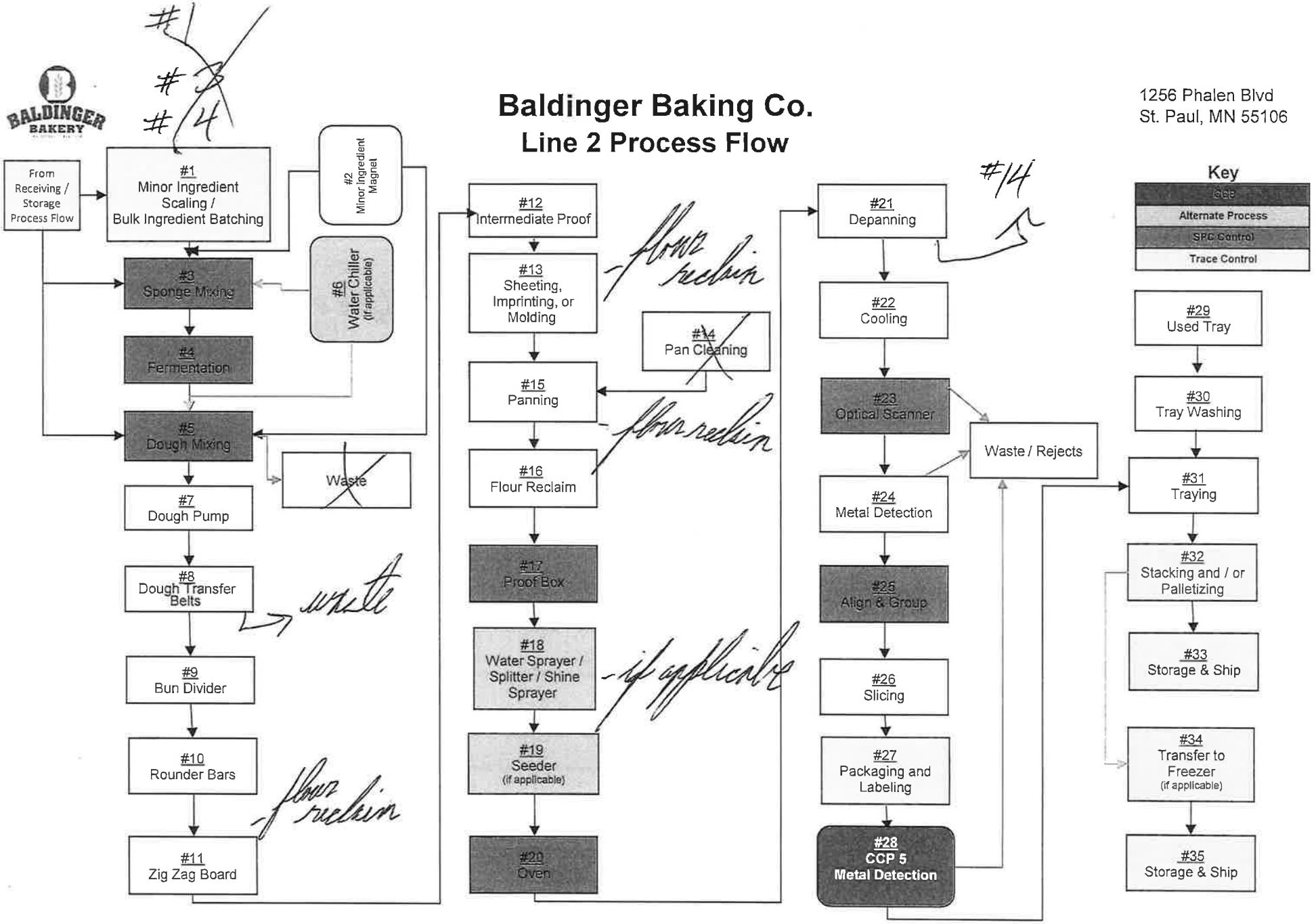
1256 Phalen Blvd
St. Paul, MN 55106
1-800-543-2291



Document Number:	Date of Issue:	Supersedes Date:	Approval:	P0121.1 Bun Line Process Flow	Page
P0121.1	10/19/2020	2/1/2019	Paul Lanners		1 of 1

Baldinger Baking Co.
Line 2 Process Flow

1256 Phalen Blvd
St. Paul, MN 55106



Document Number:	Date of Issue:	Supersedes Date:	Approval:	P0121.1 Bun Line Process Flow	Page
P0121.1	10/19/2020	2/1/2019	Paul Lanners		1 of 1

Minnesota Pollution Control Agency

AIR QUALITY
520 LAFAYETTE ROAD NO., ST. PAUL, MN 55155-4194

PERMIT APPLICATION FORM **CAP-GI-03**

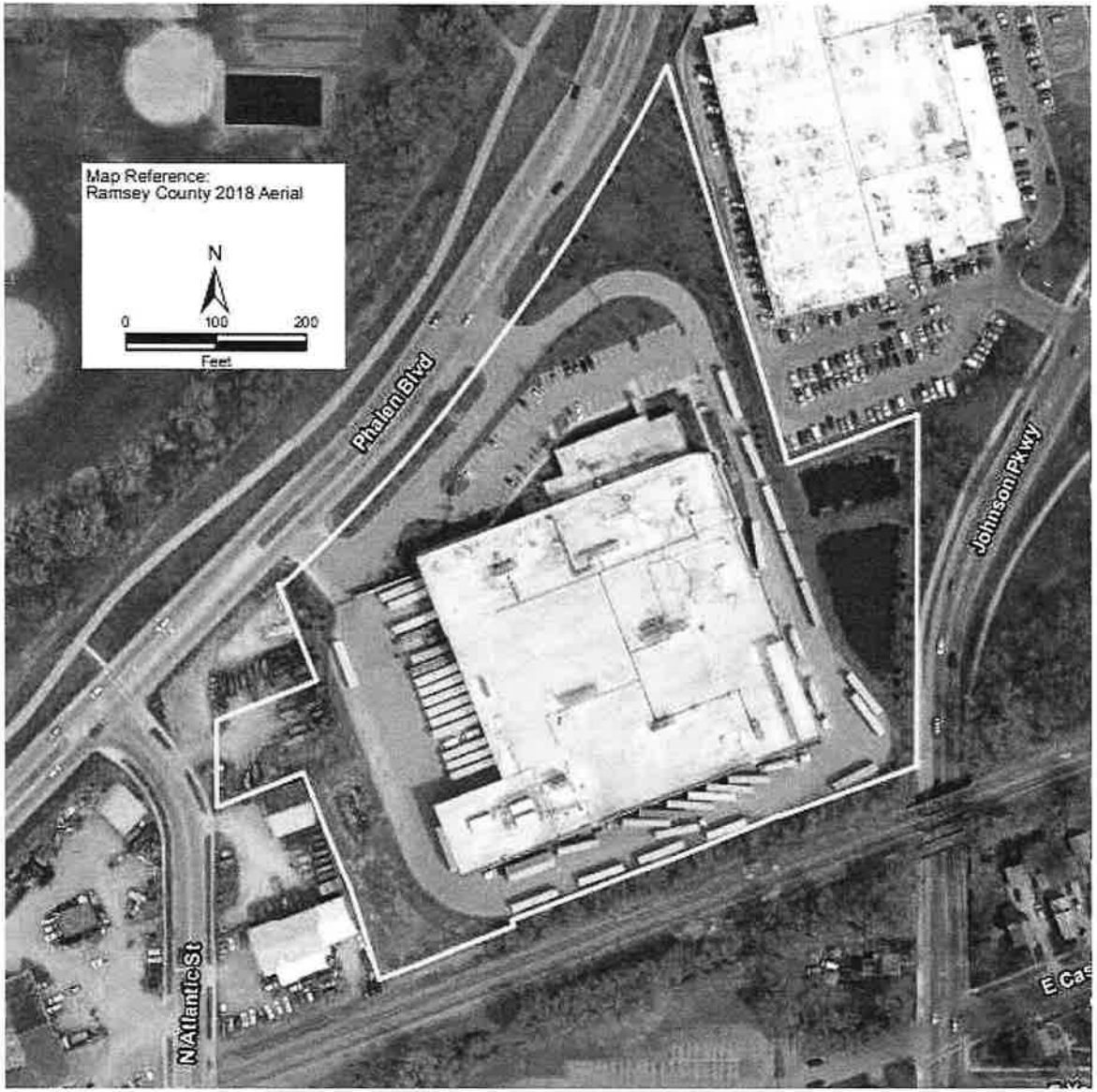
FACILITY AND STACK/VENT DIAGRAM

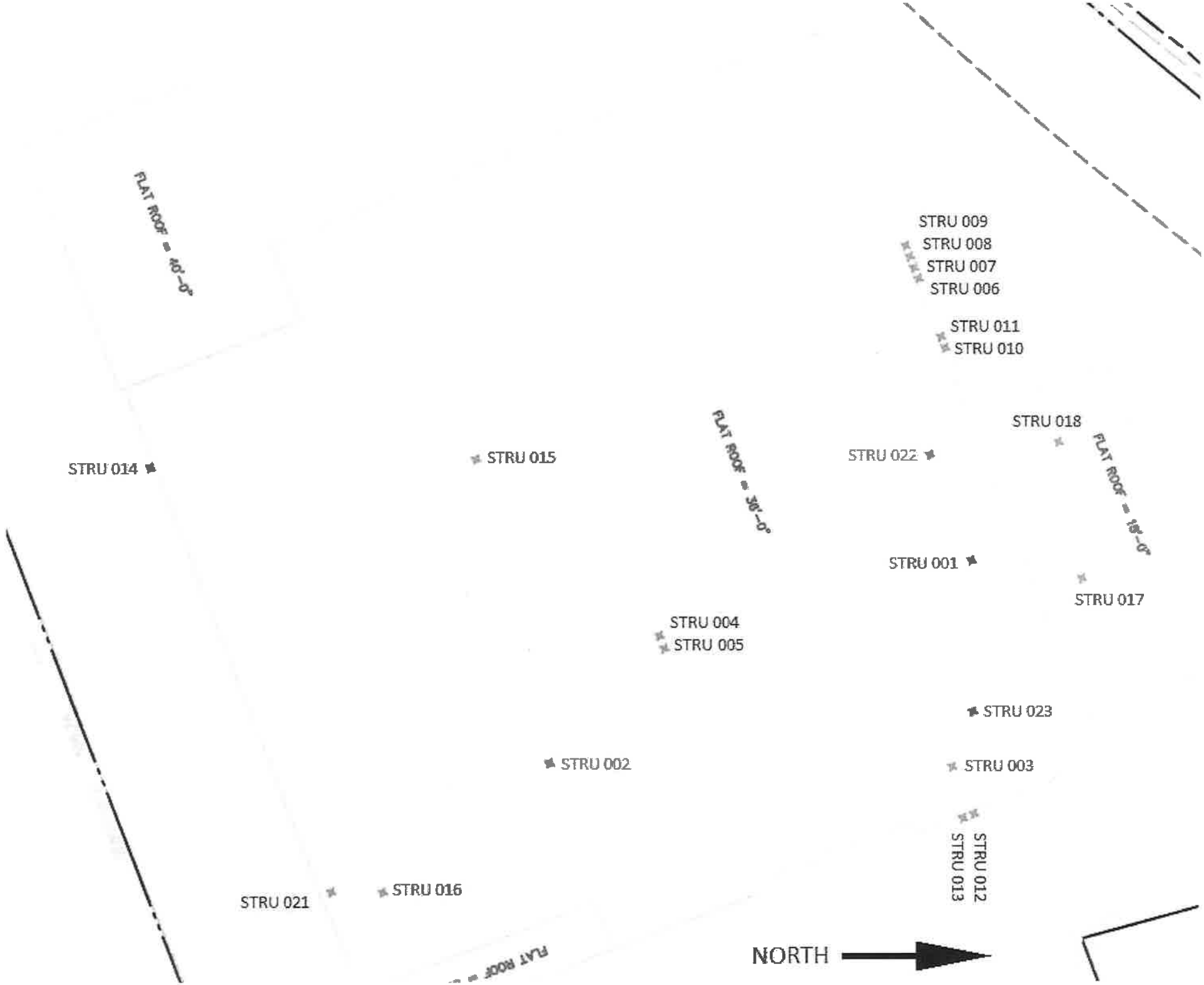
10/7/04

1) AQ Facility ID No.: **12300764**

2) Facility Name: **Baldinger Bakery**

3) Facility and Stack/Vent Diagram:


Map Reference:
Ramsey County 2018 Aerial
N
0
100
200
Feet
Phalen Blvd
Johnson Pkwy
N Atlantic St


FLAT ROOF = 40'-0"
STRU 009
STRU 008
STRU 007
STRU 006
STRU 011
STRU 010
STRU 018
FLAT ROOF = 18'-0"
STRU 014
STRU 015
FLAT ROOF = 30'-0"
STRU 022
STRU 001
STRU 017
STRU 004
STRU 005
STRU 023
STRU 002
STRU 003
STRU 012
STRU 013
STRU 021
STRU 016
NORTH

Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-HE-01

Capped Permit Hood Evaluation and Certification

Air Quality Permit Program

1) AQ Facility ID No. (if known): 12300764

2) Facility name: Baldinger Bakery

3) Evaluation - The following information is required for a hood evaluation under Minn. R. 7011.0072, subp. 3. This information must be provided for each hood for which the applicant wants to claim a control efficiency for pollutant-collecting hoods as described in the instructions for form CAP-GI-05A by having the design of the hood evaluated by qualified personnel. Make copies of the first page of this form and fill out for each hood that you have listed on form CAP-GI-05A.

The hood evaluation must be completed by a testing company as defined by Minn. R. 7011.0060, subp. 4a.

3a) Emission unit no. (s) No Hoods Present

3b) Drawing of recommended and actual hood dimensions -- Attach drawing to form.

3c) Design capture velocity:

Recommended capture velocity: _____

Edition of the manual referenced: _____

Page nos.: _____

Additional justification: _____

3d) Actual capture velocity: _____

3e) Minimum recommended air flow into hood: _____

3f) Actual air flow into hood: _____

3g) Recommended hood face velocity or slot velocity: _____

3h) Actual hood face velocity or slot velocity: _____

3i) Recommended plenum and duct velocity (if applicable): _____

3j) Actual plenum and duct velocity (if applicable): _____

3k) Fan rotation speed (determined through testing): _____

3l) Fan power draw (determined through testing): _____

3m) Show the capture velocity test plan on a drawing or sketch. Attach plan to form.

4) Certification

I certify under penalty of law that the hood(s) listed below has (have) been evaluated under my direction or supervision by qualified personnel and that, to the best of my knowledge and belief, the (each) hood conforms to the design and operating practices recommended in "*Industrial Ventilation - A Manual of Recommended Practice, American Conference of Governmental Industrial Hygienists.*"

Emission Unit ID(s)	Control Equipment ID	Pollutant(s) Controlled

Responsible official certifying this capped permit submittal:

Mr./Ms.: _____

Title: _____

Signature: _____ Date: _____

Telephone: _____ Fax: _____

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-IA

Insignificant activities

Air Quality Permit Program

Doc Type: Permit Application

Instructions on page 2

1a) AQ Facility ID number: 12300764 **1b)** Agency Interest ID number: 131464

2) Facility name: Baldinger Bakery

3) Check and describe insignificant activities

	Rule citation	Description of activities at the facility
☐	7007.1300, subp. 3(A)	NA
☐	7007.1300, subp. 3(B)(1)	NA
☐	7007.1300, subp. 3(B)(2)	NA
☐	7007.1300, subp. 3(C)(1)	NA
☐	7007.1300, subp. 3(C)(2)	NA
☐	7007.1300, subp. 3(D)	NA
☐	7007.1300, subp. 3(E)	NA
☐	7007.1300, subp. 3(F)	NA
☐	7007.1300, subp. 3(G)	NA
☐	7007.1300, subp. 4	NA
☐	7008.4100	NA
☐	7008.4110	NA

4) If you are applying for an option 1 capped permit for your facility, have you included all quantifiable insignificant activities on the appropriate forms (e.g. CAP-GI-04, CAP-GI-05B, CAP-GI-05C, CAP-GI-07, etc)?

☐ Yes ☒ No I am applying for an option 2 capped permit.

Form CAP-IA instructions

Three tables of insignificant activities are provided below.

- **Table IA-01.1, Insignificant activities not required to be listed**, specifies those activities that **do not** need to be included in your permit application.
- **Table IA-01.2**, **Insignificant activities required to be listed,** specifies those activities that must be included in your application, on the CAP-IA form.

Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-00

Capped Permit Qualifications Review List

Air Quality Permit Program

Doc Type: Permit Application

Note: You must submit this form as part of your capped permit application package.

AQ Facility ID No.: 12300764 AQ File No.: 3770

Facility Name: Baldinger Bakery

The following list of questions will help you to determine if you qualify for the capped emission permit. The capped permit contains limitations to keep the potential-to-emit for criteria and hazardous air pollutants below federal permitting thresholds. You can choose between an option 1 and an option 2 capped permit. Option 1 has higher allowable facility-wide emission limits than option 2, but requires tracking of emissions from insignificant activities. Requirements associated with the capped permit can be found in Minn. R. 7007.1140 to 7007.1148. (See https://www.revisor.mn.gov/rules/?id=7007.) Other information relating to the capped permit can be found at http://www.pca.state.mn.us/hqzq483.

Capped Permit Emission Thresholds for Options 1 and 2

POLLUTANT	Option 1 Threshold (ton/year)	Option 2 Threshold (ton/year)
Hazardous Air Pollutants (HAP)	9.0 tons per year for a single HAP 20 tons per year total for all HAPs	8.0 tons per year for a single HAP 20 tons per year total for all HAPs
Particulate Matter (PM)	90 tons per year	75 tons per year
PM smaller than 10 microns (PM_{10})	90 tons per year	75 tons per year
Volatile Organic Compounds (VOC)	90 tons per year	85 tons per year
Sulfur Dioxide (SO_2)	90 tons per year	90 tons per year
Nitrogen Oxides (NO_x)	90 tons per year	85 tons per year
Carbon Monoxide (CO)	90 tons per year	85 tons per year
Lead (Pb)	0.50 tons/year	0.50 tons/year
Carbon Dioxide Equivalent (CO_2e)	90,000 tons/year	85,000 tons/year

Questionnaire

Complete the following questions to determine if your stationary source qualifies for the capped permit. If you do not qualify for the capped permit, you must submit a permit application for a registration, Part 70, General, or State permit before you make a modification to your facility or an installation and operation permit for the modification under Minn. R. 7007.0750, subp. 5. You may not begin actual construction on the modification until the appropriate permit is obtained.

1. Which capped permit option are you applying for?
   - ☐ Capped permit Option 1; Go to question 2.
   - ☒ Capped permit Option 2; Go to question 3.
2. Will you accept a permit condition to limit actual emissions to less than the Option 1 thresholds listed in the table above based on a 12-month monthly rolling sum?
   - ☐ Yes; go to question 4.
   - ☐ No; your stationary source does not qualify for the capped permit.
3. Will you accept a permit condition to limit actual emissions to less than the Option 2 thresholds listed in the table above based on a 12-month monthly rolling sum?
   - ☒ Yes; go to question 5.
   - ☐ No; your stationary source does not qualify for the capped permit.
4. Will you accept a permit condition to calculate emissions from those insignificant activities that are quantifiable on a monthly basis? See CAP-IA Insignificant Activities List for more information.
   - ☐ Yes; Go to question 5.
   - ☐ No; evaluate if you will qualify for Option 2; otherwise your stationary source does not qualify for the capped permit.

5. You must perform an ambient air quality assessment as described in Minn. R. 7007.1148 to be eligible for a capped permit. Were the 1-hour, 3-hour, and 24-hour SO_2; the 24-hour PM_{10}; and annual Nitrogen Dioxide (NO_2) concentrations predicted in the assessment at and beyond the property line of your facility lower than the corresponding standard in Minn. R. 7009.0080? See http://www.pca.state.mn.us/hqzq483 for more information about the assessment.

   ☒ Yes, go to question 6.

   ☐ No; your stationary source does not quality for the capped permit.

6. In performing the ambient air quality assessment, did you assume any limits or conditions not contained in Minn. R. 7007.1140 to 7007.1148? Note that facilities with significant PM_{10} emissions, such as those with material handling operations, may have difficulty successfully completing the assessment without taking production or hourly limits not contained in a capped permit.

   ☐ Yes, your stationary source does not quality for the capped permit.

   ☒ No; go to question 7.

7. Are any of the emission units at your stationary source subject to any New Source Performance Standards other than 40 CFR pt. 60 Subparts Dc, I, K, Ka Kb, DD, EE, GG, SS, XX, JJJ, TTT, IIII, or JJJJ? If you have modified (as defined in 40 CFR § 60.14), reconstructed (as defined in 40 CFR § 60.15) or constructed the described emission source on or after the effective date listed in 40 CFR pt. 60, your stationary source may be subject to the requirements, see CAP-GI-09D Requirements Form.

   ☐ Yes, your stationary source does not qualify for the capped permit.

   ☒ No; go to question 8.

8. Are any of the emission units at your stationary source subject to a National Emission Standards for Hazardous Air Pollutant Sources (NESHAPS) standard other than one of the area source NESHAPS standards listed on Form CAP-GI-09A, question 1 (e.g., halogenated solvent cleaners, chromium plating, etc.)? See CAP-GI-09A Requirements Form for more information.

   ☐ Yes, your stationary source does not qualify for the capped permit.

   ☒ No; go to question 9.

9. Was (is) an environmental review required for your stationary source? (i.e., new stationary sources that have a potential to emit of 100 tons or more of any single air pollutant, and for stationary source modifications that will result in a single pollutant's potential increase in emissions of 100 tons per year or more).

   ☐ Yes; go to question 10.

   ☒ No; go to question 11.

10. Did you assume any specific conditions or limits not contained in Minn. R. 7007.1140 to 7007.1148 in obtaining a negative declaration in an environmental assessment worksheet or as a mitigation measure in an environmental impact statement?

    ☐ Yes; your stationary source does not qualify for the capped permit.

    ☒ No; go to question 11.

11. Is your facility required to obtain a permit under Minn. R. 7007.0200, subp. 3, acid rain affected sources; Minn. R. 7007.0200, subp. 4, solid waste incinerators and waste combustors; Minn. R. 7007.0200, subp. 5, other part 70 sources; Minn. R. 7007.0250, subp. 3, state implementation plan required state permit; or Minn. R. 7007.0250, subp. 6, waste combustors?

    ☐ Yes; your stationary source does not qualify for the capped permit.

    ☒ No; go to question 12.

12. Does your facility produce fuel grade ethanol or is a sector-based state general permit available for the source category your facility is in? (The only sector-based state general permit currently available is for sand and gravel operations.)

    ☐ Yes; your stationary source does not qualify for the capped permit.

    ☒ No; go to question 13.

13. Is your stationary source subject to any State Implementation Plan (SIP) limits or Best Available Control Technology (BACT) limits?

    ☐ Yes; your stationary source does not qualify for the capped permit.

    ☒ No; go to question 14.

14. In qualifying for the capped permit, will you assume the use any control equipment or control efficiencies not contained in the state Control Equipment rule (Minn. R. 7011.0060 to 7011.0080)?

    ☐ Yes; your stationary source does not qualify for the capped permit.

    ☒ No; go to question 15.

15. Have any production limits been imposed on your facility as a result of performance testing?

    ☒ No; your facility qualifies for the capped permit. Complete the remainder of the application forms.

    ☐ Yes; your stationary source does not qualify for the capped permit.

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

Alternate Format

1a) AQ Facility ID number: 12300764 1b) Agency Interest ID number: 131464

2) Facility name: Baldinger Bakery

You may use and submit this spreadsheet in place of Form GI-07. Follow the instructions for Form GI-07 to complete this spreadsheet. This spreadsheet can be copied into a tab for your emissions spreadsheet i more emissions units, add more sets of columns (3a through 3f) to the right as needed in the Emissions by Source table. If you need to provide information for more pollutants, add rows as needed.

Emissions by Source Table

3a) Delta ID number: EU001						3a) Delta ID number: EU002					
3b) Tempo SI ID No.:						3b) Tempo SI ID No.:					
3c) Pollutant Name	3d) CAS #	3e) Potential lbs per Hr	3e) Potential tpy un-restricted	3e) Potential tpy limited	3f) Actual tpy	3c) Pollutant Name	3d) CAS #	3e) Potential lbs per Hr	3e) Potential tpy un-restricted	3e) Potential tpy limited	3f) Actual tpy
PM		0.05	0.24			PM		0.05	0.24		
PM10		0.05	0.24			PM10		0.05	0.24		
PM2.5		0.05	0.24			PM2.5		0.05	0.24		
SO2	744-09-5	0.00	0.02			SO2	744-09-5	0.00	0.02		
NOx		0.72	3.16			NOx		0.72	3.16		
VOC		0.04	41.01			VOC		0.04	13.79		
CO	7440-48-4	0.61	2.65			CO	7440-48-4	0.61	2.65		
CO2	124-38-9	866.02	3793.16			CO2	124-38-9	866.02	3793.16		
CH4	74-82-8	0.41	1.79			CH4	74-82-8	0.41	1.79		
N2O	10024-97-2	0.49	2.13			N2O	10024-97-2	0.49	2.13		
Benzene	71-43-2	0.00	0.00			Benzene	71-43-2	0.00	0.00		
Butane	106-97-8	0.02	0.07			Butane	106-97-8	0.02	0.07		
Dichlorobenzene	25321-22-6	0.00	0.00			Dichlorobenzene	25321-22-6	0.00	0.00		
Ethane	75-84-0	0.02	0.10			Ethane	75-84-0	0.02	0.10		
Formaldehyde	50-00-0	0.00	0.00			Formaldehyde	50-00-0	0.00	0.00		
Hexane	110-54-3	0.01	0.06			Hexane	110-54-3	0.01	0.06		
Naphthalene	91-20-3	0.00	0.00			Naphthalene	91-20-3	0.00	0.00		
Pentane	109-66-0	0.02	0.08			Pentane	109-66-0	0.02	0.08		
Propane	74-98-6	0.01	0.05			Propane	74-98-6	0.01	0.05		
Toluene	108-88-3	0.00	0.00			Toluene	108-88-3	0.00	0.00		
Acenaphthene	83-32-9	0.00	0.00			Acenaphthene	83-32-9	0.00	0.00		

GI-07 Spreadsheet

Facility Emissions Summary

Air Quality Permit Program

Doc Type: Permit Application

and must be submitted on a CD with your application. If you need to provide emissions information for

3a) Delta ID number: EU003					
3b) Tempo SI ID No.:					
3c) Pollutant Name	**3d)** CAS #	**3e)** Potential lbs per Hr	**3e)** Potential tpy un-restricted	**3e)** Potential tpy limited	**3f)** Actual tpy
PM		0.01	0.05		
PM10		0.01	0.05		
PM2.5		0.01	0.05		
SO2	744-09-5	0.00	0.00		
NOx		0.16	0.72		
VOC		0.01	0.04		
CO	7440-48-4	0.14	0.60		
CO2	124-38-9	197.09	863.25		
CH4	74-82-8	0.09	0.41		
N2O	10024-97-2	0.11	0.48		
Benzene	71-43-2	0.00	0.00		
Butane	106-97-8	0.00	0.02		
Dichlorobenzene	25321-22-6	0.00	0.00		
Ethane	75-84-0	0.01	0.02		
Formaldehyde	50-00-0	0.00	0.00		
Hexane	110-54-3	0.00	0.01		
Naphthalene	91-20-3	0.00	0.00		
Pentane	109-66-0	0.00	0.02		
Propane	74-98-6	0.00	0.01		
Toluene	108-88-3	0.00	0.00		
Acenaphthene	83-32-9	0.00	0.00		

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

Alternate Format

1a) AQ Facility ID number: 12300764 1b) Agency Interest ID number: 131464

2) Facility name: Baldinger Bakery

Emissions by Source Table

3a) Delta ID number: EU004						3a) Delta ID number: EU005					
3b) Tempo SI ID No.:						3b) Tempo SI ID No.:					
3c) Pollutant Name	3d) CAS #	3e) Potential lbs per Hr	3e) Potential tpy un-restricted	3e) Potential tpy limited	3f) Actual tpy	3c) Pollutant Name	3d) CAS #	3e) Potential lbs per Hr	3e) Potential tpy un-restricted	3e) Potential tpy limited	3f) Actual tpy
PM		0.01	0.04			PM		0.01	0.04		
PM10		0.01	0.04			PM10		0.01	0.04		
PM2.5		0.01	0.04			PM2.5		0.01	0.04		
SO2	744-09-5	0.00	0.00			SO2	744-09-5	0.00	0.00		
NOx		0.12	0.54			NOx		0.12	0.54		
VOC		0.01	0.03			VOC		0.01	0.03		
CO	7440-48-4	0.10	0.45			CO	7440-48-4	0.10	0.45		
CO2	124-38-9	148.26	649.37			CO2	124-38-9	148.26	649.37		
CH4	74-82-8	0.07	0.31			CH4	74-82-8	0.07	0.31		
N2O	10024-97-2	0.08	0.36			N2O	10024-97-2	0.08	0.36		
Benzene	71-43-2	0.00	0.00			Benzene	71-43-2	0.00	0.00		
Butane	106-97-8	0.00	0.01			Butane	106-97-8	0.00	0.01		
Dichlorobenzene	25321-22-6	0.00	0.00			Dichlorobenzene	25321-22-6	0.00	0.00		
Ethane	75-84-0	0.00	0.02			Ethane	75-84-0	0.00	0.02		
Formaldehyde	50-00-0	0.00	0.00			Formaldehyde	50-00-0	0.00	0.00		
Hexane	110-54-3	0.00	0.01			Hexane	110-54-3	0.00	0.01		
Naphthalene	91-20-3	0.00	0.00			Naphthalene	91-20-3	0.00	0.00		
Pentane	109-66-0	0.00	0.01			Pentane	109-66-0	0.00	0.01		
Propane	74-98-6	0.00	0.01			Propane	74-98-6	0.00	0.01		
Toluene	108-88-3	0.00	0.00			Toluene	108-88-3	0.00	0.00		
Acenaphthene	83-32-9	0.00	0.00			Acenaphthene	83-32-9	0.00	0.00		

GI-07 Spreadsheet

Facility Emissions Summary

Air Quality Permit Program

Doc Type: Permit Application

Emissions by Source Table

3a) Delta ID number: EU006				
3b) Tempo SI ID No.:				
3c) Pollutant Name	**3d)** CAS #	**3e)** Potential lbs per Hr	tpy un-restricted	tpy limited
PM		0.00	0.01	
PM10		0.00	0.01	
PM2.5		0.00	0.01	
SO2	744-09-5	0.00	0.00	
NOx		0.04	0.17	
VOC		0.00	0.01	
CO	7440-48-4	0.03	0.14	
CO2	124-38-9	47.07	206.15	
CH4	74-82-8	0.02	0.10	
N2O	10024-97-2	0.03	0.12	
Benzene	71-43-2	0.00	0.00	
Butane	106-97-8	0.00	0.00	
Dichlorobenzene	25321-22-6	0.00	0.00	
Ethane	75-84-0	0.00	0.01	
Formaldehyde	50-00-0	0.00	0.00	
Hexane	110-54-3	0.00	0.00	
Naphthalene	91-20-3	0.00	0.00	
Pentane	109-66-0	0.00	0.00	
Propane	74-98-6	0.00	0.00	
Toluene	108-88-3	0.00	0.00	
Acenaphthene	83-32-9	0.00	0.00	

Minnesota Poll Control Agency

AIR QUALITY
520 LAFAYETTE ROAD NO., ST. PAUL, MN 55155-4194

PERMIT APPLICATION FORM **CAP-GI-04**
STACK/VENT INFORMATION
3/7/06

1) AQ Facility ID No.: **12300764** **2)** Facility Name: **Baldinger Bakery**

3a) SV ID No.	3b) Operator's Description	3c) Height of Opening From Ground (ft.)	3d) Inside Diameter in ft. (left column only) or Length x Width in ft. (both columns)		3e) Design Flow Rate at Exit (acfm)	3f) Exit Gas Temperature (° F)	3g) Rate/Temp Information Source	3h) Discharge Direction
001	STRU 001- Oven 1	58.2	3.4		15071	436.4	M	U
002	STRU 002 - Oven 2	38.9	2.3		4991.5	203.1	M	U
003	STRU 003 - Boiler 1	43	1		451	277	E	C
004	STRU 004 - Boiler 2	42.8	1.3		335	277	E	C
005	STRU 005 - Boiler 3	42.8	1.3		335	299	E	C
006	STRU 006 - Boiler 4	13	0.5		110	299	E	H
007	STRU 007 - Boiler 5	13	0.5		110	299	E	H
008	STRU 008 - Boiler 6	13	0.5		110	299	E	H
009	STRU 009 - Boiler 7	13	0.5		110	299	E	H
010	STRU 010 - Boiler 8	13	0.5		110	299	E	H

MInnesota Poll Control Agency
AIR QUALITY
520 LAFAYETTE ROAD NO., ST. PAUL, MN 55155-4194

PERMIT APPLICATION FORM **CAP-GI-04**
STACK/VENT INFORMATION
3/7/06

1) AQ Facility ID No.: **12300764** 2) Facility Name: **Baldinger Bakery**

3a) SV ID No.	3b) Operator's Description	3c) Height of Opening From Ground (ft.)	3d) Inside Diameter in ft. (left column only) or Length x Width in ft. (both columns)		3e) Design Flow Rate at Exit (acfm)	3f) Exit Gas Temperature (° F)	3g) Rate/Temp Information Source	3h) Discharge Direction
011	STRU 011 - Boiler 9	13	0.5		110	299	E	H
012	STRU 012 - Water Heater 1	11.6	0.42		90	165	E	H
013	STRU 013 - Water Heater 2	11.6	0.42		90	165	E	H
014	STRU 014 - Emr Generator	4.17	0.125		172	1004	M	C
015	STRU 015 - RTU 4	41.75	3.25	0.25	146	173	E	H
016	STRU 016 - RTU 6	39.8	2.5	0.25	72	168	E	H
017	STRU 017 - RTU 7	17.5	4.33	2.33	60	153	E	H
018	STRU 018 - RTU 8	17.5	4.33	2.33	60	153	E	H
029	STRU 029 - Water Heater 3	12	0.42		90	165	E	H
030	STRU 030 - Water Heater 4	12	0.42		90	165	E	H

Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-GI-05A

Pollution Control Equipment Information

Air Quality Permit Program

Doc Type: Permit Application

1a) AQ Facility ID No.: 12300764 **1b)** AQ File No.: 131464

2) Facility Name: Baldinger Bakery

3a) Control Equip ID No.	3b) CE Type Code	3c) Description	3d) Manufacturer	3e) Model No.	3f) Pollutants Controlled	3g) Control Efficiency
NA	NA	NA	NA	NA	NA	NA

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-GI-05B

Emission Unit Information

Air Quality Permit Program

Doc Type: Permit Application

Instructions on page 2.

1a) AQ Facility ID number: 12300764 **1b)** Agency Interest ID number: 131464

2) Facility name: Baldinger Bakery

3) Fill in a column in the table below for each emission unit (EU/EQUI). Form GI-05F *Emission Source Association* must also be submitted whenever this form is required.

3a) Emission unit ID number	001	001	002	002
3b) Emission unit type	oven, unknown firing method	Oven, Burner Direct firing	Oven, unknown firing method	Oven, burner direct firing
3c) Emission unit operator's description	Line 1 oven	Line 1 Oven	Line 2 Oven	Line 2 Oven
3d) Manufacturer	Baketech	Baketech	Baketech	Baketech
3e) Model number	Maxi-Savor Continuous	Maxi-Savor Continuous	Maxi-Savor Continuous	Maxi-Savor Continuous
3f) Max design capacity, material and units	units: / material: bread	7.36 units: MMBtu/ Hr material: Nat Gas	units: / material: bread	7.36 units: MMBtu/ Hr material: Nat Gas
3g) Commence construction date (mm/dd/yyyy)	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	10/1/2018 ☐ to be determined	10/1/2018 ☐ to be determined
3h) Initial startup date (mm/dd/yyyy)	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	10/1/2018 ☐ to be determined	10/1/2018 ☐ to be determined
3i) Modification or reconstructed date (mm/dd/yyyy)				
3j) Firing method				
3k) Engine use				
3l) Engine displacement	Units:	Units:	Units:	Units:
3m) Subject to CSAPR?	No	No	No	No
3n) Electric generating capacity (megawatts)				
3o) SIC code	2051	2051	2051	2051
3p) Status	Active	Active	Active	Active

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-GI-05B

Emission Unit Information

Air Quality Permit Program

Doc Type: Permit Application

Instructions on page 2.

1a) AQ Facility ID number: 12300764 **1b)** Agency Interest ID number: 131464

2) Facility name: Baldinger Bakery

3) Fill in a column in the table below for each emission unit (EU/EQUI). Form GI-05F *Emission Source Association* must also be submitted whenever this form is required.

3a) Emission unit ID number	003	004	005	006
3b) Emission unit type	Boiler 1	Boiler 2	Boiler 3	Boiler 4
3c) Emission unit operator's description	Steam	Hydronic	Hydronic	Hydronic
3d) Manufacturer	Lattner	Raypak	Raypak	LAARS
3e) Model number	WLF-40	Hi-Delta H9-1262B	Hi-Delta H9-1262B	MT2V0400NACK3BLN
3f) Max design capacity, material and units	1.675 units: MMBtu/ Hr material: Steam	1.26 units: MMBtu/ Hr material: water	1.26 units: MMBtu/ Hr material: water	0.4 units: MMBtu/ Hr material: water
3g) Commence construction date (mm/dd/yyyy)	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined
3h) Initial startup date (mm/dd/yyyy)	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined
3i) Modification or reconstructed date (mm/dd/yyyy)				
3j) Firing method				
3k) Engine use				
3l) Engine displacement	Units:	Units:	Units:	Units:
3m) Subject to CSAPR?	No			
3n) Electric generating capacity (megawatts)				
3o) SIC code	2051	2051	2051	2051
3p) Status	Active	Active	Active	Active
3q) Removal date (mm/dd/yyyy)				

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-GI-05B

Emission Unit Information

Air Quality Permit Program

Doc Type: Permit Application

Instructions on page 2.

1a) AQ Facility ID number: 12300764 **1b)** Agency Interest ID number: 131464

2) Facility name: Baldinger Bakery

3) Fill in a column in the table below for each emission unit (EU/EQUI). Form GI-05F *Emission Source Association* must also be submitted whenever this form is required.

3a) Emission unit ID number	007	008	009	010
3b) Emission unit type	Boiler 5	Boiler 6	Boiler 7	Boiler 8
3c) Emission unit operator's description	Hydronic	Hydronic	Hydronic	Hydronic
3d) Manufacturer	LAARS	LAARS	LAARS	LAARS
3e) Model number	MT2V0400NACK3BLN	MT2V0400NACK3BLN	MT2V0400NACK3BLN	MT2V0400NACK3BLN
3f) Max design capacity, material and units	0.4 units: MMBtu/ Hr material: Water	0.4 units: MMBtu/ Hr material: Water	0.4 units: MMBtu/ Hr material: Water	0.4 units: MMBtu/ Hr material: Water
3g) Commence construction date (mm/dd/yyyy)	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined
3h) Initial startup date (mm/dd/yyyy)	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined
3i) Modification or reconstructed date (mm/dd/yyyy)				
3j) Firing method				
3k) Engine use				
3l) Engine displacement	Units:	Units:	Units:	Units:
3m) Subject to CSAPR?	No	No	No	No
3n) Electric generating capacity (megawatts)				
3o) SIC code	2051	2051	2051	2051
3p) Status	Active	Active	Active	Active
3q) Removal date (mm/dd/yyyy)				

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-GI-05B

Emission Unit Information

Air Quality Permit Program

Doc Type: Permit Application

Instructions on page 2.

1a) AQ Facility ID number: 12300764 **1b)** Agency Interest ID number: 131464

2) Facility name: Baldinger Bakery

3) Fill in a column in the table below for each emission unit (EU/EQUI). Form GI-05F *Emission Source Association* must also be submitted whenever this form is required.

3a) Emission unit ID number	011	012	013	014
3b) Emission unit type	Boiler 9	Water Heater 1	Water Heater 2	Emergency Generator
3c) Emission unit operator's description	Hydronic	Other Emissions Unit	Other Emissions Unit	Other Emissions Unit
3d) Manufacturer	LAARS	AO Smith	AO Smith	ONAN/CUMMINS
3e) Model number	MT2V0400NACK3BLN	BTH-400-300	BTH-400-300	20.0 GGMA
3f) Max design capacity, material and units	0.4 units: MMBtu/ Hr material: water	0.4 units: MMBtu/ Hr material: water	0.4 units: MMBtu/ Hr material: water	units: / material: electricity
3g) Commence construction date (mm/dd/yyyy)	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined
3h) Initial startup date (mm/dd/yyyy)	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined
3i) Modification or reconstructed date (mm/dd/yyyy)				
3j) Firing method				
3k) Engine use				
3l) Engine displacement	Units:	Units:	Units:	Units:
3m) Subject to CSAPR?	No	No	No	No
3n) Electric generating capacity (megawatts)				
3o) SIC code	2051	2051	2051	2051
3p) Status	Active	Active	Active	Active
3q) Removal date (mm/dd/yyyy)				

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-GI-05B

Emission Unit Information

Air Quality Permit Program

Doc Type: Permit Application

Instructions on page 2.

1a) AQ Facility ID number: 12300764 **1b)** Agency Interest ID number: 131464

2) Facility name: Baldinger Bakery

3) Fill in a column in the table below for each emission unit (EU/EQUI). Form GI-05F *Emission Source Association* must also be submitted whenever this form is required.

3a) Emission unit ID number	015	016	017	018
3b) Emission unit type	Other Emissions Unit	Other Emissions Unit	Other Emissions Unit	Other Emissions Unit
3c) Emission unit operator's description	Roof Top Unit 4	Roof Top Unit 6	Roof Top Unit 7	Roof Top Unit 8
3d) Manufacturer	MCQUAY	MCQUAY	AAON	AAON
3e) Model number	RPS080D-SA	RDS800C (RPS080DSA)	RN-018-3-0-EA09-244	RN-018-3-0-EA09-244
3f) Max design capacity, material and units	0.64 units: MMBtu/ Hr material:	0.27 units: MMBtu/ Hr material:	0.27 units: MMBtu/ Hr material:	0.195 units: MMBtu/ Hr material:
3g) Commence construction date (mm/dd/yyyy)	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined
3h) Initial startup date (mm/dd/yyyy)	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined
3i) Modification or reconstructed date (mm/dd/yyyy)				
3j) Firing method				
3k) Engine use				
3l) Engine displacement	Units:	Units:	Units:	Units:
3m) Subject to CSAPR?	No	No	No	No
3n) Electric generating capacity (megawatts)				
3o) SIC code	2051	2051	2051	2051
3p) Status	Active	Active	Active	Active
3q) Removal date (mm/dd/yyyy)				

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-GI-05B

Emission Unit Information

Air Quality Permit Program

Doc Type: Permit Application

Instructions on page 2.

1a) AQ Facility ID number: 12300764 **1b)** Agency Interest ID number: 131464

2) Facility name: Baldinger Bakery

3) Fill in a column in the table below for each emission unit (EU/EQUI). Form GI-05F *Emission Source Association* must also be submitted whenever this form is required.

3a) Emission unit ID number	019	020	021	022
3b) Emission unit type	Other Emissions Unit	Other Emissions Unit	Other Emissions Unit	Other Emissions Unit
3c) Emission unit operator's description	Make Up Air Unit 1	Make Up Air Unit 2	Make Up Unit 3	Infrared Heater 1
3d) Manufacturer				
3e) Model number				
3f) Max design capacity, material and units	1.627 units: MMBtu/ Hr material:	0.625 units: MMBtu/ Hr material:	0.525 units: MMBtu/ Hr material:	0.15 units: MMBtu/ Hr material:
3g) Commence construction date (mm/dd/yyyy)	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined
3h) Initial startup date (mm/dd/yyyy)	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined
3i) Modification or reconstructed date (mm/dd/yyyy)				
3j) Firing method				
3k) Engine use				
3l) Engine displacement	Units:	Units:	Units:	Units:
3m) Subject to CSAPR?	No	No	No	No
3n) Electric generating capacity (megawatts)				
3o) SIC code	2051	2051	2051	2051
3p) Status	Inactive	Inactive	Inactive	Inactive
3q) Removal date (mm/dd/yyyy)	1/1/2024	1/1/2024	1/1/2024	1/1/2024

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
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CAP-GI-05B

Emission Unit Information

Air Quality Permit Program

Doc Type: Permit Application

Instructions on page 2.

1a) AQ Facility ID number: 12300764 **1b)** Agency Interest ID number: 131464

2) Facility name: Baldinger Bakery

3) Fill in a column in the table below for each emission unit (EU/EQUI). Form GI-05F *Emission Source Association* must also be submitted whenever this form is required.

3a) Emission unit ID number	023	024	025	026
3b) Emission unit type	Other Emissions Unit	Other Emissions Unit	Other Emissions Unit	Other Emissions Unit
3c) Emission unit operator's description	Infrared Heater 2	Unit Heater 3	Unit Heater 4	Unit Heater 5
3d) Manufacturer				
3e) Model number				
3f) Max design capacity, material and units	0.15 units: MMBtu/ Hr material: heat	0.075 units: MMBtu/ Hr material: heat	0.4 units: MMBtu/ Hr material: heat	0.4 units: MMBtu/ Hr material: heat
3g) Commence construction date (mm/dd/yyyy)	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined
3h) Initial startup date (mm/dd/yyyy)	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined
3i) Modification or reconstructed date (mm/dd/yyyy)				
3j) Firing method				
3k) Engine use				
3l) Engine displacement	Units:	Units:	Units:	Units:
3m) Subject to CSAPR?	No	No	No	No
3n) Electric generating capacity (megawatts)				
3o) SIC code	2051	2051	2051	2051
3p) Status	Inactive	Inactive	Inactive	Inactive
3q) Removal date (mm/dd/yyyy)	1/1/2024	1/1/2024	1/1/2024	1/1/2024

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-GI-05B

Emission Unit Information

Air Quality Permit Program

Doc Type: Permit Application

Instructions on page 2.

1a) AQ Facility ID number: 027 **1b)** Agency Interest ID number: 131464

2) Facility name: Baldinger Bakery

3) Fill in a column in the table below for each emission unit (EU/EQUI). Form GI-05F *Emission Source Association* must also be submitted whenever this form is required.

3a) Emission unit ID number	027	028	029	030
3b) Emission unit type	Other Emissions Unit	Other Emissions Unit	Other Emissions Unit	Other Emissions Unit
3c) Emission unit operator's description	Unit Heater 6	Roof Top Unit 2	Water Heater 3	Water Heater 4
3d) Manufacturer			BOCK	BOCK
3e) Model number			OT500N2	OT500N2
3f) Max design capacity, material and units	0.4 units: MMBtu/ Hr material: heat	1.59 units: MMBTU/ Hr material: heat	0.4 units: MMBtu/ Hr material: heat	0.4 units: MMBtu/ Hr material: heat
3g) Commence construction date (mm/dd/yyyy)	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined
3h) Initial startup date (mm/dd/yyyy)	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined	1/3/2011 ☐ to be determined
3i) Modification or reconstructed date (mm/dd/yyyy)				
3j) Firing method				
3k) Engine use				
3l) Engine displacement	Units:	Units:	Units:	Units:
3m) Subject to CSAPR?	No			
3n) Electric generating capacity (megawatts)				
3o) SIC code	2051	2051	2051	2051
3p) Status	Inactive	Inactive	Active	Active
3q) Removal date (mm/dd/yyyy)	1/1/2024	1/1/2024		

Minnesota Pollution Control Agency

AIR QUALITY
520 LAFAYETTE ROAD NO., ST. PAUL, MN 55155-4194

PERMIT APPLICATION FORM **CAP-GI-05C**
TANK INFORMATION
3/7/06

1) AQ Facility ID No.: **12300764** 2) Facility Name: **Baldinger Bakery**

3a) Tank ID No.	3b) Control Equip ID No.	3c) Product(s) Stored	3d) Interior Height (ft.)	3e) Interior Diameter (ft.)	3f) Capacity (1000 gals.)	3g) Construc-tion Type	3h) Support Type (floating roof only)	3i) Number of Columns (column-supported only)	3j) Column Diameter (column-supported only, in ft.)	3k) Deck Type (floating roof only)	3l) Seal Type (floating roof only)	3m) Date Installed or Constructed
NA	NA	NA	NA	NA	NA			NA	NA			NA

Minnesota Pollution Control Agency

AIR QUALITY
520 LAFAYETTE ROAD NO., ST. PAUL, MN 55155-4194

PERMIT APPLICATION FORM **CAP-GI-05D**
FUGITIVE EMISSION SOURCE INFORMATION
3/7/06

1) Facility ID No.: 12300764 2) Facility Name: Baldinger Bakery

3a) Fugitive Source ID No.	3b) Pollutant Emitted (particulate matter (PM) or VOC)	3c) Included in Ambient Assessment?	3d) Description of Fugitive Emission Source
NA	NA	NA	NA

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

GI-05F

Emission source associations

Air Quality Permit Program

Doc Type: Permit Application

Instructions on page 3.

1a) AQ Facility ID number: 12300764 1b) Agency Interest ID number: 131464

2) Facility name: Baldinger Bakery

☐ Check this box if using GI-05F for a *Reissuance application*. You will need the AQ SI details report labeled ***SI-SI relationships***. See the instructions for fields that may be marked "null" in the *SI-SI relationships* report.

Note – If your most recent permit was issued after November 1, 2015 **or** you are applying for reissuance, use Tempo ID numbers for all equipment, stacks, controls, etc. Tempo IDs are in the form EQUIxxx, TREAxxx, STRUxxx, FUGIxxx, etc.

3a) Source ID number	3b) % Flow	3c) Relationship	3d) CE ID number	3e) Start date (mm/dd/yyyy)	3f) End date (mm/dd/yyyy)	3g) % Flow	3h) Relationship	3i) S/V ID number	3j) Start date (mm/dd/yyyy)	3k) End date (mm/dd/yyyy)	3l) Comments
EU 001	0	is controlled by				100	sends to	001	1/3/2011		
EU 002	0	is controlled by				100	sends to	002	1/3/2011		
EU 003	0	is controlled by				100	sends to	003	10/1/2018		
EU 004	0	is controlled by				100	sends to	004	10/1/2018		
EU 005	0	is controlled by				100	sends to	005	1/3/2011		
EU 006	0	is controlled by				100	sends to	006	1/3/2011		
EU 007	0	is controlled by				100	sends to	007	1/3/2011		
EU 008	0	is controlled by				100	sends to	008	1/3/2011		
EU 009	0	is controlled by				100	sends to	009	1/3/2011		
EU 010	0	is controlled by				100	sends to	010	1/3/2011		
EU 011	0	is controlled by				100	sends to	011	1/3/2011		
EU 012	0	is controlled by				100	sends to	012	1/3/2011		
EU 013	0	is controlled by				100	sends to	013	1/3/2011		
EU 014	0	is controlled by				100	sends to	014	1/3/2011		
EU 015	0	is controlled by				100	sends to	015	1/3/2011		

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

GI-05F

Emission source associations

Air Quality Permit Program

Doc Type: Permit Application

Instructions on page 3.

1a) AQ Facility ID number: 12300764 1b) Agency Interest ID number: 131464

2) Facility name: Baldinger Bakery

☐ Check this box if using GI-05F for a *Reissuance application*. You will need the AQ SI details report labeled ***SI-SI relationships***. See the instructions for fields that may be marked "null" in the *SI-SI relationships* report.

Note – If your most recent permit was issued after November 1, 2015 **or** you are applying for reissuance, use Tempo ID numbers for all equipment, stacks, controls, etc. Tempo IDs are in the form EQUIxxx, TREAxxx, STRUxxx, FUGIxxx, etc.

3a) Source ID number	3b) % Flow	3c) Relationship	3d) CE ID number	3e) Start date (mm/dd/yyyy)	3f) End date (mm/dd/yyyy)	3g) % Flow	3h) Relationship	3i) S/V ID number	3j) Start date (mm/dd/yyyy)	3k) End date (mm/dd/yyyy)	3l) Comments
EU 016	0	is controlled by				100	sends to	016	1/3/2011		
EU 017	0	is controlled by				100	sends to	017	1/3/2011		
EU 018	0	is controlled by				100	sends to	018	1/3/2011		
EU 029	0	is controlled by				100	sends to	029	1/3/2011		
EU 030	0	is controlled by				100	sends to	030	1/3/2011		
		is controlled by					sends to				
		is controlled by					sends to				
		is controlled by					sends to				
		is controlled by					sends to				
		is controlled by					sends to				
		is controlled by					sends to				
		is controlled by					sends to				
		is controlled by					sends to				
		is controlled by					sends to				
		is controlled by					sends to				

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

Alternate Format

1a) AQ Facility ID number: 12300764 1b) Agency Interest ID number: 131464

2) Facility name: Baldinger Bakery

You may use and submit this spreadsheet in place of Form GI-07. Follow the instructions for Form GI-07 to complete this spreadsheet. This spreadsheet can be copied into a tab for your emissions spreadsheet a more emissions units, add more sets of columns (3a through 3f) to the right as needed in the Emissions by Source table. If you need to provide information for more pollutants, add rows as needed.

Emissions by Source Table

3a) Delta ID number: EU001						3a) Delta ID number: EU002					
3b) Tempo SI ID No.:						3b) Tempo SI ID No.:					
3c) Pollutant Name	3d) CAS #	3e) Potential lbs per Hr	3e) Potential tpy un-restricted	3e) Potential tpy limited	3f) Actual tpy	3c) Pollutant Name	3d) CAS #	3e) Potentia lbs per Hr	3e) Potentia tpy un-restricted	3e) Potentia tpy limited	3f) Actual tpy
PM		0.05	0.24			PM		0.05	0.24		
PM10		0.05	0.24			PM10		0.05	0.24		
PM2.5		0.05	0.24			PM2.5		0.05	0.24		
SO2	744-09-5	0.00	0.02			SO2	744-09-5	0.00	0.02		
NOx		0.72	3.16			NOx		0.72	3.16		
VOC		0.04	41.01			VOC		0.04	13.79		
CO	7440-48-4	0.61	2.65			CO	7440-48-4	0.61	2.65		
CO2	124-38-9	866.02	3793.16			CO2	124-38-9	866.02	3793.16		
CH4	74-82-8	0.41	1.79			CH4	74-82-8	0.41	1.79		
N2O	10024-97-2	0.49	2.13			N2O	10024-97-2	0.49	2.13		
Benzene	71-43-2	0.00	0.00			Benzene	71-43-2	0.00	0.00		
Butane	106-97-8	0.02	0.07			Butane	106-97-8	0.02	0.07		
Dichlorobenzene	25321-22-6	0.00	0.00			Dichlorobenzene	25321-22-6	0.00	0.00		
Ethane	75-84-0	0.02	0.10			Ethane	75-84-0	0.02	0.10		
Formaldehyde	50-00-0	0.00	0.00			Formaldehyde	50-00-0	0.00	0.00		
Hexane	110-54-3	0.01	0.06			Hexane	110-54-3	0.01	0.06		
Naphthalene	91-20-3	0.00	0.00			Naphthalene	91-20-3	0.00	0.00		
Pentane	109-66-0	0.02	0.08			Pentane	109-66-0	0.02	0.08		
Propane	74-98-6	0.01	0.05			Propane	74-98-6	0.01	0.05		
Toluene	108-88-3	0.00	0.00			Toluene	108-88-3	0.00	0.00		
Acenaphthene	83-32-9	0.00	0.00			Acenaphthene	83-32-9	0.00	0.00		

GI-07 Spreadsheet

Facility Emissions Summary

Air Quality Permit Program

Doc Type: Permit Application

ınd must be submitted on a CD with your application. If you need to provide emissions information for

3a) Delta ID number: EU003					
3b) Tempo SI ID No.:					
3c) Pollutant Name	**3d)** CAS #	**3e)** Potential lbs per Hr	**3e)** Potential tpy un-restricted	**3e)** Potential tpy limited	**3f)** Actual tpy
PM		0.01	0.05		
PM10		0.01	0.05		
PM2.5		0.01	0.05		
SO2	744-09-5	0.00	0.00		
NOx		0.16	0.72		
VOC		0.01	0.04		
CO	7440-48-4	0.14	0.60		
CO2	124-38-9	197.09	863.25		
CH4	74-82-8	0.09	0.41		
N2O	10024-97-2	0.11	0.48		
Benzene	71-43-2	0.00	0.00		
Butane	106-97-8	0.00	0.02		
Dichlorobenzene	25321-22-6	0.00	0.00		
Ethane	75-84-0	0.01	0.02		
Formaldehyde	50-00-0	0.00	0.00		
Hexane	110-54-3	0.00	0.01		
Naphthalene	91-20-3	0.00	0.00		
Pentane	109-66-0	0.00	0.02		
Propane	74-98-6	0.00	0.01		
Toluene	108-88-3	0.00	0.00		
Acenaphthene	83-32-9	0.00	0.00		

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

Alternate Format

1a) AQ Facility ID number: 12300764 1b) Agency Interest ID number: 131464

2) Facility name: Baldinger Bakery

Emissions by Source Table

3a) Delta ID number: EU004						3a) Delta ID number: EU005					
3b) Tempo SI ID No.:						3b) Tempo SI ID No.:					
3c)	3d)	3e) Potential			3f)	3c)	3d)	3e) Potential			3f)
Pollutant Name	CAS #	lbs per Hr	tpy un-restricted	tpy limited	Actual tpy	Pollutant Name	CAS #	lbs per Hr	tpy un-restricted	tpy limited	Actual tpy
PM		0.01	0.04			PM		0.01	0.04		
PM10		0.01	0.04			PM10		0.01	0.04		
PM2.5		0.01	0.04			PM2.5		0.01	0.04		
SO2	744-09-5	0.00	0.00			SO2	744-09-5	0.00	0.00		
NOx		0.12	0.54			NOx		0.12	0.54		
VOC		0.01	0.03			VOC		0.01	0.03		
CO	7440-48-4	0.10	0.45			CO	7440-48-4	0.10	0.45		
CO2	124-38-9	148.26	649.37			CO2	124-38-9	148.26	649.37		
CH4	74-82-8	0.07	0.31			CH4	74-82-8	0.07	0.31		
N2O	10024-97-2	0.08	0.36			N2O	10024-97-2	0.08	0.36		
Benzene	71-43-2	0.00	0.00			Benzene	71-43-2	0.00	0.00		
Butane	106-97-8	0.00	0.01			Butane	106-97-8	0.00	0.01		
Dichlorobenzene	25321-22-6	0.00	0.00			Dichlorobenzene	25321-22-6	0.00	0.00		
Ethane	75-84-0	0.00	0.02			Ethane	75-84-0	0.00	0.02		
Formaldehyde	50-00-0	0.00	0.00			Formaldehyde	50-00-0	0.00	0.00		
Hexane	110-54-3	0.00	0.01			Hexane	110-54-3	0.00	0.01		
Naphthalene	91-20-3	0.00	0.00			Naphthalene	91-20-3	0.00	0.00		
Pentane	109-66-0	0.00	0.01			Pentane	109-66-0	0.00	0.01		
Propane	74-98-6	0.00	0.01			Propane	74-98-6	0.00	0.01		
Toluene	108-88-3	0.00	0.00			Toluene	108-88-3	0.00	0.00		
Acenaphthene	83-32-9	0.00	0.00			Acenaphthene	83-32-9	0.00	0.00		

GI-07 Spreadsheet

Facility Emissions Summary

Air Quality Permit Program

Doc Type: Permit Application

Emissions by Source Table

3a) Delta ID number: EU006				
3b) Tempo SI ID No.:				
3c) Pollutant Name	**3d)** CAS #	**3e)** Potential lbs per Hr	tpy un-restricted	tpy limited
PM		0.00	0.01	
PM10		0.00	0.01	
PM2.5		0.00	0.01	
SO2	744-09-5	0.00	0.00	
NOx		0.04	0.17	
VOC		0.00	0.01	
CO	7440-48-4	0.03	0.14	
CO2	124-38-9	47.07	206.15	
CH4	74-82-8	0.02	0.10	
N2O	10024-97-2	0.03	0.12	
Benzene	71-43-2	0.00	0.00	
Butane	106-97-8	0.00	0.00	
Dichlorobenzene	25321-22-6	0.00	0.00	
Ethane	75-84-0	0.00	0.01	
Formaldehyde	50-00-0	0.00	0.00	
Hexane	110-54-3	0.00	0.00	
Naphthalene	91-20-3	0.00	0.00	
Pentane	109-66-0	0.00	0.00	
Propane	74-98-6	0.00	0.00	
Toluene	108-88-3	0.00	0.00	
Acenaphthene	83-32-9	0.00	0.00	

Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-GI-09

Capped Permit Requirements Form
Air Quality Permit Program
Doc Type: Permit Application

Note: You must submit this form as part of your capped permit application package.

AQ Facility ID No.: 12300764 AQ File No.: 131464

Facility Name: Baldinger Bakery

Federal and State Requirements

This packet of forms, **CAP-GI-09 Requirements**, will help you to determine the federal and state requirements with which your facility must comply. Be advised that you must include any applicable requirement that may not be addressed in this part of the application.

The first section of this form asks questions to find out if your facility is subject to specific federal and state regulations. To assist you in filling out this form, there are five attachments, forms **CAP-GI-09 A, D, F, G and I**. This form will direct you to each of the attachments as necessary, which will help you determine if your facility is subject to these regulations. When you are directed to an attachment, complete it as required, but *always* return to this **CAP-GI-09 Requirements** form.

In this form and the others in the CAP-GI-09 series, attach additional pages if the space provided is not sufficient.

1) National Emission Standards for Hazardous Air Pollutants for Source Categories
(NESHAP for Source Categories, 40 CFR pt. 63)

1a) To determine if any requirements for the National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Source Categories (40 CFR pt. 63) apply to your facility, you must complete attached form **CAP-GI-09A Requirements: NESHAP for Source Categories** (40 CFR pt. 63).

1b) After completing form CAP-GI-09A, check one of the following boxes:

☐ **Yes**, my facility **is currently** subject to an area source NESHAP for Source Categories requirements. Go to question 1c.

☒ **No**, my facility **is not currently** subject to NESHAP for Source Categories requirements. Go to question 2.

1c) Check the box that best describes your source's compliance status with regards to applicable area source NESHAP requirements on the date of application and then go to question 2:

☐ Compliance

☐ Non-compliance. Describe: _____

2) Standards of Performance for New Stationary Sources
(NSPS, New Source Performance Standards, 40 CFR pt. 60)

2a) Have you constructed, modified (as defined in 40 CFR § 60.14), or reconstructed (as defined in 40 CFR § 60.15) your emission facility, or any portion thereof, after August 17, 1971?

☐ **No**. Go to question 3.

☒ **Yes**, you may be subject to this regulation. Complete the attached form **CAP-GI-09D REQUIREMENTS: NSPS**.

2b) After completing the above question (and the attachment if necessary) check one of the following boxes:

☐ **Yes**, my facility (or a portion of it) **is** subject to NSPS requirements. My facility is only subject to one or more of the 14 NSPS requirement listed in Minn. R. 7007.1140, subp. 2 (E). Go to question 2c.

☒ **No**, my facility **is not** subject to NSPS requirements. Go to question 3.

2c) Check the box that best describes your source's compliance status with regards to applicable NSPS requirements on the date of application and then go to question 3:

☐ Compliance

☐ Non-compliance. Describe: _____

3) Stratospheric Ozone Protection

(1990 Clean Air Act, as amended, Sections 601-618)

3a) To determine if this federal regulation applies to your facility, you must complete the attached form **CAP-GI-09F Requirements: Stratospheric Ozone**.

3b) After completing form **CAP-GI-09F Requirements: Stratospheric Ozone**, check one of the following boxes:

☐ **Yes**, my facility **is** subject to this requirement. Go to question 3c.

☒ **No**, my facility **is not** subject to this requirement. Go to question 4.

3c) Check the box that best describes your source's compliance status with regards to applicable stratospheric ozone requirements on the date of application and then go to question 4:

☐ Compliance

☐ Non-compliance. Describe: _____

4) Risk Management Programs for Chemical Accidental Release Prevention

(40 CFR pt. 68, Section 112(r) of the Clean Air Act Amendments)

4a) Section 112(r) of the Clean Air Act requires facilities that produce, process, store or use any of the substances listed in form **GI-09G: Risk Management Programs for Chemical Accidental Release Prevention** (40 CFR pt. 68), in amounts greater than the listed thresholds, to develop and implement a risk management plan for accidental releases.

4b) Determine if you produce, process, store or use any of the substances listed in form **CAP-GI-09G: Risk Management Programs for Chemical Accidental Release Prevention**, and check one of the following boxes:

☐ **Yes**, my facility **does** produce, process, store or use one or more of the substances listed in form **CAP-GI-09G**, in amounts exceeding the listed thresholds. Go to question 4c.

☒ **No**, my facility **does not** produce, process, store or use any of the substances listed in form **CAP-GI-09G**, in amounts exceeding the listed thresholds. Go to question 5.

4c) Check the box that best describes your source's compliance status with regards to applicable 112(r) requirements on the date of application and then go to question 5:

☐ Compliance

☐ Non-compliance. Describe: _____

5) Federal Ozone Measures for the Control of Emissions from Certain Sources

(1990 Clean Air Act, as amended, Section 183(e))

5a) Rules have been promulgated under the above section of the Clean Air Act regulating Volatile Organic Compounds (VOCs) from consumer or commercial products that emit VOCs. Does your facility manufacture: (check all that apply)

☐ Household consumer products containing VOCs.

☐ Architectural coatings containing VOCs.

☐ Autobody refinishing coatings containing VOCs.

☒ My facility does not manufacture any of the above. Go to question 6.

5b) If you checked any boxes in question 5a) review the regulations at http://www.epa.gov/ttn/atw/183e/gen/183epg.html to determine whether your facility may be subject to any rules that are adopted under § 183(e) requiring emission reductions. After reviewing the regulations, check one of the following boxes.

☐ Yes, my facility is subject to consumer and commercial products regulation under section183(e). Go to question 5c.

☐ No, my facility is not subject to consumer and commercial products regulation under section183(e). Go to question 6.

5c) Check the box that best describes your source's compliance status with regards to applicable 183(e) requirements on the date of application and then go to question 6:

☐ Compliance

☐ Non-compliance. Describe: _____

6) Minnesota State Air Quality Rules

6a) To determine which Minnesota State rules you may be subject to, go to form **CAP-GI-09I Requirements: State Rules**.

6b) Whether permitted or not, **every business** and activity in Minnesota **is subject to the rules listed in the following table**. Check the box that best describes your source's compliance status with regards to the rules in the following table and other applicable state rules identified in form CAP-GI-09I on the date of application and then go to question 7:

☒ Compliance

☐ Non-compliance. Describe: _____

Title of the Rule	Minnesota Rules (Chapter or Part)	What the Content of the Rule is:
Air Quality Emission Fees	Part 7002.0025 - 7002.0095	Requires facilities to pay emission fees every year within 60 days of MPCA billing.
Air Emission Permits	Parts 7007.0050 - 7007.1850	Outlines when an air emission permit is required and procedures for obtaining one.
Minnesota and National Ambient Air Quality Standards	Part 7009.0010 - 7009.0080	No one is allowed to emit any of the limited pollutants in such a manner that ambient levels of the pollutant are higher than the maximum level.
Applicability of Standards of Performance	Parts 7011.0010, and 7011.0050	Indicates that facilities must comply with all applicable state air pollution rules.
Circumvention	Part 7011.0020	States that no one may conceal or dilute emissions which would otherwise violate a federal or state air pollution control rule.
Emission Standards for Visible Air Contaminants	Part 7011.0100 - 7011.0120	Outlines restrictions against emitting opaque smoke from facilities.
Preventing Particulate Matter from Becoming Airborne	Part 7011.0150	States that no person shall cause particulate matter to become airborne if it can be avoided with listed preventative measures.
Continuous Monitors	Part 7017.1000	Outlines requirements for continuous monitoring systems.
Performance Tests	Part 7017.2001 - 7017.2060	Outlines procedures and methods for emissions and performance testing if required.
Notifications	Part 7019.1000	Requires facilities to notify the MPCA of shutdowns and breakdowns.
Reports	Part 7019.2000	Requires specific records and reports from facilities with continuous monitoring systems.
Emission Inventory	Part 7019.3000 - 7019.3100	Requires facilities to submit an Emission Inventory Report by April 1 every year.
Motor Vehicles	Part 7023.0100 - 7023.0120	Outlines restrictions against emitting opaque smoke from motor vehicles, trains, boats, construction equipment and stationary internal combustion engines.
Noise Pollution Control	Part 7030.0010 - 7030.0080	Sets noise standards which cannot be exceeded.

7) You have completed this form.

Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-GI-09A

Capped Permit Requirements: NESHAP for Source Categories (40 CFR pt. 63)

Air Quality Permit Program

Doc Type: Permit Application

National Emission Standards for Hazardous Air Pollutants for source categories (NESHAP for Source Categories, 40 CFR pt. 63)

Tables A (Hazardous Air Pollutants) and B (Source Categories) are provided for your reference and to assist with completing CAP-00. They are not used to answer Question 1 on this form.

AQ Facility ID No.: 12300764 AQ File No.: 131464

Facility Name: Baldinger Bakery

1) If your source has any equipment that belongs to the following area source categories, place a check in the box next to that category and read the specified NESHAP for Source Categories to determine all applicable requirements for area sources. The rules for these source categories may apply whether or not your facility is considered a major source for hazardous air pollutants. If you check one or more boxes below, you must answer "**Yes**" to question 1b when you return to Form CAP-GI-09. If any part of your facility is subject to a listed standard that requires a Part 70 operating permit, you may not get a Capped Permit but must instead apply for and obtain a Part 70 permit.

- ☐ Acrylic and Modacrylic Fibers Production, 40 CFR § 63 Subpart LLLLLL
- ☐ Asphalt Processing and Asphalt Roofing Manufacturing, 40 CFR § 63 Subpart AAAAAAA
- ☐ Carbon Black Production, 40 CFR § 63 Subpart MMMMMM *(see note 1)*
- ☐ Chemical Manufacturing Area Sources, 40 CFR § 63 Subpart VVVVVV *(see note 2)*
- ☐ Chemical Manufacturing: Chromium Compounds, 40 CFR § 63 Subpart NNNNNN *(see note 1)*
- ☐ Chemical Preparations Industry, 40 CFR § 63 Subpart BBBBBBB
- ☐ Chromic acid anodizing **(Chromium Electroplating)**, 40 CFR § 63 Subpart N
- ☐ Clay Ceramics Manufacturing, 40 CFR § 63 Subpart RRRRRR
- ☐ Commercial dry cleaning (Perc) transfer machines, 40 CFR § 63 Subpart M
- ☐ Commercial sterilization facilities, 40 CFR § 63 Subpart O
- ☐ Decorative chromium electroplating **(Chromium Electroplating)**, 40 CFR § 63 Subpart N
- ☐ Electric Arc Furnace Steelmaking Facilities, 40 CFR § 63 Subpart YYYYY *(see note 1)*
- ☐ Ferroalloys Production Facilities, 40 CFR § 63 Subpart YYYYYY
- ☐ Flexible Polyurethane Foam Production and Fabrication, 40 CFR § 63 Subpart OOOOOO
- ☐ Gasoline Dispensing Facilities , 40 CFR § 63 Subpart CCCCCC
- ☐ Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities, 40 CFR § 63 Subpart BBBBBB
- ☐ Glass Manufacturing, 40 CFR § 63 Subpart SSSSSS *(see note 1)*
- ☐ Gold Mine Ore Processing and Production, 40 CFR § 63 Subpart EEEEEEE
- ☐ Halogenated solvent cleaners (Degreasing Organic Cleaners), 40 CFR § 63 Subpart T
- ☐ Hard chromium electroplating **(Chromium Electroplating)**, 40 CFR § 63 Subpart N
- ☐ Hospital Sterilizers Using Ethylene Oxide, 40 CFR § 63 Subpart WWWWW
- ☐ Industrial, Commercial, and Institutional Boilers, 40 CFR § 63 Subpart JJJJJJ
- ☐ Iron and Steel Foundries Area Sources, 40 CFR § 63 Subpart ZZZZZ
- ☐ Lead Acid Battery Manufacturing, 40 CFR § 63 Subpart PPPPPP
- ☐ Metal Fabrication and Finishing Sources, 40 CFR § 63 Subpart XXXXXX
- ☐ Nonferrous Foundries: Aluminum, Copper, and Other, 40 CFR § 63 Subpart ZZZZZZ
- ☐ Oil and natural gas production, 40 CFR § 63 Subpart HH
- ☐ Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources, 40 CFR § 63 Subpart HHHHHH
- ☐ Paints and Allied Products Manufacturing, 40 CFR § 63 Subpart CCCCCCC
- ☐ Plating and Polishing Operations, 40 CFR § 63 Subpart WWWWWW
- ☐ Polyvinyl Chloride and Copolymers Production, 40 CFR § 63 Subpart DDDDDD
- ☐ Prepared Feeds Manufacturing, 40 CFR § 63 Subpart DDDDDDD
- ☐ Primary Copper Smelting, 40 CFR § 63 Subpart EEEEEE *(see note 1)*
- ☐ Primary Nonferrous Metals: Zinc, Cadmium, and Beryllium, 40 CFR § 63 Subpart GGGGGG *(see note 1)*

☐ Reciprocating Internal Combustion Engines, 40 CFR § 63 Subpart ZZZZ
☐ Secondary aluminum processing, 40 CFR § 63 Subpart RRR
☐ Secondary Copper Smelting, 40 CFR § 63 Subpart FFFFFF *(see note 1)*
☐ Secondary Nonferrous Metals Processing (Brass, Bronze, Magnesium, Zinc), 40 CFR § 63 Subpart TTTTTT
☐ Wood Preserving, 40 CFR § 63 Subpart QQQQQQ

Notes

1. If any part of your facility is subject Subpart(s) MMMMMM, NNNNNN, YYYYY, SSSSSS, EEEEEE, EEEEEEE, GGGGGG, and/or FFFFFF, you must apply for and obtain a Part 70 operating permit; a facility subject to any of these subparts does not qualify for a Capped Permit.
2. If a source subject to this subpart was a major source of HAP and installed control equipment after November 15, 1990, to become an area source of HAP, the source must obtain a Part 70 operating permit, regardless of the facility emissions.

2) Return to Form CAP-GI-09 and answer question 1b.

Table A - Hazardous Air Pollutants

75070	Acetaldehyde
60355	Acetamide
75058	Acetonitrile
98862	Acetophenone
53963	2-Acetylaminofluorene
107028	Acrolein
79061	Acrylamide
79107	Acrylic acid
107131	Acrylonitrile
107051	Allyl chloride
92671	4-Aminobiphenyl
62533	Aniline
90040	o-Anisidine
1332214	Asbestos
71432	Benzene
92875	Benzidine
98077	Benzotrichloride
100447	Benzyl chloride
92524	Biphenyl
117817	Bis (2-ethylhexyl) phthalate (DEHP)
542881	Bis (chloromethyl) ether
75252	Bromoform
106990	1,3-Butadiene
156627	Calcium cyanamide
133062	Captan
63252	Carbaryl
75150	Carbon disulfide
56235	Carbon tetrachloride
463581	Carbonyl sulfide
120809	Catechol
133904	Chloramben
57749	Chlordane
7782505	Chlorine
79118	Chloroacetic acid
532274	2-Chloroacetophenone
108907	Chlorobenzene
510156	Chlorobenzilate
67663	Chloroform
107302	Chloromethyl methyl ether
126998	Chloroprene
1319773	Cresols/Cresylic acid (isomers and mixture)
95487	0-Cresol
108394	m-Cresol
106445	p-Cresol
98828	Cumene
94757	2,4-D, salts and esters
3547044	DDE
334883	Diazomethane
132649	Dibenzofurans
96128	1,2-Dibromo-3-chloropropane
84742	Dibutylphthalate
106467	1,4-Dichlorobenzene(p)
91941	3,3'-Dichlorobenzidene
111444	Dichloroethyl ether (Bis(2-chloroethyl)either)
542756	1,3-Dichloropropene
62737	Dichlorvos
111422	Diethanolamine
121697	N,N-Diethyl aniline (N,N- Dimethylaniline)
64675	Diethyl sulfate
119904	3,3-Dimethoxybenzidine
60117	Dimethyl aminoazobenzene
119937	3,3-Dimethyl benzidine
79447	Dimethyl carbamoyl chloride
68122	Dimethyl formamide
57147	1,1 Dimethyl hydrazine
131113	Dimethyl phthalate
77781	Dimethyl Sulfate
534521	4,6-Dintro-o-cresol, and salts
51285	2,4-Dinitrophenol
121142	2,4-Dinitrotoluene
123911	1,4-Dioxane (1.4-Diethyleneoxide)
122667	1,2-Diphenylhydrazine
106898	Epichlorohydrin (1-Chloro-2,3-epoxypropane)
106887	1,2-Epoxybutane
140885	Ethyl acrylate
100414	Ethyl benzene
51796	Ethyl carbamate (Urethane)
75003	Ethyl chloride (Chloroethane)
106934	Ethylene dibromide (Dibromoethane)
107062	Ethylene dichloride (1,2- Dichloroethane)
107211	Ethylene glycol
151564	Ethylene imine (Aziridine)
75218	Ethylene oxide
96457	Ethylene thiourea
75343	Ethylidene dichloride (1,1-Dichloroethane)
50000	Formaldehyde
76448	Heptacholor
118741	Hexachlorobenzene
87683	Hexachlorobutadiene
77474	Hexachlorocyclopentadiene
67721	Hexachloroethane
822060	Hexamethylene-1,6-diisocyanate
680319	Hexamethylphosphoramide
110543	Hexane
302012	Hydrazine
7647010	Hydrochloric acid
7664393	Hydrogen flouride (hydrofluoric acid)
123319	Hydroquinone
78591	Isophorone
58899	Lindane (all isomers)
108316	Maleic anhydride
67561	Methanol
72435	Methoxychlor
74839	Methyl bromide (Bromomethane)
74873	Methyl chloride (Choromethane)
71556	Methyl chloroform (1,1,1-Trichloroethane)
60344	Methyl hydrazine
74884	Methyl iodide (Iodomethane)
108101	Methyl isobutyl ketone (Hexone)
624839	Methyl isocyanate
80626	Methyl methacrylate
1634044	Methyl tert butyl ether
101144	4,4-Methylene bis (2-chloroaniline)
75092	Methylene chloride (Dichloromethane)
101688	Methlene diphenyl diisocyanate (MDI)
101779	4,4'-methylenedianiline

Table A - Hazardous Air Pollutants

91203	Naphthalene
98953	Nitrobenzene
92933	4-Nitrobiphenyl
100027	4-Nitrophenol
79469	2-Nitropropane
684935	N-Nitroso-N-methylurea
62759	N-Nitrosodimethylamine
59892	N-Nitosomorpholine
56382	Parathion
82688	Pentachloronitrobenzene (Quintobenzene)
87865	Pentachlorophenol
108952	Phenol
106503	p-Phenylenediamine
75445	Phosgene
7803512	Phosphine
7723140	Phosphorus
85449	Phthalic anhydride
1336363	Polychlorinated biphenyls (aroclors)
1120714	1,3-Propane sultone
57578	beta-Propiolactone
123386	Propionaldehyde
114261	Propoxur (Baygon)
78875	Propylene dichloride (1,2-Dichloropropane)
75569	Propylene oxide
75558	1,2-Propylenimine (2-Methyl aziridine)
91225	Quinoline
106514	Quinone
100425	Styrene
96093	Styrene Oxide
1746016	2,3,7,8-Tetrachlorodibenzo-p-dioxin
79345	1,1,2,2-Tetrachloroethane
127184	Tetrachloroethylene (Perchloroethylene)
7550450	Titanium tetrachloride
108883	Toluene
95807	2,4-Toluene diamine
584849	2,4-Toluene diisocyanate
95534	o-Toluidine
8001352	Toxaphene (chlorinated camphene)
120821	1,2,4-Trichlorobenzene
79005	1,1,2-Trichloroethane
79016	Trichloroethylene
95954	2,4,5-Trichlorophenol
88062	2,4,6-Trichlorophenol
121448	Triethylamine
1582098	Trifluralin
540841	2,2,4-Trimethylpentane
108054	Vinyl acetate
593602	Vinyl bromide
75014	Vinyl chloride
75354	Vinylidene chloride (1,1-Dichloroethylene)
1330207	Xylenes (isomers and mixtures)
95476	o-Xylenes
108383	m-Xylenes
106423	p-Xylenes

0	Antimony compounds
0	Arsenic compounds (inorganic including arsine)
0	Beryllium compounds
0	Cadmium compounds
0	Chromium compounds
0	Cobalt compounds
0	Coke oven emissions
0	Cyanide compounds
0	Glycol ethers [1]
0	Lead compounds
0	Manganese compounds
0	Mercury compounds
0	Mineral fibers [2]
0	Nickel compounds
0	Polycyclic organic matter [3]
0	Radionuclides [4]
0	Selenium compounds

Note: For all listings above which contain the word "compounds" and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical (i.e., antimony, arsenic, etc.) as part of that chemical's infrastructure.

[1] Glycol ethers include mono- and di- ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-$(OCH_2CH_2)_n$-OR' where

n = 1, 2, or 3

R = alkyl C7 or less; or

R = phenyl or alkyl substituted phenyl;

R' = H or alkyl C7 or less; or

OR' consisting of carboxylic acid ester, sulfate, phosphate, nitrate, or sulfonate.

Glycol ethers do no include ethylene glycol monobutyl ether (EGBE, 2-Butoxyethanol, CAS Number 111-76-2).

[2] Includes mineral fiber emissions from facilities manufacturing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micron or less.

[3] Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100°C.

[4] A type of atom which spontaneously undergoes radioactive decay.

Table B – Source Categories

Categories of Major Sources	Subpart	Rule Promulgation Date	Compliance Date for Existing Sources (if applicable)
Acetyl resins production (Generic MACT)	YY	6/29/99	6/29/02
Acrylic fibers/modacrylic fibers production (Generic MACT)	YY	6/29/99	6/29/02
Acrylonitrile-butadiene-styrene production (Polymers and Resins IV)	JJJ	9/12/96	7/31/97
Aerospace Industry	GG	9/1/95	9/1/98
Alkyd resins production (Misc. Organic Chemical Production and Processes (MON))	FFFF	11/10/03	11/10/06
Amino resins production(Polymers and Resins III)	OOO	1/20/00	1/20/03
Ammonium sulfate production (MON)	FFFF	11/10/03	11/10/06
Asphalt/coal tar application - metal pipes	MMMM	1/2/04	1/2/07
Asphalt Roofing and Processing	LLLLL	4/29/03	5/1/06
Auto and Light Duty Truck Surface Coating	IIII	4/26/04	4/26/07
Benzyltrimethylammonium chloride production (MON)	FFFF	11/10/03	11/10/06
Boat manufacturing	VVVV	8/22/01	8/22/04
Brick and Structural Clay Products Manufacturing	JJJJJ	5/16/03	5/16/06
Butadiene-furfural cotrimer (R-11) production (Pesticide Active Ingredient Production)	MMM	6/23/99	12/23/03
Butyl rubber production (Polymers and Resins I)	U	9/5/96	3/5/97
Captafol production (Pesticide Active Ingredient Production)	MMM	6/23/99	12/23/03
Captan production (Pesticide Active Ingredient Production)	MMM	6/23/99	12/23/03
Carbon Black Production (Generic MACT)	YY	7/12/02	7/12/05
Carboxymethylcellulose production (Cellulose Production Manufacturing)	UUUU	6/11/02	6/11/05
Carbonyl sulfide production (MON)	FFFF	11/10/03	11/10/06
Cellophane production (Cellulose Production Manufacturing)	UUUU	6/11/02	6/11/05
Cellulose ethers production (Cellulose Production Manufacturing)	UUUU	6/11/02	6/11/05
Cellulose food casing manufacturing (Cellulose Production Manufacturing)	UUUU	6/11/02	6/11/05
Clay Ceramics Manufacturing	KKKKK	5/16/03	5/16/06
Chelating agents production (MON)	FFFF	11/10/03	11/10/06
Chlorinated paraffins production (MON)	FFFF	11/10/03	11/10/06
4-chloro-2-methyl acid production (Pesticide Active Ingredient Production)	MMM	6/23/99	12/23/03
Chloroneb production (Pesticide Active Ingredient Production)	MMM	6/23/99	12/23/03
Chlorothalonil production (Pesticide Active Ingredient Production)	MMM	6/23/99	12/23/03
Chromic acid anodizing (Chromium Electroplating)	N	1/25/95	1/25/97
Coke Ovens: Charging, Top Side, and Door Leaks	L	10/27/93	varies
Coke Ovens: Pushing, Quenching and Battery Stacks	CCCCC	4/14/03	4/14/06
Combustion (Gas) Turbines	YYYY	3/5/04	3/5/07
Commercial dry cleaning (Perc) transfer machines	M	9/22/93	9/23/96
Commercial sterilization facilities	O	12/6/94	12/6/98
Cyanide Chemicals Manufacturing (Generic MACT)	YY	7/12/02	7/12/05
Dacthal ™ production (Pesticide Active Ingredient Production)	MMM	6/23/99	12/23/03
Decorative chromium electroplating (Chromium Electroplating)	N	1/25/95	1/25/96
4,6,-dinitro-o-cresol production (Pesticide Active Ingredient Production)	MMM	6/23/99	12/23/03

Table B (continued)

Categories of Major Sources	Subpart	Rule Promulgation Date	Compliance Date for Existing Sources (if applicable)
Engine Test Cells/Stands	PPPPP	5/27/03	5/27/03
Epichlorohydrin elastomers production(Polymers and Resins I)	U	9/5/96	3/5/97
Epoxy resins production (Polymers and Resins II)	W	3/8/95	3/3/98
Ethylene-propylene rubber production (Polymers and Resins I)	U	9/5/96	3/5/97
Ethylidene norbomene production (MON)	FFFF	11/10/03	11/10/06
Explosives production (MON)	FFFF	11/10/03	11/10/06
Ethylene Processes (Generic MACT)	YY	7/12/02	7/12/05
Fabric Printing, Coating, & Dyeing	OOOO	5/29/03	5/29/06
Ferroalloys Production	XXX	5/20/99	5/20/01
Fiberglass Mat Production (wet formed)	HHHH	4/11/02	4/11/05
Flexible Polyurethane Foam Fabrication Operations	MMMMM	4/14/03	4/14/04
Flexible Polyurethane Foam Production	III	10/7/98	10/8/01
Friction Products Manufacturing	QQQQQ	10/18/02	10/18/05
Fume Silica Production (Hydrochloric Acid Production)	NNNNN	4/17/03	4/17/06
Gasoline distribution (Stage 1)	R	12/14/94	12/15/97
Halogenated solvent cleaners (Degreasing Organic Cleaners)	T	12/2/94	12/2/97
Hard chromium electroplating (Chromium Electroplating)	N	1/25/95	1/25/97
Hazardous Waste Combustion		9/30/99	9/30/03
Hazardous Organic NESHAP (Synthetic Organic Chemical Manufacturing Industry)	F,G	4/22/94	5/14/01
	H	4/22/94	5/12/99
	I	4/22/94	5/12/98
Hydrazine production (MON)	FFFF	11/10/03	11/10/06
Hydrochloric acid production	NNNNN	4/17/03	4/17/06
Hydrogen Fluoride Production (Generic MACT)	YY	6/29/99	6/29/02
Hypalon ™ production (Polymers and Resins I)	U	9/5/96	3/5/97
Industrial, Commercial and Institutional Boilers and Process Heaters	DDDDD	5/20/11	3/21/14
Industrial Dry Cleaning (Dry Cleaning)	M	9/22/93	12/20/93
Industrial Cooling Towers	Q	9/8/94	3/8/95
Integrated Iron and Steel Manufacturing	FFFFF	5/20/03	5/20/06
Iron & Steel Foundries	EEEEE	4/22/04	4/22/07
Large Appliance Surface Coating	NNNN	7/23/02	7/23/05
Leather Finishing Operation	TTTT	2/27/02	2/27/05
Lime Manufacturing	AAAAA	1/5/04	1/5/07
Magnetic Tape Surface Coating	EE	12/15/94	12/15/96
Maleic anhydride copolymers production (MON)	FFFF	11/10/03	11/10/06
Manufacture of paints, coating and adhesives (MON)	FFFF	11/10/03	11/10/06
Marine Vessel Loading Operations	Y	9/19/95	9/19/99
Mercury cell Chlor-Alkali plants	IIIII	12/19/03	12/19/06
Metal Can Surface Coating	KKKK	11/13/03	11/13/05
Metal Coil Surface Coating	SSSS	6/10/02	6/10/05
Metal Furniture Surface Coating	RRRR	5/23/03	5/23/06
Methylcellulose production (Cellulose Production Manufacturing)	UUUU	6/11/02	6/11/05
Methyl methacrylate-acrylonitrile-butadiene-styrene production (Polymers and Resins IV)	JJJ	9/12/96	7/31/97

Table B (continued)

Categories of Major Sources	Subpart	Rule Promulgation Date	Compliance Date for Existing Sources (if applicable)
Methyl methacrylate-butadiene-styrene terpolymers production (Polymers and Resins IV)	JJJ	9/12/96	7/31/97
Mineral Wool Production	DDD	6/1/99	6/1/02
Miscellaneous Coating Manufacturing	HHHHH	12/11/03	12/11/06
Miscellaneous Metal Parts and Products Surface Coating	MMMM	1/2/04	1/2/07
Municipal Solid Waste Landfills	AAAA	1/16/03	1/16/04
Natural gas transmission and storage	HHH	6/17/99	6/17/02
Neoprene production (Polymers and Resins I)	U	9/5/96	3/5/97
Nitrile butadiene rubber prod. (Polymers and Resins I)	U	9/5/96	3/5/97
Non-nylon polyamides production (Polymers and Resins I)	W	3/8/95	3/3/98
Nutritional Yeast Manufacture	CCCC	5/21/01	5/21/04
Off-site Waste Recovery Operations	DD	7/1/96	2/1/00
Oil and natural gas production	HH	6/17/99	6/17/02
Organic liquids distribution (non-gasoline)	EEEE	2/3/04	2/3/07
Oxybisphenoxarsine (OBPA)/1,3-diisocyanate production (MON)	FFFF	11/10/03	11/10/06
Paper and other webs surface coating	JJJJ	12/4/02	12/4/05
Petroleum refineries - catalytic cracking (fluid and other) units, catalytic reforming units, and sulfur plant units	UUU	4/11/02	4/11/05
Petroleum refineries - Other sources not distinctly listed	CC	8/18/95	8/18/98
Pharmaceuticals production	GGG	9/21/98	9/21/01
Phenolic resins production (Polymers and Resins III)	OOO	1/20/00	1/20/03
Phosphate fertilizers production	BB	6/10/99	6/10/02
Phosphoric acid manufacturing	AA	6/10/99	6/10/02
Photographic chemicals production (MON)	FFFF	11/10/03	11/10/06
Phthalate plasticizers production (MON)	FFFF	11/10/03	11/10/06
Plastic parts and products surface coating	PPPP	4/19/04	4/19/07
Plywood & composite wood products	DDDD	7/30/04	9/28/07
Polyether polyols production	PPP	6/1/99	6/1/02
Polybutadiene rubber production (Polymers and Resins I)	U	9/5/96	3/5/97
Polycarbonates production (Generic MACT)	YY	6/29/99	6/29/02
Polyester resins production (MON)	FFFF	11/10/03	11/10/06
Polyethylene terephthalate production (Polymers and Resins IV)	JJJ	9/12/96	7/31/97
Polymerized vinylidene chloride production (MON)	FFFF	11/10/03	11/10/06
Polymethyl methacrylate resins production (MON)	FFFF	11/10/03	11/10/06
Polystyrene production (Polymers and Resins IV)	JJJ	9/12/96	7/31/97
Polysulfide rubber production (Polymers and Resins I)	U	9/5/96	3/5/97
Polyvinyl acetate emulsions production (MON)	FFFF	11/10/03	11/10/06
Polyvinyl alcohol production (MON)	FFFF	11/10/03	11/10/06
Polyvinyl butyral production (MON)	FFFF	11/10/03	11/10/06
Polyvinyl chloride and copolymers production	J	7/10/02	7/10/05
Portland cement manufacturing	LLL	6/14/99	6/10/02
Primary aluminum production	LL	10/7/97	10/7/99
Primary copper smelting	QQQ	6/12/02	6/12/05
Primary lead smelting	TTT	6/4/99	5/4/01
Primary magnesium refining	TTTTT	10/10/03	10/11/04
Printing/publishing	KK	5/30/96	5/30/99
Publicly owned treatment works	VVV	10/26/99	10/26/02
Pulp and paper production (non-combust) MACT I	S	4/15/98	4/15/01
Pulp and paper production (combust) (Kraft, soda, sulfite) MACT II	MM	1/12/01	1/12/04

Table B (continued)

Categories of Major Sources	Subpart	Rule Promulgation Date	Compliance Date for Existing Sources (if applicable)
Pulp and paper production (non-chemical) MACT III	S	3/8/96	4/16/01
Quaternary ammonium compounds production (MON)	FFFF	11/10/03	11/10/06
Rayon production (Cellulose Production Manufacturing)	UUUU	6/11/02	6/11/05
Reciprocating Internal Combustion Engines	ZZZZ	6/15/04	6/15/07
Refractory Products Manufacturing	SSSSS	4/16/03	4/17/06
Reinforced plastic composites production	WWWW	4/21/03	4/21/06
Rubber chemicals manufacturing (MON)	FFFF	11/10/03	11/10/06
2,4- salts and esters production (Pesticide Active Ingredient Production)	MMM	6/23/99	12/23/03
Secondary aluminum prod.	RRR	3/23/00	3/24/03
Secondary lead smelting	X	6/23/95	6/23/97
Semiconductor manufacturing	BBBBB	5/22/03	5/22/06
Shipbuilding and ship repair (surface coating)	II	12/15/95	12/16/96
Site remediation	GGGGG	10/8/03	10/9/06
Sodium pentachlorophenate production (Pesticide Active Ingredient Production)	MMM	6/23/99	12/23/03
Spandex production (Generic MACT)	YY	7/12/02	7/12/05
Stationary combustion turbines	YYYY	3/5/04	3/5/07
Steel pickling	CCC	6/22/99	6/22/01
Styrene-acrylonitrile production (Polymers and Resins IV)	JJJ	9/12/96	7/31/97
Styrene-butadiene rubber and latex prod. (Polymers and Resins I)	U	9/5/96	3/5/97
Symmetrical tetrachloropyridine production (MON)	FFFF	11/10/03	11/10/06
Taconite iron ore processing	RRRRR	10/30/03	10/30/06
Tetrahydrobenzaldehyde manufacture	F	5/12/98	5/12/01
Tire manufacturing	XXXX	7/9/02	7/11/05
Tordon ™ acid production (Pesticide Active Ingredient Production)	MMM	6/23/99	12/23/03
Utility NESHAP	UUUUU	2/16/12	4/16/15
Vegetable oil production – solvent extraction	GGGG	4/12/01	4/12/04
Wood building products (surface coating)	QQQQ	5/28/03	5/28/06
Wood furniture	JJ	12/7/95	11/21/97
Wool fiberglass manufacturing	NNN	6/14/99	6/14/02

Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

CAP-GI-09D

Requirements: NSPS (40 CFR pt. 60)
Air Quality Permit Program
Doc Type: Permit Application

Standards of Performance for New Stationary Sources (NSPS, New Source Performance Standards, 40 CFR pt. 60)

1a) AQ Facility ID No.: 12300764 **1b)** AQ File No.: 131464

2) Facility Name: Baldinger Bakery

3) NSPS are federal rules that define limits, testing and monitoring for certain specific emission units. These standards are proposed and promulgated in the Federal Register and published in the Code of Federal Regulations, title 40 part 60 (40 CFR pt. 60). Table D lists the standards promulgated through December 2012. Table D may not be complete if a new NSPS has been promulgated since this form was last revised. The table contains:

- a brief emission source description;
- a corresponding 40 CFR pt. 60 subpart reference;
- an effective date for all performance standards promulgated as of December 2012;
- NSPS allowed by capped emissions permit in boldface type.

[Please note: the best way to keep up-to-date on NSPS regulations is through the U.S. Environmental Protection Agency's (EPA) webpage (http://www.epa.gov) or the Federal Register since there can be a significant time lag between the date when a standard is proposed or promulgated and when it is finally published in the Code of Federal Regulations.]

4) Please read through the emission sources in Table D. If you have modified (as defined in 40 CFR § 60.14), reconstructed (as defined in 40 CFR § 60.15) or constructed the described emission source on or after the effective date listed in the table, your facility may be subject to the requirements of 40 CFR pt. 60. Generally, reconstruction means that the cost of a repair exceeds 50 percent of what it would cost to install a new emission unit. If you have had an extensive and expensive repair, it may count as a reconstruction.

If you know or suspect standards may apply to your facility you must refer to the corresponding 40 CFR pt. 60 subpart and read the requirements in detail to make a final determination. Note: the general provisions found in 40 CFR pt. 60, subp. A, apply to **all** facilities subject to any other NSPS requirements.

5) After you review the list of sources subject to NSPS and read any applicable 40 CFR pt. 60 subparts, check one of the following boxes:

☒ No, my facility is not subject to a NSPS. Return to Form CAP-GI-09, and answer "No" to question 2b.

☐ Yes, my facility is subject to a NSPS. (Note that your facility can only be subject to a NSPS listed in boldface to be eligible for the capped permit.)

6) The following page lists information needed to identify your facility's emission sources subject to NSPS. Complete the group of questions for all emission equipment subject to NSPS, attaching additional pages if necessary.

7) For each applicable subpart (including Subpart A), include a copy of the applicable subpart with the applicable parts highlighted. For some standards, the Minnesota Pollution Control Agency (MPCA) has prepared a checklist version of the standard – for those subparts you may complete the checklist/form rather than highlighting a copy of the standard. See http://www.pca.state.mn.us/nwqh472 for the subparts for which a checklist form has been prepared.

8) Return to Form CAP-GI-09D, and answer "Yes" to question 2b.

Describe Emission Equipment _____

Emission Unit Number _____

Stack/Vent Number _____

Date of Equipment Manufacture _____ (Month/Date/Year)

Date of Equipment Installation _____ (Month/Date/Year)

Date of Reconstruction (if applicable) _____ (Month/Date/Year)

Date of Modification (if applicable) _____ (Month/Date/Year)

Applicable 40 CFR pt. 60 subpart or Federal Register Reference _____

This source is also subject to the general provisions of 40 CFR pt. 60, subp. A.

Has this Unit Been Permitted Previously?

☐ No

☐ Yes, list Air Emission Permit Number _____

Have you attached a photocopied, highlighted version of the 40 CFR pt. 60 subpart?

☐ Yes

☐ No

Describe Emission Equipment _____

Emission Unit Number _____

Stack/Vent Number _____

Date of Equipment Manufacture _____ (Month/Date/Year)

Date of Equipment Installation _____ (Month/Date/Year)

Date of Reconstruction (if applicable) _____ (Month/Date/Year)

Date of Modification (if applicable) _____ (Month/Date/Year)

Applicable 40 CFR pt. 60 subpart or Federal Register Reference _____

This source is also subject to the general provisions of 40 CFR pt. 60, subp. A.

Has this Unit Been Permitted Previously?

☐ No

☐ Yes, list Air Emission Permit Number _____

Have you attached a photocopied, highlighted version of the 40 CFR pt. 60 subpart?

☐ Yes

☐ No

Describe Emission Equipment _____

Emission Unit Number _____

Stack/Vent Number _____

Date of Equipment Manufacture _____ (Month/Date/Year)

Date of Equipment Installation _____ (Month/Date/Year)

Date of Reconstruction (if applicable) _____ (Month/Date/Year)

Date of Modification (if applicable) _____ (Month/Date/Year)

Applicable 40 CFR pt. 60 subpart or Federal Register Reference _____

This source is also subject to the general provisions of 40 CFR pt. 60, subp. A.

Has this Unit Been Permitted Previously?

☐ No

☐ Yes, list Air Emission Permit Number _____

Have you attached a photocopied, highlighted version of the 40 CFR pt. 60 subpart?

☐ Yes

☐ No

Table D: Standards of Performance for New Stationary Sources

If a facility is subject to an NSPS listed in **boldface**, it is still eligible for a capped permit. ***
(If a facility is subject to an NSPS other than those listed in boldface, it is not eligible for a capped permit.)

Performance standards promulgated as of December, 2012

Source categories subject to federal performance standards	40 CFR 60 Subpart	Effective date constructed, modified or reconstructed
Fossil-Fuel Fired Steam Generators >250 MMBtu	D	After: 08/17/71
Electric Utility Steam Generators >250 MMBtu	Da	After: 09/18/78
Industrial-Commercial-Institutional Steam Generators >100 MMBtu	Db	After: 06/19/84
Small Industrial-Commercial-Institutional Steam Generators >10 MMBtu but <100 MMBtu	**Dc***	**After: 06/09/89**
Coal-Fired Electric Steam Generating Units (Hg Budget units)	HHHH	Varies (applies to any unit serving a generator ≥ 25 MWe on or after 11/15/90)
Solid Waste Incinerators	E, CCCC, DDDD, EEEE, FFFF	Varies
Sewage Sludge Incinerators	LLLL, MMMM	After: 10/14/10
Hospital/Medical/Infectious Waste Incinerators	EC, CE	Initial Construction
Municipal Waste Combustors	CB, EA, EB, AAAA, BBBB	Varies
Portland Cement Plants	F	After: 08/17/71
Nitric Acid Plants	G, GA	After: 08/17/71
Sulfuric Acid Plants	H, CD	Initial Construction
Asphalt Concrete Plants	**I***	**After: 06/11/73**
Petroleum Refineries	J, JA	After: 06/11/73
Storage Vessels for Petroleum Liquids	**K*,KA***	**After: 06/11/73**
Volatile Organic Liquid Storage Vessels (Including Petroleum Liquids)	**KB***	**After: 07/23/84**
Secondary Lead Smelters	L	After: 06/11/73
Secondary Brass and Bronze Production Plants	M	After: 06/11/73
Oxygen Process Furnaces	N	After: 06/11/73
Oxygen Process Steelmaking Facilities	NA	After: 01/20/83
Sewage Treatment Plants	O	After: 06/11/73
Primary Copper Smelters	P	After: 10/16/74
Primary Zinc Smelters	Q	After: 10/16/74
Primary Lead Smelters	R	After: 10/16/74
Primary Aluminum Reduction Plants	S	After: 10/23/74
Phosphate Fertilizer Industry	T,U,V,W,X	After: 10/22/74
Coal Preparation Plants	Y	After: 10/24/74
Ferroalloy Production Facilities	Z	After: 10/24/74
Steel Plants	AA, AAA	After: 10/21/74
Kraft Pulp Mills	BB	After: 09/24/76
Glass Manufacturing Plants	CC	After: 06/15/79
Grain Elevators	**DD***	**After: 08/03/78**
Surface Coating of Metal Furniture	**EE***	**After: 11/28/80**
Stationary Gas Turbines	**GG***	**After: 10/03/77**
Stationary Gas Turbines 10 MMBtu or larger	KKKK	After: 02/18/05
Lime Manufacturing Plants	HH	After: 05/03/77

Performance standards promulgated as of December, 2012

Source categories subject to federal performance standards	40 CFR 60 Subpart	Effective date constructed, modified or reconstructed
Lead-Acid Battery Manufacturing Plants	KK	After: 01/14/80
Metallic Mineral Processing Plants	LL	After: 08/24/82
Automobile and Light-Duty Truck Surface Coating Operations	MM	After: 10/05/79
Phosphate Rock Plants	NN	After: 09/21/79
Ammonium Sulfate Manufacture	PP	After: 02/04/80
Graphic Arts Industry: Publication Rotogravure Printing	QQ	After: 08/28/80
Pressure Sensitive Tape and Label Surface Coating Operations	RR	After: 12/30/80
Industrial Surface Coating: Large Appliances	**SS***	**After: 12/24/80**
Metal Coil Surface Coating	TT	After: 01/05/81
Asphalt Processing and Asphalt Roofing Manufacture	UU	After: 11/18/80
Equipment Leaks of Volatile Organic Compounds (VOCs) in the Synthetic Organic Chemicals Manufacturing Industry	VV, VVA	After: 01/05/81
Beverage Can Surface Coating Industry	WW	After: 11/26/80
Bulk Gasoline Terminals	**XX***	**After: 12/17/80**
New Residential Wood Heaters **	AAA	After: 07/01/88
Rubber Tire Manufacturing Industry	BBB	After: 01/20/83
VOC Emissions from the Polymer Manufacturing Industry	DDD	After: 09/30/87
Flexible Vinyl and Urethane Coating and Printing	FFF	After: 01/18/83
Equipment Leaks of VOC in Petroleum Refineries	GGG, GGGA	After: 01/04/83
Synthetic Fiber Production Facilities	HHH	After: 11/23/82
VOC Emissions from the Synthetic Organic Chemical Manufacturing Industry Air Oxidation Unit Processes	III	After: 10/21/83
Petroleum Dry Cleaners	**JJJ***	**After: 12/14/82**
Onshore Natural Gas Processing: VOC Equipment Leaks and SO_2 Emissions	KKK, LLL	After: 01/20/84
VOC Emissions from Synthetic Organic Chemical Manufacturing Industry Distillation Operations	NNN	After: 12/30/83
Nonmetallic Mineral Processing Plants (Including Sand and Gravel Processing)	OOO*	After: 08/31/83
Wool Fiberglass Insulation Manufacturing Plants	PPP	After: 02/07/84
VOC Emissions from Petroleum Refinery Wastewater Systems	QQQ	After: 05/04/87
VOC Emissions from the Synthetic Organic Chemical Manufacturing Industry (SOCMI)Reactor Processes	RRR	After: 06/29/90
Magnetic Tape Coating Facilities	SSS	After: 01/22/86
Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines	**TTT***	**After: 01/08/86**
Calciners and Dryers in Mineral Industries	UUU	After: 04/23/86
Polymeric Coating of Supporting Substrates Facilities	VVV	After: 04/30/87
Municipal Solid Waste Landfills	WWW, Cc	Initial Construction
Stationary Compression Ignition Internal Combustion Engines	**IIII**	**After: 07/11/05**
Stationary Spark Ignition Internal Combustion Engines	**JJJJ**	**After: 06/12/06**
Crude Oil and Natural Gas Production, Transmission, and Distribution	OOOO	After: 08/23/11

* Checklist versions of regulation available from the MPCA. Contact the MPCA at 651- 296-6300 or 1-800-657-3864 for copies. Also available online at http://www.pca.state.mn.us/air/permits/forms.html#12.

** According to Minn. R. 7007.0300, subp. 1(B), "any stationary source that would be required to obtain a permit solely because it is subject to Code of Federal Regulations, title 40, part 60, subp. AAA" is exempt from permitting.

*** Minn. R. 7007.1140, subp. 2 (E) lists the 13 NSPS that a facility can be subject to and still be eligible for a capped permit.

Minnesota Pollution Control Agency

AIR QUALITY
520 LAFAYETTE ROAD NO., ST. PAUL, MN 55155-4194

PERMIT APPLICATION FORM **CAP-GI-09F**

REQUIREMENTS: STRATOSPHERIC OZONE PROTECTION (40 CFR pt. 82)

10/7/04

Stratospheric Ozone Protection
(1990 Clean Air Act, as amended, Sections 601-618; 40 CFR pt. 82)

The 1990 Clean Air Act Amendments, Sections 601-618 and federal regulations located in 40 CFR pt. 82 regulate ozone depleting substances and requires a phase out of their use. Review the attached list of ozone depleting chemicals, Tables E and F. If you manufacture, sell, distribute or use any the chemicals in Tables E and F, then Sections 601-618 and 40 CFR pt. 82 apply to your facility. Please read Sections 601-618 and 40 CFR pt. 82 to determine all the requirements that apply to your facility.

1) After reviewing Table F check one of the following:

☒ NO, my facility **does not** manufacture, sell, distribute or use any chemicals from the list, and the 1990 Clean Air Act, as amended, Sections 601-618 do not apply to my facility. Return to Form **CAP-GI-09 Requirements**, question 3b.

☐ YES, my facility **does** manufacture, sell, distribute or use one or more of the chemicals from the list. Go to question 2.

2) Indicate below which chemicals you manufacture, sell, distribute or use; whether the chemical is Class I or Class II; and what chemical your facility will be using to replace the phased out chemical. Include additional pages if necessary:

2a) Chemical Name:	**2b)** Class Type:	**2c)** CAS Number:	**2d)** Replacement Chemical (after phase out):

3) Return to form **CAP-GI-09 Requirements**, question 3b.

TABLE E
CLASS I OZONE DEPLETING CHEMICALS

Group I:	Chemical	CAS Number
	$CFCl_3$-Trichlorofluoromethane (CFC-11)	75-69-4
	CF_2Cl_2-Dichlorodifluoromethane (CFC-12)	75-71-8
	$C_2F_3Cl_2$-Trichlorotrifluoroethane (CFC-113)	76-13-1
	$C_2F_4Cl_3$-Dichlorotetrafluoroethane (CFC-114)	76-14-2
	C_2F_5Cl-Monochloropentafluoroethane (CFC-115)	76-15-3
	All isomers of the above chemicals	

Group II:	Chemical	CAS Number
	CF_2ClBr-Bromochlorodifluoromethane (Halon-1211)	421-01-2
	CF_3Br-Bromotrifluoroethane (Halon-1301)	75-63-8
	$C_2F_4Br_2$-Dibromotetrafluoroethane (Halon-2402)	124-73-2
	All isomers of the above chemicals	

Group III:	Chemical	CAS Number
	CF_3Cl-Chlorotrifluoromethane (CFC-13)	75-72-9
	C_2FCl_5 (CFC-111)	954-56-3
	$C_2F_2Cl_4$ (CFC-112)	76-12-0
	C_3FCl_7 (CFC-211)	422-78-6
	$C_3F_2Cl_6$ (CFC-212)	3182-26-1
	$C_3F_3Cl_5$ (CFC-213)	2354-06-5
	$C_3F_4Cl_4$ (CFC-214)	29255-31-0
	$C_3F_5Cl_3$ (CFC-215)	4259-43-2
	$C_3F_6Cl_2$ (CFC-216)	661-97-2
	C_3F_7Cl (CFC-217)	422-86-6
	All isomers of the above chemicals	

Group IV:	Chemical	CAS Number
	CCl-Carbon Tetrachloride	56-23-5

Group V:	Chemical	CAS Number
	$C_2H_3Cl_3$-1,1,1 Trichloroethane (Methyl chloroform)	71-55-6
	All isomers of the above chemical except 1,1,2-trichloroethane	79-00-5

Group VI:	Chemical	CAS Number
	CH_3BR - Bromomethane (Methyl Bromide)	

Group VII:	Chemical	CAS Number
	$CHFBR_2$	
	CHF_2Br (HBFC-22B1)	
	CH_2FBr	
	C_2HFBr_4	
	$C_2HF_2Br_3$	
	$C_2HF_3Br_2$	
	C_2HF_4Br	
	$C_2H_2FBr_3$	
	$C_2H_2F_2Br_2$	
	$C_2H_2F_3Br$	
	$C_2H_2FBr_2$	
	$C_2H_3F_2Br$	
	C_2H_4FBr	
	C_3HFBr_6	
	$C_3HF_2Br_5$	

TABLE E (continued)

Group VII:	Chemical	CAS Number
	$C_3HF_3Br_4$	
	$C_3HF_4Br_3$	
	$C_3HF_5Br_2$	
	C_3HF_6Br	
	$C_3H_2FBR_5$	
	$C_3H_2F_2BR_4$	
	$C_3H_2F_3Br_3$	
	$C_3H_2F_4Br_2$	
	$C_3H_2F_5BR$	
	$C_3H_3FBR_4$	
	$C_3H_3F_2Br_3$	
	$C_3H_3F_3Br_2$	
	$C_3H_3F_4Br$	
	$C_3H_4FBr_3$	
	$C_3H_4F_2Br_2$	
	$C_3H_4F_3Br$	
	$C_3H_5FBr_2$	
	$C_3H_5F_2Br$	
	C_3H_6FB	

TABLE F
CLASS II OZONE DEPLETING CHEMICALS

	Chemical	CAS Number
HCFC-21	$CHFCl_2$ -dichlorofluoromethane	75-43-4
HCFC-22	CHF_2Cl -chlorodifluoromethane	75-45-6
HCFC-31	CH_2FCl -chlorofluoromethane	593-70-4
HCFC-121	C_2HFCl_4 -tetrachlorofluoroethane	130879-71-9
HCFC-121	C_2HFCl_4 -tetrachlorofluoroethane	134237-32-4
HCFC-121	C_2HFCl_4 -1,1,1,2-tetrachloro-2-fluoroethane	354-11-0
HCFC-121	C_2HFCl_4 -1,1,2,2-tetrachloro-1-fluoroethane	354-14-3
HCFC-122	$C_2HF_2Cl_3$ -trichlorodifluoroethane	41834-16-6
HCFC-122	$C_2HF_2Cl_3$ -trichloro-1,1-difluoroethane	55949-46-7
HCFC-122	$C_2HF_2Cl_3$ -1,2,2-trichloro-1,1-difluoroethane	354-21-2
HCFC-122	$C_2HF_2Cl_3$ -1,2,2-trichloro-1,2-difluoroethane	354-15-4
HCFC-122	$C_2HF_2Cl_3$ -1,1,1-trichloro-2,2-difluoroethane	354-12-1
HCFC-122	$C_2HF_2Cl_3$ -1,1,2-trichloro-2,2-difluoroethane	NA
HCFC-123	$C_2HF_3Cl_2$ -dichlorotrifluoroethane	34077-87-7
HCFC-123	$C_2HF_3Cl_2$ -dichlorotrifluoroethane	134237-33-5
HCFC-123	$C_2HF_3Cl_2$ -dichloro-1,1,2-trifluoroethane	90454-18-5
HCFC-123	$C_2HF_3Cl_2$ -2,2-dichloro-1,1,1-trifluoroethane	306-83-2
HCFC-123a	$C_2HF_3Cl_2$ -1,2-dichloro-1,1,2-trifluoroethane	354-23-4
HCFC-123b	$C_2HF_3Cl_2$ -1,1-dichloro-1,2,2-trifluoroethane	812-04-4
HCFC-123	$C_2HF_3Cl_2$ -2,2-dichloro-1,1,2-trifluoroethane	NA
HCFC-124	C_2HF_4Cl -chlorotetrafluoroethane	63938-10-3
HCFC-124	C_2HF_4Cl -2-chloro-1,1,1,2-tetrafluoroethane	2837-89-0
HCFC-124	C_2HF_4Cl -1-chloro-1,1,2,2-tetrafluoroethane	354-25-6
HCFC-131	$C_2H_2FCl_3$ -trichlorofluoroethane	27154-33-2
HCFC-131	$C_2H_2FCl_3$ -trichlorofluoroethane	134237-34-6
HCFC-131	$C_2H_2FCl_3$ -1,1,2-trichloro-1 (or 2)-fluoroethane	90134-98-8
HCFC-131b	$C_2H_2FCl_3$ -1,1,1-trichloro-2-fluoroethane	2366-36-1
HCFC-131a	$C_2H_2FCl_3$ -1,1,2-trichloro-1-fluoroethane	811-95-0
HCFC-131	$C_2H_2FCl_3$ -1,1,2-trichloro-2-fluoroethane	359-28-4
HCFC-132	$C_2H_2F_2Cl_2$ -dichlorodifluoroethane	25915-78-0
HCFC-132	$C_2H_2F_2Cl_2$ -dichloro-1,1-difluoroethane	55494-45-6
HCFC-132	$C_2H_2F_2Cl_2$ -1,1-dichlorodifluoroethane	31153-51-2
HCFC-132	$C_2H_2F_2Cl_2$ -1,2-dichloro-1,2-difluoroethane	33579-37-2
HCFC-132	$C_2H_2F_2Cl_2$ -1,2-dichloro-1,2-difluoroethane	33489-30-4
HCFC-132c	$C_2H_2F_2Cl_2$ -1,1-dichloro-1,2-difluoroethane	1842-05-3
HCFC-132b	$C_2H_2F_2Cl_2$ -1,2-dichloro-1,1-difluoroethane	1649-08-7
HCFC-132a	$C_2H_2F_2Cl_2$ -1,1-dichloro-2,2-difluoroethane	471-43-2
HCFC-132	$C_2H_2F_2Cl_2$ -1,2-dichloro-1,2-difluoroethane	431-06-1
HCFC-133	$C_2H_2F_3Cl$ -chlorotrifluoroethane	13330-45-6
HCFC-133	$C_2H_2F_3Cl$ -1-chloro-1,2,2-trifluoroethane	431-07-2
HCFC-133b	$C_2H_2F_3Cl$ -1-chloro-1,1,2-trifluoroethane	421-04-5
HCFC-133a	$C_2H_2F_3Cl$ -2-chloro-1,1,1-trifluoroethane	75-88-7
HCFC-141	$C_2H_3FCl_2$ -dichlorofluoroethane	25167-88-8
HCFC-141b	$C_2H_3FCl_2$ -1,1-dichloro-1-fluoroethane	1717-00-6
HCFC-141	$C_2H_3FCl_2$ -1,2-dichloro-1-fluoroethane	430-57-9
HCFC-141a	$C_2H_3FCl_2$ -1,1-dichloro-2-fluoroethane	430-53-5
HCFC-142	$C_2H_3F_2Cl$ -chlorodifluoroethane	25497-29-4
HCFC-142	$C_2H_3F_2Cl$ -chloro-1,1-difluoroethane	55949-44-5
HCFC-142a	$C_2H_3F_2Cl$ -2-chloro-1,1-difluoroethane	338-65-8
HCFC-142b	$C_2H_3F_2Cl$ -1-chloro-1,2-difluoroethane	338-64-7
HCFC-142	$C_2H_3F_2Cl$ -1-chloro-1,1-difluoroethane	75-68-3
HCFC-221	C_3HFCl_6 -hexachlorofluoropropane	29470-94-8

TABLE F (continued)

	Chemical	CAS Number
HCFC-221	C_3HFCl_6 -hexachlorofluoropropane	134237-35-7
HCFC-221	C_3HFCl_6 -1,1,1,2,3,3-hexachloro-3-fluoropropane	431-79-8
HCFC-221	C_3HFCl_6 -1,1,1,2,3,3-hexachloro-2-fluoropropane	422-40-2
HCFC-221	C_3HFCl_6 -1,1,1,2,2,3-hexachloro-1-fluoropropane	422-26-4
HCFC-221	C_3HFCl_6 -1,1,2,2,3,3-hexachloro-1-fluoropropane	422-28-6
HCFC-221	C_3HFCl_6 -1,1,1,3,3,3-hexachloro-2-fluoropropane	NA
HCFC-222	$C_3HF_2Cl_5$ -pentachlorodifluoropropane	116867-32-4
HCFC-222	$C_3HF_2Cl_5$ -pentachlorodifluoropropane	134237-36-8
HCFC-222	$C_3HF_2Cl_5$ -1,1,2,3,3-pentachloro-1,3-difluoropropane	421-82-3
HCFC-222	$C_3HF_2Cl_5$ -1,1,1,2,3-pentachloro-3,3-difluoropropane	431-80-1
HCFC-222c	$C_3HF_2Cl_5$ -1,1,1,3,3-pentachloro-2,2-difluoropropane	422-49-1
HCFC-222	$C_3HF_2Cl_5$ -1,2,2,3,3-pentachloro-1,1-difluoropropane	422-30-0
HCFC-222	$C_3HF_2Cl_5$ -1,1,1,2,2-pentachloro-3,3-difluoropropane	422-27-5
HCFC-222	$C_3HF_2Cl_5$ -1,1,1,2,3-pentachloro-2,3-difluoropropane	NA
HCFC-222	$C_3HF_2Cl_5$ -1,1,1,3,3-pentachloro-2,3-difluoropropane	NA
HCFC-222	$C_3HF_2Cl_5$ -1,1,2,2,3-pentachloro-1,3-difluoropropane	NA
HCFC-222	$C_3HF_2Cl_5$ -1,1,2,3,3-pentachloro-1,2-difluoropropane	NA
HCFC-223	$C_3HF_3Cl_4$ -tetrachlorotrifluoropropane	29470-95-9
HCFC-223	$C_3HF_3Cl_4$ -tetrachlorotrifluoropropane	134237-37-9
HCFC-223	$C_3HF_3Cl_4$ -1,1,1,3-tetrachloro-2,3,3-trifluoropropane	54002-59-4
HCFC-223	$C_3HF_3Cl_4$ -1,1,2,3-tetrachloro-1,3,3-trifluoropropane	431-83-4
HCFC-223	$C_3HF_3Cl_4$ -1,1,1,2-tetrachloro-3,3,3-trifluoropropane	431-81-2
HCFC-223ca	$C_3HF_3Cl_4$ -1,1,3,3-tetrachloro-1,2,2-trifluoropropane	422-52-6
HCFC-223cb	$C_3HF_3Cl_4$ -1,1,1,3-tetrachloro-2,2,3-trifluoropropane	422-50-4
HCFC-223	$C_3HF_3Cl_4$ -1,2,3,3-tetrachloro-1,1,2-trifluoropropane	422-41-3
HCFC-223	$C_3HF_3Cl_4$ -2,2,3,3-tetrachloro-1,1,1-trifluoropropane	422-35-5
HCFC-223	$C_3HF_3Cl_4$ -1,1,2,2-tetrachloro-1,3,3-trifluoropropane	422-29-7
HCFC-223	$C_3HF_3Cl_4$ -1,1,1,2-tetrachloro-2,3,3-trifluoropropane	NA
HCFC-223	$C_3HF_3Cl_4$ -1,1,3,3-tetrachloro-1,2,3-trifluoropropane	NA
HCFC-223	$C_3HF_3Cl_4$ -1,2,2,3-tetrachloro-1,1,3-trifluoropropane	NA
HCFC-223	$C_3HF_3Cl_4$ -1,1,2,3-tetrachloro-1,2,3-trifluoropropane	NA
HCFC-224	$C_3HF_4Cl_3$ -trichlorotetrafluoropropane	127564-91-4
HCFC-224	$C_3HF_4Cl_3$ -trichlorotetrafluoropropane	134237-38-0
HCFC-224	$C_3HF_4Cl_3$ -1,1,3-trichloro-1,2,3,3-tetrafluoropropane	53063-53-9
HCFC-224	$C_3HF_4Cl_3$ -1,1,1-trichloro-2,3,3,3-tetrafluoropropane	53063-52-8
HCFC-224	$C_3HF_4Cl_3$ -1,2,3-trichloro-1,1,3,3-tetrafluoropropane	431-85-6
HCFC-224	$C_3HF_4Cl_3$ -1,1,2-trichloro-1,3,3,3-tetrafluoropropane	431-84-5
HCFC-224ca	$C_3HF_4Cl_3$ -1,3,3-trichloro-1,1,2,2-tetrafluoropropane	422-54-8
HCFC-224cb	$C_3HF_4Cl_3$ -1,1,3-trichloro-1,2,2,3-tetrafluoropropane	422-53-7
HCFC-224cc	$C_3HF_4Cl_3$ -1,1,1-trichloro-2,2,3,3-tetrafluoropropane	422-51-5
HCFC-224	$C_3HF_4Cl_3$ -2,3,3-trichloro-1,1,1,2-tetrafluoropropane	422-47-9
HCFC-224	$C_3HF_4Cl_3$ -1,2,3-trichloro-1,1,2,3-tetrafluoropropane	422-42-4
HCFC-224	$C_3HF_4Cl_3$ -1,2,2-trichloro-1,1,3,3-tetrafluoropropane	422-32-2
HCFC-224	$C_3HF_4Cl_3$ -2,2,3-trichloro-1,1,1,3-tetrafluoropropane	NA
HCFC-224	$C_3HF_4Cl_3$ -1,1,2-trichloro-1,2,3,3-tetrafluoropropane	NA
HCFC-225	$C_3HF_5Cl_2$ -dichloropentafluoropropane	127564-92-5
HCFC-225	$C_3HF_5Cl_2$ -1,3-dichloro-1,1,2,3,3-pentafluoropropane	136013-79-1
HCFC-225aa	$C_3HF_5Cl_2$ -2,2-dichloro-1,1,1,3,3-pentafluoropropane	128903-21-9
HCFC-225	$C_3HF_5Cl_2$ -1,1-dichloro-1,2,3,3,3-pentafluoropropane	111512-56-2
HCFC-225	$C_3HF_5Cl_2$ -2,3-dichloro-1,1,1,2,3-pentafluoropropane	111512-55-1
HCFC-225	$C_3HF_5Cl_2$ -2,3-dichloro-1,1,1,2,3-pentafluoropropane	111512-51-7
HCFC-225cc	$C_3HF_5Cl_2$ -1,1-dichloro-1,2,2,3,3-pentafluoropropane	13474-88-9
HCFC-225cb	$C_3HF_5Cl_2$ -1,3-dichloro-1,1,2,2,3-pentafluoropropane	507-55-1

TABLE F (continued)

	Chemical	CAS Number
HCFC-225da	$C_3HF_5Cl_2$ -1,2-dichloro-1,1,3,3,3-pentafluoropropane	431-86-7
HCFC-225ca	$C_3HF_5Cl_2$ -3,3-dichloro-1,1,1,2,2-pentafluoropropane	422-56-0
HCFC-225ba	$C_3HF_5Cl_2$ -2,3-dichloro-1,1,1,2,3-pentafluoropropane	422-48-0
HCFC-225	$C_3HF_5Cl_2$ -1,2-dichloro-1,1,2,3,3-pentafluoropropane	422-44-6
HCFC-226	C_3HF_6Cl -chlorohexafluoropropane	28987-04-4
HCFC-226	C_3HF_6Cl -chlorohexafluoropropane	134308-72-8
HCFC-226ba	C_3HF_6Cl -2-chloro-1,1,1,2,3,3-hexafluoropropane	51346-64-6
HCFC-226da	C_3HF_6Cl -2-chloro-1,1,1,3,3,3-hexafluoropropane	431-87-8
HCFC-226ca	C_3HF_6Cl -3-chloro-1,1,1,2,2,3-hexafluoropropane	422-57-1
HCFC-226cb	C_3HF_6Cl -1-chloro-1,1,2,2,3,3-hexafluoropropane	422-55-9
HCFC-226ea	C_3HF_6Cl -1-chloro-1,1,2,3,3,3-hexafluoropropane	359-58-0
HCFC-231	$C_3H_2FCl_5$ -pentachlorofluoropropane	NA
HCFC-231	$C_3H_2FCl_5$ -pentachlorofluoropropane	134190-48-0
HCFC-231	$C_3H_2FCl_5$ -1,1,1,2,3-pentachloro-2-fluoropropane	421-94-3
HCFC-231	$C_3H_2FCl_5$ -1,1,2,3,3-pentachloro-2-fluoropropane	NA
HCFC-231	$C_3H_2FCl_5$ -1,1,1,3,3-pentachloro-3-fluoropropane	NA
HCFC-231	$C_3H_2FCl_5$ -1,1,2,2,3-pentachloro-1-fluoropropane	NA
HCFC-231	$C_3H_2FCl_5$ -1,1,1,2,2-pentachloro-3-fluoropropane	NA
HCFC-231	$C_3H_2FCl_5$ -1,1,1,2,3-pentachloro-3-fluoropropane	NA
HCFC-231	$C_3H_2FCl_5$ -1,1,1,3,3-pentachloro-2-fluoropropane	NA
HCFC-231	$C_3H_2FCl_5$ -1,1,2,2,3-pentachloro-3-fluoropropane	NA
HCFC-231	$C_3H_2FCl_5$ -1,1,2,3,3-pentachloro-1-fluoropropane	NA
HCFC-232	$C_3H_2F_2Cl_4$ -tetrachlorodifluoropropane	127564-82-3
HCFC-232	$C_3H_2F_2Cl_4$ -tetrachlorodifluoropropane	134237-39-1
HCFC-232	$C_3H_2F_2Cl_4$ -1,2,3,3-tetrachloro-1,1-difluoropropane	67879-59-8
HCFC-232ca	$C_3H_2F_2Cl_4$ -1,1,3,3-tetrachloro-2,2-difluoropropane	1112-14-7
HCFC-232cb	$C_3H_2F_2Cl_4$ -1,1,1,3-tetrachloro-2,2-difluoropropane	677-54-3
HCFC-232	$C_3H_2F_2Cl_4$ -1,1,1,3-tetrachloro-3,3-difluoropropane	460-89-9
HCFC-232	$C_3H_2F_2Cl_4$ -1,1,1,3-tetrachloro-2,3-difluoropropane	NA
HCFC-232	$C_3H_2F_2Cl_4$ -1,1,1,2-tetrachloro-2,3-difluoropropane	NA
HCFC-232	$C_3H_2F_2Cl_4$ -1,1,1,2-tetrachloro-3,3-difluoropropane	NA
HCFC-232	$C_3H_2F_2Cl_4$ -1,1,3,3-tetrachloro-1,2-difluoropropane	NA
HCFC-232	$C_3H_2F_2Cl_4$ -1,1,2,3-tetrachloro-1,2-difluoropropane	NA
HCFC-232	$C_3H_2F_2Cl_4$ -1,1,2,3-tetrachloro-1,3-difluoropropane	NA
HCFC-232	$C_3H_2F_2Cl_4$ -1,2,3,3-tetrachloro-1,2-difluoropropane	NA
HCFC-232	$C_3H_2F_2Cl_4$ -1,2,2,3-tetrachloro-1,1-difluoropropane	NA
HCFC-232	$C_3H_2F_2Cl_4$ -1,2,2,3-tetrachloro-1,3-difluoropropane	NA
HCFC-232	$C_3H_2F_2Cl_4$ -1,1,3,3-tetrachloro-1,3-difluoropropane	NA
HCFC-232	$C_3H_2F_2Cl_4$ -1,1,2,2-tetrachloro-3,3-difluoropropane	NA
HCFC-232	$C_3H_2F_2Cl_4$ -1,1,2,2-tetrachloro-1,3-difluoropropane	NA
HCFC-233	$C_3H_2F_3Cl_3$ -trichlorotrifluoropropane	61623-04-9
HCFC-233	$C_3H_2F_3Cl_3$ -trichlorotrifluoropropane	134237-40-4
HCFC-233ca	$C_3H_2F_3Cl_3$ -1,1,3-trichloro-2,2,3-trifluoropropane	131221-36-8
HCFC-233cc	$C_3H_2F_3Cl_3$ -1,1,1-trichloro-2,2,3-trifluoropropane	131211-71-7
HCFC-233	$C_3H_2F_3Cl_3$ -1,1,3-trichloro-1,2,3-trifluoropropane	54377-32-1
HCFC-233	$C_3H_2F_3Cl_3$ -1,1,1-trichloro-2,3,3-trifluoropropane	54306-56-8
HCFC-233	$C_3H_2F_3Cl_3$ -1,1,2-trichloro-2,3,3-trifluoropropane	13058-99-6
HCFC-233	$C_3H_2F_3Cl_3$ -1,1,1-trichloro-3,3,3-trifluoropropane	7125-84-0
HCFC-233	$C_3H_2F_3Cl_3$ -2,2,3-trichloro-1,1,1-trifluoropropane	7125-83-9
HCFC-233	$C_3H_2F_3Cl_3$ -2,3,3-trichloro-1,1,1-trifluoropropane	431-51-6
HCFC-233cb	$C_3H_2F_3Cl_3$ -1,1,3-trichloro-1,2,2-trifluoropropane	421-99-8
HCFC-233	$C_3H_2F_3Cl_3$ -1,2,3-trichloro-1,1,2-trifluoropropane	421-95-4
HCFC-233	$C_3H_2F_3Cl_3$ -1,1,3-trichloro-1,3,3-trifluoropropane	333-26-6

TABLE F (continued)

	Chemical	CAS Number
HCFC-233	$C_3H_2F_3Cl_3$ -1,1,2-trichloro-1,2,3-trifluoropropane	NA
HCFC-233	$C_3H_2F_3Cl_3$ -1,2,3-trichloro-1,2,3-trifluoropropane	NA
HCFC-233	$C_3H_2F_3Cl_3$ -1,1,2-trichloro-1,3,3-trifluoropropane	NA
HCFC-233	$C_3H_2F_3Cl_3$ -1,3,3-trichloro-1,1,2-trifluoropropane	NA
HCFC-233	$C_3H_2F_3Cl_3$ -2,2,3-trichloro-1,1,3-trifluoropropane	NA
HCFC-233	$C_3H_2F_3Cl_3$ -1,2,3-trichloro-1,1,3-trifluoropropane	NA
HCFC-233	$C_3H_2F_3Cl_3$ -1,2,2-trichloro-1,1,3-trifluoropropane	NA
HCFC-234	$C_3H_2F_4Cl_2$ -dichlorotetrafluoropropane	127564-83-4
HCFC-234fa	$C_3H_2F_4Cl_2$ -1,3-dichloro-1,1,3,3-tetrafluoropropane	76140-39-1
HCFC-234ca	$C_3H_2F_4Cl_2$ -1,3-dichloro-1,2,2,3-tetrafluoropropane	70341-81-0
HCFC-234cd	$C_3H_2F_4Cl_2$ -1,1-dichloro-1,2,2,3-tetrafluoropropane	70192-63-1
HCFC-234	$C_3H_2F_4Cl_2$ -1,1-dichloro-1,3,3,3-tetrafluoropropane	64712-27-2
HCFC-234	$C_3H_2F_4Cl_2$ -1,3-dichloro-1,1,2,3-tetrafluoropropane	53149-65-8
HCFC-234	$C_3H_2F_4Cl_2$ -1,3-dichloro-1,1,2,3-tetrafluoropropane	5306355-1
HCFC-234	$C_3H_2F_4Cl_2$ -3,3-dichloro-1,1,1,2-tetrafluoropropane	53063-54-0
HCFC-234	$C_3H_2F_4Cl_2$ -2,2-dichloro-1,1,3,3-tetrafluoropropane	17705-30-5
HCFC-234cb	$C_3H_2F_4Cl_2$ -1,1-dichloro-2,2,3,3-tetrafluoropropane	4071-01-6
HCFC-234	$C_3H_2F_4Cl_2$ -1,2-dichloro-1,2,3,3-tetrafluoropropane	425-94-5
HCFC-234cc	$C_3H_2F_4Cl_2$ -1,3-dichloro-1,1,2,2-tetrafluoropropane	422-00-5
HCFC-234da	$C_3H_2F_4Cl_2$ -2,3-dichloro-1,1,1,3-tetrafluoropropane	NA
HCFC-234	$C_3H_2F_4Cl_2$ -1,1-dichloro-1,2,3,3-tetrafluoropropane	NA
HCFC-234	$C_3H_2F_4Cl_2$ -1,2-dichloro-1,1,3,3-tetrafluoropropane	NA
HCFC-234	$C_3H_2F_4Cl_2$ -2,3-dichloro-1,1,1,2-tetrafluoropropane	NA
HCFC-234	$C_3H_2F_4Cl_2$ -2,2-dichloro-1,1,1,3-tetrafluoropropane	NA
HCFC-234	$C_3H_2F_4Cl_2$ -1,2-dichloro-1,1,2,3-tetrafluoropropane	NA
HCFC-234	$C_3H_2F_4Cl_2$ -1,3-dichloro-1,1,2,3-tetrafluoropropane	NA
HCFC-235	$C_3H_2F_5Cl$ -chloropentafluoropropane	108662-83-5
HCFC-235	$C_3H_2F_5Cl$ -chloropentafluoropropane	134237-83-5
HCFC-235	$C_3H_2F_5Cl$ -3-chloro-1,1,1,2,3-pentafluoropropane	134251-06-2
HCFC-235da	$C_3H_2F_5Cl$ -2-chloro-1,1,1,3,3-pentafluoropropane	28103-66-4
HCFC-235ca	$C_3H_2F_5Cl$ -1-chloro-1,2,2,3,3-pentafluoropropane	679-99-2
HCFC-235cc	$C_3H_2F_5Cl$ -1-chloro-1,1,2,2,3-pentafluoropropane	677-55-4
HCFC-235fa	$C_3H_2F_5Cl$ -1-chloro-1,1,3,3,3-pentafluoropropane	460-92-4
HCFC-235cb	$C_3H_2F_5Cl$ -3-chloro-1,1,1,2,2-pentafluoropropane	422-02-6
HCFC-235	$C_3H_2F_5Cl$ -2-chloro-1,1,1,2,3-pentafluoropropane	NA
HCFC-235	$C_3H_2F_5Cl$ -1-chloro-1,1,2,3,3-pentafluoropropane	NA
HCFC-235	$C_3H_2F_5Cl$ -2-chloro-1,1,2,3,3-pentafluoropropane	NA
HCFC-241	$C_3H_3FCl_4$ -tetrachlorofluoropropane	NA
HCFC-241	$C_3H_3FCl_4$ -tetrachlorofluoropropane	134190-49-1
HCFC-241	$C_3H_3FCl_4$ -1,1,1,2-tetrachloro-3-fluoropropane	84816-05-7
HCFC-241	$C_3H_3FCl_4$ -1,1,1,3-tetrachloro-3-fluoropropane	23153-22-2
HCFC-241	$C_3H_3FCl_4$ -1,1,2,3-tetrachloro-3-fluoropropane	21981-25-9
HCFC-241	$C_3H_3FCl_4$ -1,1,2,2-tetrachloro-1-fluoropropane	7126-06-9
HCFC-241	$C_3H_3FCl_4$ -1,1,2,3-tetrachloro-2-fluoropropane	3175-26-6
HCFC-241	$C_3H_3FCl_4$ -1,1,1,2-tetrachloro-2-fluoropropane	3175-25-5
HCFC-241	$C_3H_3FCl_4$ -1,1,2,3-tetrachloro-1-fluoropropane	666-27-3
HCFC-241	$C_3H_3FCl_4$ -1,1,1,3-tetrachloro-2-fluoropropane	NA
HCFC-241	$C_3H_3FCl_4$ -1,1,2,2-tetrachloro-3-fluoropropane	NA
HCFC-241	$C_3H_3FCl_4$ -1,2,2,3-tetrachloro-1-fluoropropane	NA
HCFC-241	$C_3H_3FCl_4$ -1,1,3,3-tetrachloro-1-fluoropropane	NA
HCFC-241	$C_3H_3FCl_4$ -1,1,3,3-tetrachloro-2-fluoropropane	NA
HCFC-242	$C_3H_3F_2Cl_3$ -trichlorodifluoropropane	127564-90-3
HCFC-242	$C_3H_3F_2Cl_3$ -trichlorodifluoropropane	134237-42-6

TABLE F (continued)

	Chemical	CAS Number
HCFC-242	$C_3H_3F_2Cl_3$ -1,3,3-trichloro-1,1-difluoropropane	460-63-9
HCFC-242	$C_3H_3F_2Cl_3$ -1,2,3-trichloro-1,2-difluoropropane	7164-14-9
HCFC-242	$C_3H_3F_2Cl_3$ -1,1,3-trichloro-2,2-difluoropropane	1112-13-6
HCFC-242	$C_3H_3F_2Cl_3$ -1,2,3-trichloro-1,1-difluoropropane	431-24-3
HCFC-242	$C_3H_3F_2Cl_3$ -1,1,1-trichloro-2,2-difluoropropane	1112-05-6
HCFC-242	$C_3H_3F_2Cl_3$ -1,2,2-trichloro-1,1-difluoropropane	7126-05-8
HCFC-242	$C_3H_3F_2Cl_3$ -1,1,2-trichloro-1,2-difluoropropane	7126-04-7
HCFC-242	$C_3H_3F_2Cl_3$ -1,1,1-trichloro-2,3-difluoropropane	NA
HCFC-242	$C_3H_3F_2Cl_3$ -1,1,2-trichloro-1,3-difluoropropane	NA
HCFC-242	$C_3H_3F_2Cl_3$ -1,1,3-trichloro-1,2-difluoropropane	NA
HCFC-242	$C_3H_3F_2Cl_3$ -1,1,2-trichloro-2,3-difluoropropane	NA
HCFC-242	$C_3H_3F_2Cl_3$ -1,2,2-trichloro-1,3-difluoropropane	NA
HCFC-242	$C_3H_3F_2Cl_3$ -2,2,3-trichloro-1,1-difluoropropane	NA
HCFC-242	$C_3H_3F_2Cl_3$ -1,1,1-trichloro-3,3-difluoropropane	NA
HCFC-242	$C_3H_3F_2Cl_3$ -1,1,3-trichloro-1,3-difluoropropane	NA
HCFC-242	$C_3H_3F_2Cl_3$ -1,1,2-trichloro-3,3-difluoropropane	NA
HCFC-242	$C_3H_3F_2Cl_3$ -1,1,3-trichloro-2,3-difluoropropane	NA
HCFC-242	$C_3H_3F_2Cl_3$ -1,2,3-trichloro-1,3-difluoropropane	NA
HCFC-243	$C_3H_3F_3Cl_2$ -dichlorotrifluoropropane	116890-51-8
HCFC-243	$C_3H_3F_3Cl_2$ -dichlorotrifluoropropane	134237-43-7
HCFC-243	$C_3H_3F_3Cl_2$ -2,2-dichloro-1,1,1-trifluoropropane	7126-01-4
HCFC-243cc	$C_3H_3F_3Cl_2$ -1,1-dichloro-1,2,2-trifluoropropane	7125-99-7
HCFC-243	$C_3H_3F_3Cl_2$ -1,2-dichloro-1,1,2-trifluoropropane	7126-00-3
HCFC-243da	$C_3H_3F_3Cl_2$ -2,3-dichloro-1,1,1-trifluoropropane	338-75-0
HCFC-243ca	$C_3H_3F_3Cl_2$ -1,3-dichloro-1,2,2-trifluoropropane	67406-68-2
HCFC-243cb	$C_3H_3F_3Cl_2$ -1,1-dichloro-2,2,3-trifluoropropane	70192-70-0
HCFC-243	$C_3H_3F_3Cl_2$ -3,3-dichloro-1,1,1-trifluoropropane	460-69-5
HCFC-243	$C_3H_3F_3Cl_2$ -1,3-dichloro-1,1,2-trifluoropropane	NA
HCFC-243	$C_3H_3F_3Cl_2$ -1,2-dichloro-1,1,3-trifluoropropane	NA
HCFC-243	$C_3H_3F_3Cl_2$ -1,1-dichloro-1,2,3-trifluoropropane	NA
HCFC-243	$C_3H_3F_3Cl_2$ -2,3-dichloro-1,1,2-trifluoropropane	NA
HCFC-243	$C_3H_3F_3Cl_2$ -2,2-dichloro-1,1,3-trifluoropropane	NA
HCFC-243	$C_3H_3F_3Cl_2$ -1,2-dichloro-1,2,3-trifluoropropane	NA
HCFC-243	$C_3H_3F_3Cl_2$ -1,3-dichloro-1,1,3-trifluoropropane	NA
HCFC-243	$C_3H_3F_3Cl_2$ -1,1-dichloro-1,3,3-trifluoropropane	NA
HCFC-243	$C_3H_3F_3Cl_2$ -3,3-dichloro-1,1,2-trifluoropropane	NA
HCFC-243	$C_3H_3F_3Cl_2$ -2,3-dichloro-1,1,3-trifluoropropane	NA
HCFC-243	$C_3H_3F_3Cl_2$ -1,3-dichloro-1,2,3trifluoropropane	NA
HCFC-244	$C_3H_3F_4Cl$ -chlorotetrafluoropropane	NA
HCFC-244	$C_3H_3F_4Cl$ -chlorotetrafluoropropane	134190-50-4
HCFC-244db	$C_3H_3F_4Cl$ -2-chloro-1,1,1,3-tetrafluoropropane	117970-90-8
HCFC-244ca	$C_3H_3F_4Cl$ -3-chloro-1,1,2,2-tetrafluoropropane	679-85-6
HCFC-244cb	$C_3H_3F_4Cl$ -1-chloro-1,2,2,3-tetrafluoropropane	67406-66-0
HCFC-244fb	$C_3H_3F_4Cl$ -1-chloro-1,1,3,3-tetrafluoropropane	2730-64-5
HCFC-244da	$C_3H_3F_4Cl$ -2-chloro-1,1,3,3-tetrafluoropropane	19041-02-2
HCFC-244bb	$C_3H_3F_4Cl$ -2-chloro-1,1,1,2-tetrafluoropropane	421-73-8
HCFC-244cc	$C_3H_3F_4Cl$ -1-chloro-1,1,2,2-tetrafluoropropane	421-75-0
HCFC-244	$C_3H_3F_4Cl$ -1-chloro-1,1,2,3-tetrafluoropropane	NA
HCFC-244	$C_3H_3F_4Cl$ -3-chloro-1,1,1,2-tetrafluoropropane	NA
HCFC-244	$C_3H_3F_4Cl$ -2-chloro-1,1,2,3-tetrafluoropropane	NA
HCFC-244	$C_3H_3F_4Cl$ -3-chloro-1,1,1,3-tetrafluoropropane	NA
HCFC-244	$C_3H_3F_4Cl$ -3-chloro-1,1,2,3-tetrafluoropropane	NA
HCFC-251	$C_3H_4FCl_3$ -trichlorofluoropropane	NA

TABLE F (continued)

	Chemical	CAS Number
HCFC-251	$C_3H_4FCl_3$ -trichlorofluoropropane	134190-51-5
HCFC-251	$C_3H_4FCl_3$ -1,2,3-trichloro-1-fluoropropane	84847-80-3
HCFC-251	$C_3H_4FCl_3$ -1,2,3-trichloro-1-fluoropropane	84847-79-0
HCFC-251	$C_3H_4FCl_3$ -1,2,3-trichloro-1-fluoropropane	76985-34-7
HCFC-251	$C_3H_4FCl_3$ -1,2,3-trichloro-1-fluoropropane	76985-33-6
HCFC-251	$C_3H_4FCl_3$ -1,2,3-trichloro-1-fluoropropane	67832-50-2
HCFC-251	$C_3H_4FCl_3$ -1,2,3-trichloro-1-fluoropropane	67832-44-4
HCFC-251	$C_3H_4FCl_3$ -1,2,3-trichloro-2-fluoropropane	7126-16-1
HCFC-251	$C_3H_4FCl_3$ -1,2,2-trichloro-3-fluoropropane	70192-89-1
HCFC-251	$C_3H_4FCl_3$ -1,1,3-trichloro-1-fluoropropane	818-99-5
HCFC-251	$C_3H_4FCl_3$ -1,1,3-trichloro-2-fluoropropane	76937-36-5
HCFC-251	$C_3H_4FCl_3$ -1,1,2-trichloro-1-fluoropropane	421-41-0
HCFC-251	$C_3H_4FCl_3$ -1,1,2-trichloro-2-fluoropropane	3175-24-4
HCFC-251	$C_3H_4FCl_3$ -1,1,1-trichloro-2-fluoropropane	NA
HCFC-251	$C_3H_4FCl_3$ -1,1,1-trichloro-3-fluoropropane	NA
HCFC-251	$C_3H_4FCl_3$ -1,1,2-trichloro-3-fluoropropane	NA
HCFC-251	$C_3H_4FCl_3$ -1,1,3-trichloro-3-fluoropropane	NA
HCFC-251	$C_3H_4FCl_3$ -1,2,2-trichloro-1-fluoropropane	NA
HCFC-251	$C_3H_4FCl_3$ -1,2,3-trichloro-1-fluoropropane	NA
HCFC-252	$C_3H_4F_2Cl_2$ -dichlorodifluoropropane	NA
HCFC-252	$C_3H_4F_2Cl_2$ -dichlorodifluoropropane	134190-52-6
HCFC-252cb	$C_3H_4F_2Cl_2$ -1,1-dichloro-2,2-difluoropropane	1112-01-2
HCFC-252	$C_3H_4F_2Cl_2$ -1,1-dichloro-3,3-difluoropropane	131404-17-6
HCFC-252	$C_3H_4F_2Cl_2$ -1,1-dichloro-1,3-difluoropropane	121612-64-4
HCFC-252	$C_3H_4F_2Cl_2$ -1,2-dichloro-1,1-difluoropropane	7126-15-0
HCFC-252	$C_3H_4F_2Cl_2$ -1,2-dichloro-2,3-difluoropropane	70192-74-4
HCFC-252	$C_3H_4F_2Cl_2$ -2,3-dichloro-1,1-difluoropropane	82578-00-5
HCFC-252	$C_3H_4F_2Cl_2$ -1,3-dichloro-1,1-difluoropropane	819-00-1
HCFC-252	$C_3H_4F_2Cl_2$ -1,3-dichloro-1,2-difluoropropane	111483-26-2
HCFC-252ca	$C_3H_4F_2Cl_2$ -1,3-dichloro-2,2-difluoropropane	1112-36-3
HCFC-252	$C_3H_4F_2Cl_2$ -1,1-dichloro-1,2-difluoropropane	NA
HCFC-252	$C_3H_4F_2Cl_2$ -1,1-dichloro-2,3-difluoropropane	NA
HCFC-252	$C_3H_4F_2Cl_2$ -1,2-dichloro-1,2-difluoropropane	NA
HCFC-252	$C_3H_4F_2Cl_2$ -1,2-dichloro-1,3-difluoropropane	NA
HCFC-252	$C_3H_4F_2Cl_2$ -1,3-dichloro-1,3-difluoropropane	NA
HCFC-252	$C_3H_4F_2Cl_2$ -2,2-dichloro-1,1-difluoropropane	NA
HCFC-252	$C_3H_4F_2Cl_2$ -2,2-dichloro-1,3-difluoropropane	NA
HCFC-253	$C_3H_4F_3Cl$ -chlorotrifluoropropane	26588-23-8
HCFC-253	$C_3H_4F_3Cl$ -chlorotrifluoropropane	134237-44-8
HCFC-253	$C_3H_4F_3Cl$ -2-chloro-1,1,1-trifluoropropane	421-47-6
HCFC-253	$C_3H_4F_3Cl$ -3-chloro-1,1,1-trifluoropropane	460-35-5
HCFC-253	$C_3H_4F_3Cl$ -1-chloro-1,1,2-trifluoropropane	134251-05-1
HCFC-253	$C_3H_4F_3Cl$ -2-chloro-1,1,2-trifluoropropane	69202-10-4
HCFC-253	$C_3H_4F_3Cl$ -3-chloro-1,1,2-trifluoropropane	121612-65-5
HCFC-253	$C_3H_4F_3Cl$ -1-chloro-1,1,3-trifluoropropane	83124-56-5
HCFC-253cb	$C_3H_4F_3Cl$ -1-chloro-1,2,2-trifluoropropane	70192-76-6
HCFC-253ca	$C_3H_4F_3Cl$ -1-chloro-2,2,3-trifluoropropane	56758-54-4
HCFC-253	$C_3H_4F_3Cl$ -2-chloro-1,1,3-trifluoropropane	NA
HCFC-253	$C_3H_4F_3Cl$ -3-chloro-1,1,3-trifluoropropane	NA
HCFC-253	$C_3H_4F_3Cl$ -1-chloro-1,2,3-trifluoropropane	NA
HCFC-253	$C_3H_4F_3Cl$ -2-chloro-1,2,3-trifluoropropane	NA
HCFC-261	$C_3H_5FCl_2$ -dichlorofluoropropane	127404-11-9
HCFC-261	$C_3H_5FCl_2$ -dichlorofluoropropane	134237-45-9

TABLE F (continued)

	Chemical	CAS Number
HCFC-261	$C_3H_5FCl_2$ -1,1-dichloro-1-fluoropropane	7799-56-6
HCFC-261	$C_3H_5FCl_2$ -1,1-dichloro-2-fluoropropane	53074-31-0
HCFC-261	$C_3H_5FCl_2$ -1,1-dichloro-3-fluoropropane	53074-30-9
HCFC-261	$C_3H_5FCl_2$ -1,2-dichloro-1-fluoropropane	7799-55-5
HCFC-261ba	$C_3H_5FCl_2$ -1,2-dichloro-2-fluoropropane	420-97-3
HCFC-261	$C_3H_5FCl_2$ -1,2-dichloro-3-fluoropropane	453-01-0
HCFC-261	$C_3H_5FCl_2$ -1,3-dichloro-1-fluoropropane	83124-60-1
HCFC-261	$C_3H_5FCl_2$ -1,3-dichloro-2-fluoropropane	816-38-6
IICFC-261	$C_3H_5FCl_2$ -2,2-dichloro 1 fluoropropane	NA
HCFC-262	$C_3H_5F_2Cl$ -chlorodifluoropropane	NA
HCFC-262	$C_3H_5F_2Cl$ -chlorodifluoropropane	134190-53-7
HCFC-262	$C_3H_5F_2Cl$ -1-chloro-1,1-difluoropropane	421-02-3
HCFC-262	$C_3H_5F_2Cl$ -2-chloro-1,1-difluoropropane	430-93-3
HCFC-262	$C_3H_5F_2Cl$ -3-chloro-1,1-difluoropropane	83124-57-6
HCFC-262	$C_3H_5F_2Cl$ -1-chloro-1,2-difluoropropane	430-96-6
HCFC-262	$C_3H_5F_2Cl$ -1-chloro-2,3-difluoropropane	37161-81-2
HCFC-262	$C_3H_5F_2Cl$ -2-chloro-1,3-difluoropropane	102738-79-4
HCFC-262ca	$C_3H_5F_2Cl$ -1-chloro-2,2-difluoropropane	420-99-5
HCFC-262	$C_3H_5F_2Cl$ -2-chloro-1,2-difluoropropane	NA
HCFC-262	$C_3H_5F_2Cl$ -1-chloro-1,3-difluoropropane	NA
HCFC-271	C_3H_6FCl -chlorofluoropropane	NA
HCFC-271	C_3H_6FCl -chlorofluoropropane	134190-54-8
HCFC-271	C_3H_6FCl -1-chloro-1-fluoropropane	430-55-7
HCFC-271	C_3H_6FCl -1-chloro-2-fluoropropane	430-46-6
HCFC-271	C_3H_6FCl -1-chloro-3-fluoropropane	462-38-4
HCFC-271	C_3H_6FCl -2-chloro-1-fluoropropane	20372-78-5
HCFC-271	C_3H_6FCl -2-chloro-2-fluoropropane	420-44-0
	All isomers of the above chemicals	

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

Facility Information–Minnesota State Air Quality (AQ) Rules

AQ Facility ID number: 12300764 Agency Interest ID number: 131464

Facility name: Baldinger Bakery

Some businesses and activities in Minnesota are subject to the following rules. Read each question to determine if the rule applies to you.

1) Minnesota Standards of Performance for Stationary Sources (Minn. R. ch. 7011)

1a) Does your facility have any equipment that meets the following definition?

"A furnace, boiler or other combustion equipment in Minnesota which burns fossil fuel for the purpose of producing steam, hot water, hot air, or other hot liquid, gas, or solid, where the smoke doesn't have direct contact with the heated medium for which another standard of performance has not been promulgated."

☒ No, my facility **is not** subject to Minn. R. 7011.0500-7011.0551. Go to question 1b.

☐ Yes, my facility **is** subject to Minn. R. 7011.0500-7011.0551. Standards of Performance for Indirect Heating Fossil-Fuel Burning Equipment. (Read the rule to determine the specific requirements that apply to your facility.)

1b) Is your facility type or process equipment found in Table H on page 3? This table contains only state-specific requirements; it does not contain state rules that incorporate federal rules by reference.

☒ No, none of the Minnesota Rules listed in Table H apply to my facility. Go to question 2.

☐ Yes, my facility or process equipment may be subject to the rule associated with it in Table H. Read the associated rule to see if it applies.

1c) After reading through Table H and any rule that may apply to your facility or equipment, list the ones that do apply to your air emission source(s) below. Again, Table H contains only state-specific requirements; it does not contain state rules that incorporate federal rules by reference. You do not need to list the state rule that incorporates a federal rule by reference. You do not need to list the Standards of Performance for Indirect Heating Fossil-Fuel Burning Equipment again, if it applies (see 1a, above).

Minnesota Rule Part that Applies	What the Rule Part Applies to (Whole facility or Specific Piece of Equipment)	Emission Unit ID Number

3) Standards of Performance for Industrial Process Equipment (Minn. R. 7011.0700 - 7011.0735)

3a) Do you have any industrial process equipment on-site that is not regulated by another Standard of Performance (NSPS or MN Rules Standard of Performance)?

☒ No, my equipment is not subject to this rule. Go to question 4.

☐ Yes. Go to 3b.

3b) **Opacity Standard**

(Note: Opacity is a measure of visible emissions or how much of the view is obscured by stack emissions. The emissions causing opacity are often smoke or dust.)

For industrial process equipment which was *in operation before July 9, 1969*, the equipment shall not exhibit greater than 20 percent opacity, except that a maximum of 60 percent opacity shall be permissible for four minutes in any 60 minute period and a maximum of 40 percent opacity shall be permissible for four additional minutes in any 60 minute period.

For industrial process equipment which was *not in operation before July 9, 1969*, the equipment shall not exhibit greater than 20 percent opacity.

3c) Does the industrial process equipment have particulate control equipment with a collection efficiency of at least 99 percent if it was in operation before July 9, 1969, or 99.7 percent if it was not in operation before July 9, 1969?

☒ No. Go to question 3d.

☐ Yes. My equipment is not subject to the remaining requirements of this rule. Go to question 4.

3d) Is the industrial process equipment located outside of the seven county Minneapolis-St. Paul metropolitan region **and** outside of the city of Duluth **and** at least 1/4 mile from any residence or public roadway, **and** does the industrial process equipment have particulate control equipment with a collection efficiency of at least 85 percent **and** is the operation of the entire facility in compliance with all ambient air quality standards?

☒ No, my equipment is subject to the remaining requirements. You can determine applicable limits using Table I.

☐ Yes, my equipment is not subject to the remaining requirements of this rule. Go to question 4.

4) Return to Form CAP-GI-09, question 6b.

Table H: Minnesota Standards of Performance for Stationary Sources *

Facility or Equipment Type	Associated Minnesota Rule
Direct Heating Equipment	7011.0600 through 7011.0625
Concrete Manufacturing Plants	7011.0850 through 7011.0860
Stage One Vapor Recovery	7011.0865 through 7011.0870
Hot Mix Asphalt Plants	7011.0900 through 7011 0925
Bulk Agricultural Commodity Facilities (Grain Elevators)	7011.1000 through 7011.1015
Coal Handling Facilities	7011.1100 through 7011.1140
Incinerators (waste combustors)	7011.1201 through 7011.1285
Sewage Sludge Incinerators	7011.1300 through 7011.1325
Petroleum Refineries	7011.1400 through 7011.1430
Liquid Petroleum and Volatile Organic Compounds (VOCs) Storage Vessels	7011.1500 through 7011.1515
Sulfuric Acid Plants	7011.1600 through 7011.1630
Nitric Acid Plants	7011.1700 through 7011.1725
Brass and Bronze Plants	7011.1900 through 7011.1915
Iron and Steel Plants	7011.2000 through 7011.2015
Inorganic Fibrous Materials	7011.2100 through 7011.2105
Stationary Internal Combustion Engine (Generators)	7011.2300
Municipal Solid Waste Landfills	7011.3500 through 7011.3510
Asbestos	7011.9921 through 701109927

* This table does **not** include Minnesota Rules which incorporate federal New Source Performance Standards (NSPS) and/or National Emission standards for Hazardous Air Pollutant Sources (NESHAPS) by reference.

Table 1
Unrestricted PTE from Combustion
Baldinger Bakery
St Paul MN

Criteria Pollutants Unrestricted Potential to Emit

	Pollutant (TPY)								
Emission Unit	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO2**	**NOx**	**VOC**	**CO**	**CO_2e**	**Total VOC**
EU001 Oven 1	2.40E-01	2.40E-01	2.40E-01	1.90E-02	3.16E+00	0.17	2.65E+00	3.83E+03	4.11E+01
EU002 Oven 2	2.40E-01	2.40E-01	2.40E-01	1.90E-02	3.16E+00	0.17	2.65E+00	3.81E+03	1.38E+01
EU003 Boiler 1	5.47E-02	5.47E-02	5.47E-02	4.32E-03	7.19E-01	0.04	6.04E-01	8.64E+02	
EU004 Boiler 2	4.11E-02	4.11E-02	4.11E-02	3.25E-03	5.41E-01	0.03	4.54E-01	6.50E+02	
EU005 Boiler 3	4.11E-02	4.11E-02	4.11E-02	3.25E-03	5.41E-01	0.03	4.54E-01	6.50E+02	
EU006 Boiler 4	1.31E-02	1.31E-02	1.31E-02	1.03E-03	1.72E-01	0.01	1.44E-01	2.06E+02	
EU007 Boiler 5	1.31E-02	1.31E-02	1.31E-02	1.03E-03	1.72E-01	0.01	1.44E-01	2.06E+02	
EU008 Boiler 6	1.31E-02	1.31E-02	1.31E-02	1.03E-03	1.72E-01	0.01	1.44E-01	2.06E+02	
EU009 Boiler 7	1.31E-02	1.31E-02	1.31E-02	1.03E-03	1.72E-01	0.01	1.44E-01	2.06E+02	
EU010 Boiler 8	1.31E-02	1.31E-02	1.31E-02	1.03E-03	1.72E-01	0.01	1.44E-01	2.06E+02	
EU011 Boiler 9	1.31E-02	1.31E-02	1.31E-02	1.03E-03	1.72E-01	0.01	1.44E-01	2.06E+02	
EU015 Roof Top Unit 4	2.09E-02	2.09E-02	2.09E-02	1.65E-03	2.75E-01	0.02	2.31E-01	3.30E+02	
EU016 Roof Top Unit 6	8.81E-03	8.81E-03	8.81E-03	6.96E-04	1.16E-01	0.01	9.74E-02	1.39E+02	
EU017 Roof Top Unit 7	1.04E-02	1.04E-02	1.04E-02	8.24E-04	1.37E-01	0.01	1.15E-01	1.65E+02	
EU018 Roof Top Unit 8	8.81E-03	8.81E-03	8.81E-03	6.96E-04	1.16E-01	0.01	9.74E-02	1.39E+02	
GP002 Water Heaters	5.22E-02	5.22E-02	5.22E-02	4.12E-03	6.87E-01	0.04	5.77E-01	8.26E+02	
Total Facility Emissions	**0.80**	**0.80**	**0.80**	**0.06**	**10.48**	**1**	**8.81**	**12644.60**	**55**

Hazardous Air Pollutants Unrestricted Potential to Emit

Emission Units	**EU001 Oven 1**	**EU002 Oven 2**	**EU003 Boiler 1**	**EU004 Boiler 2**	**EU005 Boiler 3**	**EU006 Boiler 4**	**EU007 Boiler 5**	**EU008 Boiler 6**	**EU009 Boiler 7**	**EU010 Boiler 8**	**EU011 Boiler 9**
Total HAPs by Unit	**TPY 0.36**	**TPY 0.36**	**TPY 0.08**	**TPY 0.06**	**TPY 0.06**	**TPY 0.019**	**TPY 0.019**	**TPY 0.019**	**TPY 0.02**	**TPY 0.02**	**TPY 0.02**
Pollutant											
Benzene	6.64E-05	6.64E-05	1.51E-05	1.14E-05	1.14E-05	3.61E-06	3.61E-06	3.61E-06	3.61E-06	3.61E-06	3.61E-06
Butane	6.64E-02	6.64E-02	1.51E-02	1.14E-02	1.14E-02	3.61E-03	3.61E-03	3.61E-03	3.61E-03	3.61E-03	3.61E-03
Dichlorobenzene	3.79E-05	3.79E-05	8.63E-06	6.49E-06	6.49E-06	2.06E-06	2.06E-06	2.06E-06	2.06E-06	2.06E-06	2.06E-06
Ethane	9.80E-02	9.80E-02	2.23E-02	1.68E-02	1.68E-02	5.32E-03	5.32E-03	5.32E-03	5.32E-03	5.32E-03	5.32E-03
Formaldehyde	2.37E-03	2.37E-03	5.39E-04	4.06E-04	4.06E-04	1.29E-04	1.29E-04	1.29E-04	1.29E-04	1.29E-04	1.29E-04
Hexane	5.69E-02	5.69E-02	1.29E-02	9.74E-03	9.74E-03	3.09E-03	3.09E-03	3.09E-03	3.09E-03	3.09E-03	3.09E-03
Naphthalene	1.93E-05	1.93E-05	4.39E-06	3.30E-06	3.30E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06
Pentane	8.22E-02	8.22E-02	1.87E-02	1.41E-02	1.41E-02	4.47E-03	4.47E-03	4.47E-03	4.47E-03	4.47E-03	4.47E-03
Propane	5.06E-02	5.06E-02	1.15E-02	8.66E-03	8.66E-03	2.75E-03	2.75E-03	2.75E-03	2.75E-03	2.75E-03	2.75E-03
Toluene	1.07E-04	1.07E-04	2.45E-05	1.84E-05	1.84E-05	5.84E-06	5.84E-06	5.84E-06	5.84E-06	5.84E-06	5.84E-06
Acenaphthene	5.69E-08	5.69E-08	1.29E-08	9.74E-09	9.74E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09
Acenaphthylene	5.69E-08	5.69E-08	1.29E-08	9.74E-09	9.74E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09
Anthracene	7.59E-08	7.59E-08	1.73E-08	1.30E-08	1.30E-08	4.12E-09	4.12E-09	4.12E-09	4.12E-09	4.12E-09	4.12E-09
Benz(a)anthracene	5.69E-08	5.69E-08	1.29E-08	9.74E-09	9.74E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09
Benzo(a)pyrene	3.79E-08	3.79E-08	8.63E-09	6.49E-09	6.49E-09	2.06E-09	2.06E-09	2.06E-09	2.06E-09	2.06E-09	2.06E-09
Benzo(b)fluroanthene	5.69E-08	5.69E-08	1.29E-08	9.74E-09	9.74E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09
Benzo(g,h,i)perylene	3.79E-08	3.79E-08	8.63E-09	6.49E-09	6.49E-09	2.06E-09	2.06E-09	2.06E-09	2.06E-09	2.06E-09	2.06E-09
Benzo(k)fluoranthene	5.69E-08	5.69E-08	1.29E-08	9.74E-09	9.74E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09
Chrysene	5.69E-08	5.69E-08	1.29E-08	9.74E-09	9.74E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09
Dibenzo(a,h)anthracene	3.79E-08	3.79E-08	8.63E-09	6.49E-09	6.49E-09	2.06E-09	2.06E-09	2.06E-09	2.06E-09	2.06E-09	2.06E-09
7,12-Dimethylbenz(a)anthracene	5.06E-07	5.06E-07	1.15E-07	8.66E-08	8.66E-08	2.75E-08	2.75E-08	2.75E-08	2.75E-08	2.75E-08	2.75E-08
Fluoranthene	9.48E-08	9.48E-08	2.16E-08	1.62E-08	1.62E-08	5.15E-09	5.15E-09	5.15E-09	5.15E-09	5.15E-09	5.15E-09
Fluorene	8.85E-08	8.85E-08	2.01E-08	1.51E-08	1.51E-08	4.81E-09	4.81E-09	4.81E-09	4.81E-09	4.81E-09	4.81E-09
Indeno(1,2,3-cd)pyrene	5.69E-08	5.69E-08	1.29E-08	9.74E-09	9.74E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09
2-Methylnaphthalene	7.59E-07	7.59E-07	1.73E-07	1.30E-07	1.30E-07	4.12E-08	4.12E-08	4.12E-08	4.12E-08	4.12E-08	4.12E-08
3-Methylchloranthrene	5.69E-08	5.69E-08	1.29E-08	9.74E-09	9.74E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09
Phenanthrene	5.37E-07	5.37E-07	1.22E-07	9.20E-08	9.20E-08	2.92E-08	2.92E-08	2.92E-08	2.92E-08	2.92E-08	2.92E-08
Pyrene	1.58E-06	1.58E-06	3.60E-07	2.71E-07	2.71E-07	8.59E-08	8.59E-08	8.59E-08	8.59E-08	8.59E-08	8.59E-08
Arsenic	6.32E-06	6.32E-06	1.44E-06	1.08E-06	1.08E-06	3.44E-07	3.44E-07	3.44E-07	3.44E-07	3.44E-07	3.44E-07
Barium	1.39E-04	1.39E-04	3.16E-05	2.38E-05	2.38E-05	7.56E-06	7.56E-06	7.56E-06	7.56E-06	7.56E-06	7.56E-06
Beryllium	3.79E-07	3.79E-07	8.63E-08	6.49E-08	6.49E-08	2.06E-08	2.06E-08	2.06E-08	2.06E-08	2.06E-08	2.06E-08
Cadmium	3.48E-05	3.48E-05	7.91E-06	5.95E-06	5.95E-06	1.89E-06	1.89E-06	1.89E-06	1.89E-06	1.89E-06	1.89E-06
Chromium	4.42E-05	4.42E-05	1.01E-05	7.57E-06	7.57E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06
Cobalt	2.65E-06	2.65E-06	6.04E-07	4.54E-07	4.54E-07	1.44E-07	1.44E-07	1.44E-07	1.44E-07	1.44E-07	1.44E-07
Copper	2.69E-05	2.69E-05	6.11E-06	4.60E-06	4.60E-06	1.46E-06	1.46E-06	1.46E-06	1.46E-06	1.46E-06	1.46E-06
Lead	1.58E-05	1.58E-05	3.60E-06	2.71E-06	2.71E-06	8.59E-07	8.59E-07	8.59E-07	8.59E-07	8.59E-07	8.59E-07
Manganese	1.20E-05	1.20E-05	2.73E-06	2.06E-06	2.06E-06	6.53E-07	6.53E-07	6.53E-07	6.53E-07	6.53E-07	6.53E-07
Mercury	8.22E-06	8.22E-06	1.87E-06	1.41E-06	1.41E-06	4.47E-07	4.47E-07	4.47E-07	4.47E-07	4.47E-07	4.47E-07
Molybdenum	3.48E-05	3.48E-05	7.91E-06	5.95E-06	5.95E-06	1.89E-06	1.89E-06	1.89E-06	1.89E-06	1.89E-06	1.89E-06
Nickel	6.64E-05	6.64E-05	1.51E-05	1.14E-05	1.14E-05	3.61E-06	3.61E-06	3.61E-06	3.61E-06	3.61E-06	3.61E-06
Selenium	7.59E-07	7.59E-07	1.73E-07	1.30E-07	1.30E-07	4.12E-08	4.12E-08	4.12E-08	4.12E-08	4.12E-08	4.12E-08
Vanadium	7.27E-05	7.27E-05	1.65E-05	1.24E-05	1.24E-05	3.95E-06	3.95E-06	3.95E-06	3.95E-06	3.95E-06	3.95E-06
Zinc	9.17E-04	9.17E-04	2.09E-04	1.57E-04	1.57E-04	4.98E-05	4.98E-05	4.98E-05	4.98E-05	4.98E-05	4.98E-05

Actual Emissions from 2022 Non-combustion Processes

Source ID	Product Nam	(Yi) Intial Yeast as a % of Flour	(ti) Total Ferment Time in Hours	(S) Yeast Spike as a % Flour	(ts) Spike Time in Hours	VOC Emission Factor[1] (lbs/ton baked bread)	Total Units	Unit dough weight (pounds)
Oven 1	Buns	4.6	1.5	4.5	1.35	3.11	39,960,683	1.5
Oven 2	Buns	4.6	1.5	4.5	1.35	3.11	13,320,227	1.5

Total Non-comb

Total Non-combustion Acetaldehyde

Total Non-combustion CO2e E

NOTES

[1] Based on the formula in AP-42 Section 9.9.6 - Pounds VOC per ton of baked bread = 0.95(Yi)+0.195(ti)-0.51(S)-0.86(ts)+1.90

[2] Acetaldehyde is the only HAP emitted during the process. Acetaldehyde emissions based on 3% of VOC's per communication from John Chikkala, MPCA, April 23, 20

[3] Reference: EPA 453/R-92-017, section 2.3 Air Emissions. Alternative Control Technology Document for Bakery Oven Emissions. When estimating CO2 emissions from the equation uses the given that ethanol makes up 92% of the VOCs emitted in bread making. During yeast fermentation, 100 pounds of sugar is converted into 47 lbs CO2 CO2 emissions (tons) are calculated by the equation: (Total VOC) *0.92*(47/49).

EU015 Roof Top Unit 4	EU016 Roof Top Unit 6	EU017 Roof Top Unit 7	EU018 Roof Top Unit 8	EO012, EU013 EU029 and EU030 Water Heaters	Facility Total HAPs	Max Single HAP	
TPY	TPY	TPY	TPY	TPY	TPY	TPY	
0.03	0.01	0.016	0.013	0.08	1.19	3.25E-01	Ethanc
						Single HAPs	
5.77E-06	2.43E-06	2.89E-06	2.43E-06	1.44E-05	**2.20E-04**	**2.20E-04**	
5.77E-03	2.43E-03	2.89E-03	2.43E-03	1.44E-02	**2.20E-01**	**2.20E-01**	
3.30E-06	1.39E-06	1.65E-06	1.39E-06	8.24E-06	**1.26E-04**	**1.26E-04**	
8.52E-03	3.59E-03	4.26E-03	3.59E-03	2.13E-02	**3.25E-01**	**3.25E-01**	
2.06E-04	8.70E-05	1.03E-04	8.70E-05	5.15E-04	**7.86E-03**	**7.86E-03**	
4.95E-03	2.09E-03	2.47E-03	2.09E-03	1.24E-02	**1.89E-01**	**1.89E-01**	
1.68E-06	7.07E-07	8.38E-07	7.07E-07	4.19E-06	**6.40E-05**	**6.40E-05**	
7.15E-03	3.01E-03	3.57E-03	3.01E-03	1.79E-02	**2.73E-01**	**2.73E-01**	
4.40E-03	1.86E-03	2.20E-03	1.86E-03	1.10E-02	**1.68E-01**	**1.68E-01**	
9.34E-06	3.94E-06	4.67E-06	3.94E-06	2.34E-05	**3.56E-04**	3.56E-04	
4.95E-09	2.09E-09	2.47E-09	2.09E-09	1.24E-08	**1.89E-07**	**1.89E-07**	
4.95E-09	2.09E-09	2.47E-09	2.09E-09	1.24E-08	**1.89E-07**	**1.89E-07**	
6.60E-09	2.78E-09	3.30E-09	2.78E-09	1.65E-08	**2.52E-07**	**2.52E-07**	
4.95E-09	2.09E-09	2.47E-09	2.09E-09	1.24E-08	**1.89E-07**	**1.89E-07**	
3.30E-09	1.39E-09	1.65E-09	1.39E-09	8.24E-09	**1.26E-07**	**1.26E-07**	
4.95E-09	2.09E-09	2.47E-09	2.09E-09	1.24E-08	**1.89E-07**	**1.89E-07**	
3.30E-09	1.39E-09	1.65E-09	1.39E-09	8.24E-09	**1.26E-07**	**1.26E-07**	
4.95E-09	2.09E-09	2.47E-09	2.09E-09	1.24E-08	**1.89E-07**	**1.89E-07**	
4.95E-09	2.09E-09	2.47E-09	2.09E-09	1.24E-08	**1.89E-07**	**1.89E-07**	
3.30E-09	1.39E-09	1.65E-09	1.39E-09	8.24E-09	**1.26E-07**	**1.26E-07**	
4.40E-08	1.86E-08	2.20E-08	1.86E-08	1.10E-07	**1.68E-06**	**1.68E-06**	
8.24E-09	3.48E-09	4.12E-09	3.48E-09	2.06E-08	**3.15E-07**	**3.15E-07**	
7.70E-09	3.25E-09	3.85E-09	3.25E-09	1.92E-08	**2.94E-07**	**2.94E-07**	
4.95E-09	2.09E-09	2.47E-09	2.09E-09	1.24E-08	**1.89E-07**	**1.89E-07**	
6.60E-08	2.78E-08	3.30E-08	2.78E-08	1.65E-07	**2.52E-06**	**2.52E-06**	
4.95E-09	2.09E-09	2.47E-09	2.09E-09	1.24E-08	**1.89E-07**	**1.89E-07**	
4.67E-08	1.97E-08	2.34E-08	1.97E-08	1.17E-07	**1.78E-06**	**1.78E-06**	
1.37E-07	5.80E-08	6.87E-08	5.80E-08	3.44E-07	**5.24E-06**	**5.24E-06**	
5.50E-07	2.32E-07	2.75E-07	2.32E-07	1.37E-06	**2.10E-05**	**2.10E-05**	
1.21E-05	5.10E-06	6.05E-06	5.10E-06	3.02E-05	**4.61E-04**	**4.61E-04**	
3.30E-08	1.39E-08	1.65E-08	1.39E-08	8.24E-08	**1.26E-06**	**1.26E-06**	
3.02E-06	1.28E-06	1.51E-06	1.28E-06	7.56E-06	**1.15E-04**	**1.15E-04**	
3.85E-06	1.62E-06	1.92E-06	1.62E-06	9.62E-06	**1.47E-04**	**1.47E-04**	
2.31E-07	9.74E-08	1.15E-07	9.74E-08	5.77E-07	**8.81E-06**	**8.81E-06**	
2.34E-06	9.86E-07	1.17E-06	9.86E-07	5.84E-06	**8.91E-05**	8.91E-05	
1.37E-06	5.80E-07	6.87E-07	5.80E-07	3.44E-06	**5.24E-05**	**5.24E-05**	
1.04E-06	4.41E-07	5.22E-07	4.41E-07	2.61E-06	**3.98E-05**	3.98E-05	
7.15E-07	3.01E-07	3.57E-07	3.01E-07	1.79E-06	**2.73E-05**	**2.73E-05**	
3.02E-06	1.28E-06	1.51E-06	1.28E-06	7.56E-06	**1.15E-04**	1.15E-04	
5.77E-06	2.43E-06	2.89E-06	2.43E-06	1.44E-05	**2.20E-04**	**2.20E-04**	
6.60E-08	2.78E-08	3.30E-08	2.78E-08	1.65E-07	**2.52E-06**	**2.52E-06**	
6.32E-06	2.67E-06	3.16E-06	2.67E-06	1.58E-05	**2.41E-04**	**2.41E-04**	
7.97E-05	3.36E-05	3.98E-05	3.36E-05	1.99E-04	**3.04E-03**	**3.04E-03**	

Bake out loss	Total Baked Product (tons)	Total VOC Emissions (tons)	Total HAP[2] Emissions (tons)
12%	26,374	40.97	1.23
12%	8,791	13.66	0.41

ɔustion VOC Emissions (tons)	54.62

Emissions (tons)	1.64

missions (tons)	48.19

08
n bread baking,
2 compared to 49 lbs ethanol.

Table 2
Oven 1 Combustion Emissions
STRU001
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	Baketech		Baldinger Bakery
Model	NA		
Maximum Heat Input	7.36	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0072	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	63.21	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
PM		7.60	5.48E-02	0.24	A					
PM_{10}		7.60	5.48E-02	0.24	A					
$PM_{2.5}$		7.60	5.48E-02	0.24	A					
SO_2	7446-09-5	0.60	4.33E-03	0.02	A					
NO_x		100	7.22E-01	3.16	B					
VOC		5.50	3.97E-02	0.17	A					
CO	7440-48-4	84	6.06E-01	2.65	B					

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
Greenhouse Gas (CO_2e)					G					
CO_2	124-38-9	120,019	866.02	3793	E					
CH_4	74-82-8	2.26	0.408	1.79	F					
N_2O	10024-97-2	0.23	0.486	2.13	F					

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	1.52E-05	6.64E-05	C
Butane	106-97-8	2.10E+00	1.52E-02	6.64E-02	C
Dichlorobenzene	25321-22-6	1.20E-03	8.66E-06	3.79E-05	C
Ethane	75-84-0	3.10E+00	2.24E-02	9.80E-02	C
Formaldehyde	50-00-0	7.50E-02	5.41E-04	2.37E-03	C
Hexane	110-54-3	1.80E+00	1.30E-02	5.69E-02	C
Naphthalene	91-20-3	6.10E-04	4.40E-06	1.93E-05	C
Pentane	109-66-0	2.60E+00	1.88E-02	8.22E-02	C
Propane	74-98-6	1.60E+00	1.15E-02	5.06E-02	C
Toluene	108-88-3	3.40E-03	2.45E-05	1.07E-04	C
Acenaphthene	83-32-9	1.80E-06	1.30E-08	5.69E-08	C
Acenaphthylene	203-96-8	1.80E-06	1.30E-08	5.69E-08	C
Anthracene	120-12-7	2.40E-06	1.73E-08	7.59E-08	C
Benz(a)anthracene	56-55-3	1.80E-06	1.30E-08	5.69E-08	C
Benzo(a)pyrene	50-32-8	1.20E-06	8.66E-09	3.79E-08	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	1.30E-08	5.69E-08	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	8.66E-09	3.79E-08	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	1.30E-08	5.69E-08	C
Chrysene	218-01-9	1.80E-06	1.30E-08	5.69E-08	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	8.66E-09	3.79E-08	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	1.15E-07	5.06E-07	C
Fluoranthene	206-44-0	3.00E-06	2.16E-08	9.48E-08	C
Fluorene	86-73-7	2.80E-06	2.02E-08	8.85E-08	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	1.30E-08	5.69E-08	C
2-Methylnaphthalene	91-57-6	2.40E-05	1.73E-07	7.59E-07	C
3-Methylchloranthrene	56-49-5	1.80E-06	1.30E-08	5.69E-08	C
Phenanthrene	85-01-8	1.70E-05	1.23E-07	5.37E-07	C
Pyrene	129-00-0	5.00E-05	3.61E-07	1.58E-06	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	1.44E-06	6.32E-06	D
Barium	7440-39-3	4.40E-03	3.17E-05	1.39E-04	D
Beryllium	7440-41-7	1.20E-05	8.66E-08	3.79E-07	D
Cadmium	7440-43-9	1.10E-03	7.94E-06	3.48E-05	D
Chromium	7440-47-3	1.40E-03	1.01E-05	4.42E-05	D
Cobalt	7440-48-4	8.40E-05	6.06E-07	2.65E-06	D
Copper	7440-50-8	8.50E-04	6.13E-06	2.69E-05	D
Lead	7139-92-1	5.00E-04	3.61E-06	1.58E-05	D
Manganese	7439-96-5	3.80E-04	2.74E-06	1.20E-05	D
Mercury	7439-97-6	2.60E-04	1.88E-06	8.22E-06	D
Molybdenum	7439-98-7	1.10E-03	7.94E-06	3.48E-05	D
Nickel	7440-02-0	2.10E-03	1.52E-05	6.64E-05	D
Selenium	7782-49-2	2.40E-05	1.73E-07	7.59E-07	D
Vanadium	7440-62-2	2.30E-03	1.66E-05	7.27E-05	D
Zinc	7440-66-6	2.90E-02	2.09E-04	9.17E-04	D
Max. Single HAP				**9.80E-02**	H
Total HAP				**0.36**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1. CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 3
Oven 2 Combustion Emissions
STRU002
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	Baketech		Baldinger Bakery
Model	NA		
Maximum Heat Input	7.36	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0072	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	63.21	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
PM		7.60	5.48E-02	2.40E-01	A
PM_{10}		7.60	5.48E-02	2.40E-01	A
$PM_{2.5}$		7.60	5.48E-02	2.40E-01	A
SO_2	744-09-5	0.60	4.33E-03	1.90E-02	A
NO_x		100	7.22E-01	3.16E+00	B
VOC		5.50	3.97E-02	1.74E-01	A
CO	7440-48-4	84	6.06E-01	2.65E+00	B

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Greenhouse Gas (CO_2e)					G
CO_2	124-38-9	120,019	866.02	3793	E
CH_4	74-82-8	2.26	0.408	1.79	F
N_2O	10024-97-2	0.23	0.486	2.13	F

Natural Gas **Hazardous Air Pollutants Potential To Emit**

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	1.52E-05	6.64E-05	C
Butane	106-97-8	2.10E+00	1.52E-02	6.64E-02	C
Dichlorobenzene	25321-22-6	1.20E-03	8.66E-06	3.79E-05	C
Ethane	75-84-0	3.10E+00	2.24E-02	9.80E-02	C
Formaldehyde	50-00-0	7.50E-02	5.41E-04	2.37E-03	C
Hexane	110-54-3	1.80E+00	1.30E-02	5.69E-02	C
Naphthalene	91-20-3	6.10E-04	4.40E-06	1.93E-05	C
Pentane	109-66-0	2.60E+00	1.88E-02	8.22E-02	C
Propane	74-98-6	1.60E+00	1.15E-02	5.06E-02	C
Toluene	108-88-3	3.40E-03	2.45E-05	1.07E-04	C
Acenaphthene	83-32-9	1.80E-06	1.30E-08	5.69E-08	C
Acenaphthylene	203-96-8	1.80E-06	1.30E-08	5.69E-08	C
Anthracene	120-12-7	2.40E-06	1.73E-08	7.59E-08	C
Benz(a)anthracene	56-55-3	1.80E-06	1.30E-08	5.69E-08	C
Benzo(a)pyrene	50-32-8	1.20E-06	8.66E-09	3.79E-08	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	1.30E-08	5.69E-08	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	8.66E-09	3.79E-08	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	1.30E-08	5.69E-08	C
Chrysene	218-01-9	1.80E-06	1.30E-08	5.69E-08	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	8.66E-09	3.79E-08	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	1.15E-07	5.06E-07	C
Fluoranthene	206-44-0	3.00E-06	2.16E-08	9.48E-08	C
Fluorene	86-73-7	2.80E-06	2.02E-08	8.85E-08	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	1.30E-08	5.69E-08	C
2-Methylnaphthalene	91-57-6	2.40E-05	1.73E-07	7.59E-07	C
3-Methylchloranthrene	56-49-5	1.80E-06	1.30E-08	5.69E-08	C
Phenanthrene	85-01-8	1.70E-05	1.23E-07	5.37E-07	C
Pyrene	129-00-0	5.00E-05	3.61E-07	1.58E-06	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	1.44E-06	6.32E-06	D
Barium	7440-39-3	4.40E-03	3.17E-05	1.39E-04	D
Beryllium	7440-41-7	1.20E-05	8.66E-08	3.79E-07	D
Cadmium	7440-43-9	1.10E-03	7.94E-06	3.48E-05	D
Chromium	7440-47-3	1.40E-03	1.01E-05	4.42E-05	D
Cobalt	7440-48-4	8.40E-05	6.06E-07	2.65E-06	D
Copper	7440-50-8	8.50E-04	6.13E-06	2.69E-05	D
Lead	7439-92-1	5.00E-04	3.61E-06	1.58E-05	D
Manganese	7439-96-5	3.80E-04	2.74E-06	1.20E-05	D
Mercury	7439-97-6	2.60E-04	1.88E-06	8.22E-06	D
Molybdenum	7439-98-7	1.10E-03	7.94E-06	3.48E-05	D
Nickel	7440-02-0	2.10E-03	1.52E-05	6.64E-05	D
Selenium	7782-49-2	2.40E-05	1.73E-07	7.59E-07	D
Vanadium	7440-62-2	2.30E-03	1.66E-05	7.27E-05	D
Zinc	7440-66-6	2.90E-02	2.09E-04	9.17E-04	D
Max. Single HAP				**9.80E-02**	H
Total HAP				**0.36**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1: CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 4
Boiler 1 (Steam Boiler) Combustion Emissions
STRU003
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	1.675	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0016	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	14.39	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
PM		7.60	1.25E-02	5.47E-02	A
PM_{10}		7.60	1.25E-02	5.47E-02	A
$PM_{2.5}$		7.60	1.25E-02	5.47E-02	A
SO_2	744-09-5	0.60	9.85E-04	4.32E-03	A
NO_x		100	1.64E-01	7.19E-01	B
VOC		5.50	9.03E-03	3.96E-02	A
CO	7440-48-4	84	1.38E-01	6.04E-01	B

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Greenhouse Gas (CO_2e)					G
CO_2	124-38-9	120,019	197.09	863	E
CH_4	74-82-8	2.26	0.093	0.41	F
N_2O	10024-97-2	0.23	0.111	0.48	F

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	3.45E-06	1.51E-05	C
Butane	106-97-8	2.10E+00	3.45E-03	1.51E-02	C
Dichlorobenzene	25321-22-6	1.20E-03	1.97E-06	8.63E-06	C
Ethane	75-84-0	3.10E+00	5.09E-03	2.23E-02	C
Formaldehyde	50-00-0	7.50E-02	1.23E-04	5.39E-04	C
Hexane	110-54-3	1.80E+00	2.96E-03	1.29E-02	C
Naphthalene	91-20-3	6.10E-04	1.00E-06	4.39E-06	C
Pentane	109-66-0	2.60E+00	4.27E-03	1.87E-02	C
Propane	74-98-6	1.60E+00	2.63E-03	1.15E-02	C
Toluene	108-88-3	3.40E-03	5.58E-06	2.45E-05	C
Acenaphthene	83-32-9	1.80E-06	2.96E-09	1.29E-08	C
Acenaphthylene	203-96-8	1.80E-06	2.96E-09	1.29E-08	C
Anthracene	120-12-7	2.40E-06	3.94E-09	1.73E-08	C
Benz(a)anthracene	56-55-3	1.80E-06	2.96E-09	1.29E-08	C
Benzo(a)pyrene	50-32-8	1.20E-06	1.97E-09	8.63E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	2.96E-09	1.29E-08	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	1.97E-09	8.63E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	2.96E-09	1.29E-08	C
Chrysene	218-01-9	1.80E-06	2.96E-09	1.29E-08	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	1.97E-09	8.63E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	2.63E-08	1.15E-07	C
Fluoranthene	206-44-0	3.00E-06	4.93E-09	2.16E-08	C
Fluorene	86-73-7	2.80E-06	4.60E-09	2.01E-08	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	2.96E-09	1.29E-08	C
2-Methylnaphthalene	91-57-6	2.40E-05	3.94E-08	1.73E-07	C
3-Methylchloranthrene	56-49-5	1.80E-06	2.96E-09	1.29E-08	C
Phenanthrene	85-01-8	1.70E-05	2.79E-08	1.22E-07	C
Pyrene	129-00-0	5.00E-05	8.21E-08	3.60E-07	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	3.28E-07	1.44E-06	D
Barium	7440-39-3	4.40E-03	7.23E-06	3.16E-05	D
Beryllium	7440-41-7	1.20E-05	1.97E-08	8.63E-08	D
Cadmium	7440-43-9	1.10E-03	1.81E-06	7.91E-06	D
Chromium	7440-47-3	1.40E-03	2.30E-06	1.01E-05	D
Cobalt	7440-48-4	8.40E-05	1.38E-07	6.04E-07	D
Copper	7440-50-8	8.50E-04	1.40E-06	6.11E-06	D
Lead	7139-92-1	5.00E-04	8.21E-07	3.60E-06	D
Manganese	7439-96-5	3.80E-04	6.24E-07	2.73E-06	D
Mercury	7439-97-6	2.60E-04	4.27E-07	1.87E-06	D
Molybdenum	7439-98-7	1.10E-03	1.81E-06	7.91E-06	D
Nickel	7440-02-0	2.10E-03	3.45E-06	1.51E-05	D
Selenium	7782-49-2	2.40E-05	3.94E-08	1.73E-07	D
Vanadium	7440-62-2	2.30E-03	3.78E-06	1.65E-05	D
Zinc	7440-66-6	2.90E-02	4.76E-05	2.09E-04	D
Max. Single HAP				**2.23E-02**	H
Total HAP				**0.08**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1: CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 5
Boiler 2 (Hydronic Boiler) Combustion Emissions
STRU004
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	1.26	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0012	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	10.82	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
PM		7.60	9.39E-03	4.11E-02	A
PM_{10}		7.60	9.39E-03	4.11E-02	A
$PM_{2.5}$		7.60	9.39E-03	4.11E-02	A
SO_2	744-09-5	0.60	7.41E-04	3.25E-03	A
NO_x		100	1.24E-01	5.41E-01	B
VOC		5.50	6.79E-03	2.98E-02	A
CO	7440-48-4	84	1.04E-01	4.54E-01	B

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Greenhouse Gas (CO_2e)					G
CO_2	124-38-9	120,019	148.26	649	E
CH_4	74-82-8	2.26	0.070	0.31	F
N_2O	10024-97-2	0.23	0.083	0.36	F

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	2.59E-06	1.14E-05	C
Butane	106-97-8	2.10E+00	2.59E-03	1.14E-02	C
Dichlorobenzene	25321-22-6	1.20E-03	1.48E-06	6.49E-06	C
Ethane	75-84-0	3.10E+00	3.83E-03	1.68E-02	C
Formaldehyde	50-00-0	7.50E-02	9.26E-05	4.06E-04	C
Hexane	110-54-3	1.80E+00	2.22E-03	9.74E-03	C
Naphthalene	91-20-3	6.10E-04	7.54E-07	3.30E-06	C
Pentane	109-66-0	2.60E+00	3.21E-03	1.41E-02	C
Propane	74-98-6	1.60E+00	1.98E-03	8.66E-03	C
Toluene	108-88-3	3.40E-03	4.20E-06	1.84E-05	C
Acenaphthene	83-32-9	1.80E-06	2.22E-09	9.74E-09	C
Acenaphthylene	203-96-8	1.80E-06	2.22E-09	9.74E-09	C
Anthracene	120-12-7	2.40E-06	2.96E-09	1.30E-08	C
Benz(a)anthracene	56-55-3	1.80E-06	2.22E-09	9.74E-09	C
Benzo(a)pyrene	50-32-8	1.20E-06	1.48E-09	6.49E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	2.22E-09	9.74E-09	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	1.48E-09	6.49E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	2.22E-09	9.74E-09	C
Chrysene	218-01-9	1.80E-06	2.22E-09	9.74E-09	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	1.48E-09	6.49E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	1.98E-08	8.66E-08	C
Fluoranthene	206-44-0	3.00E-06	3.71E-09	1.62E-08	C
Fluorene	86-73-7	2.80E-06	3.46E-09	1.51E-08	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	2.22E-09	9.74E-09	C
2-Methylnaphthalene	91-57-6	2.40E-05	2.96E-08	1.30E-07	C
3-Methylchloranthrene	56-49-5	1.80E-06	2.22E-09	9.74E-09	C
Phenanthrene	85-01-8	1.70E-05	2.10E-08	9.20E-08	C
Pyrene	129-00-0	5.00E-05	6.18E-08	2.71E-07	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	2.47E-07	1.08E-06	D
Barium	7440-39-3	4.40E-03	5.44E-06	2.38E-05	D
Beryllium	7440-41-7	1.20E-05	1.48E-08	6.49E-08	D
Cadmium	7440-43-9	1.10E-03	1.36E-06	5.95E-06	D
Chromium	7440-47-3	1.40E-03	1.73E-06	7.57E-06	D
Cobalt	7440-48-4	8.40E-05	1.04E-07	4.54E-07	D
Copper	7440-50-8	8.50E-04	1.05E-06	4.60E-06	D
Lead	7439-92-1	5.00E-04	6.18E-07	2.71E-06	D
Manganese	7439-96-5	3.80E-04	4.69E-07	2.06E-06	D
Mercury	7439-97-6	2.60E-04	3.21E-07	1.41E-06	D
Molybdenum	7439-98-7	1.10E-03	1.36E-06	5.95E-06	D
Nickel	7440-02-0	2.10E-03	2.59E-06	1.14E-05	D
Selenium	7782-49-2	2.40E-05	2.96E-08	1.30E-07	D
Vanadium	7440-62-2	2.30E-03	2.84E-06	1.24E-05	D
Zinc	7440-66-6	2.90E-02	3.58E-05	1.57E-04	D
Max. Single HAP				**1.68E-02**	H
Total HAP				**0.06**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1. CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 6
Boiler 3 (Hydronic Boiler) Combustion Emissions
STRU005
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	1.26	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0012	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	10.82	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
PM		7.60	9.39E-03	4.11E-02	A					
PM_{10}		7.60	9.39E-03	4.11E-02	A					
$PM_{2.5}$		7.60	9.39E-03	4.11E-02	A					
SO_2	744-09-5	0.60	7.41E-04	3.25E-03	A					
NO_x		100	1.24E-01	5.41E-01	B					
VOC		5.50	6.79E-03	2.98E-02	A					
CO	7440-48-4	84	1.04E-01	4.54E-01	B					

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
Greenhouse Gas (CO_2e)					G					
CO_2	124-38-9	120,019	148.26	649	E					
CH_4	74-82-8	2.26	0.070	0.31	F					
N_2O	10024-97-2	0.23	0.083	0.36	F					

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	2.59E-06	1.14E-05	C
Butane	106-97-8	2.10E+00	2.59E-03	1.14E-02	C
Dichlorobenzene	25321-22-6	1.20E-03	1.48E-06	6.49E-06	C
Ethane	75-84-0	3.10E+00	3.83E-03	1.68E-02	C
Formaldehyde	50-00-0	7.50E-02	9.26E-05	4.06E-04	C
Hexane	110-54-3	1.80E+00	2.22E-03	9.74E-03	C
Naphthalene	91-20-3	6.10E-04	7.54E-07	3.30E-06	C
Pentane	109-66-0	2.60E+00	3.21E-03	1.41E-02	C
Propane	74-98-6	1.60E+00	1.98E-03	8.66E-03	C
Toluene	108-88-3	3.40E-03	4.20E-06	1.84E-05	C
Acenaphthene	83-32-9	1.80E-06	2.22E-09	9.74E-09	C
Acenaphthylene	203-96-8	1.80E-06	2.22E-09	9.74E-09	C
Anthracene	120-12-7	2.40E-06	2.96E-09	1.30E-08	C
Benz(a)anthracene	56-55-3	1.80E-06	2.22E-09	9.74E-09	C
Benzo(a)pyrene	50-32-8	1.20E-06	1.48E-09	6.49E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	2.22E-09	9.74E-09	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	1.48E-09	6.49E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	2.22E-09	9.74E-09	C
Chrysene	218-01-9	1.80E-06	2.22E-09	9.74E-09	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	1.48E-09	6.49E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	1.98E-08	8.66E-08	C
Fluoranthene	206-44-0	3.00E-06	3.71E-09	1.62E-08	C
Fluorene	86-73-7	2.80E-06	3.46E-09	1.51E-08	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	2.22E-09	9.74E-09	C
2-Methylnaphthalene	91-57-6	2.40E-05	2.96E-08	1.30E-07	C
3-Methylchloranthrene	56-49-5	1.80E-06	2.22E-09	9.74E-09	C
Phenanthrene	85-01-8	1.70E-05	2.10E-08	9.20E-08	C
Pyrene	129-00-0	5.00E-05	6.18E-08	2.71E-07	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	2.47E-07	1.08E-06	D
Barium	7440-39-3	4.40E-03	5.44E-06	2.38E-05	D
Beryllium	7440-41-7	1.20E-05	1.48E-08	6.49E-08	D
Cadmium	7440-43-9	1.10E-03	1.36E-06	5.95E-06	D
Chromium	7440-47-3	1.40E-03	1.73E-06	7.57E-06	D
Cobalt	7440-48-4	8.40E-05	1.04E-07	4.54E-07	D
Copper	7440-50-8	8.50E-04	1.05E-06	4.60E-06	D
Lead	7139-92-1	5.00E-04	6.18E-07	2.71E-06	D
Manganese	7439-96-5	3.80E-04	4.69E-07	2.06E-06	D
Mercury	7439-97-6	2.60E-04	3.21E-07	1.41E-06	D
Molybdenum	7439-98-7	1.10E-03	1.36E-06	5.95E-06	D
Nickel	7440-02-0	2.10E-03	2.59E-06	1.14E-05	D
Selenium	7782-49-2	2.40E-05	2.96E-08	1.30E-07	D
Vanadium	7440-62-2	2.30E-03	2.84E-06	1.24E-05	D
Zinc	7440-66-6	2.90E-02	3.58E-05	1.57E-04	D
Max. Single HAP				**1.68E-02**	H
Total HAP				**0.06**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1: CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 7
Boiler 4 (Hydronic Boiler) Combustion Emissions
STRU006
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	0.4	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0004	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	3.44	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
PM		7.60	2.98E-03	1.31E-02	A
PM_{10}		7.60	2.98E-03	1.31E-02	A
$PM_{2.5}$		7.60	2.98E-03	1.31E-02	A
SO_2	744-09-5	0.60	2.35E-04	1.03E-03	A
NO_x		100	3.92E-02	1.72E-01	B
VOC		5.50	2.16E-03	9.45E-03	A
CO	7440-48-4	84	3.29E-02	1.44E-01	B

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Greenhouse Gas (CO_2e)					G
CO_2	124-38-9	120,019	47.07	206	E
CH_4	74-82-8	2.26	0.022	0.10	F
N_2O	10024-97-2	0.23	0.026	0.12	F

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	8.24E-07	3.61E-06	C
Butane	106-97-8	2.10E+00	8.24E-04	3.61E-03	C
Dichlorobenzene	25321-22-6	1.20E-03	4.71E-07	2.06E-06	C
Ethane	75-84-0	3.10E+00	1.22E-03	5.32E-03	C
Formaldehyde	50-00-0	7.50E-02	2.94E-05	1.29E-04	C
Hexane	110-54-3	1.80E+00	7.06E-04	3.09E-03	C
Naphthalene	91-20-3	6.10E-04	2.39E-07	1.05E-06	C
Pentane	109-66-0	2.60E+00	1.02E-03	4.47E-03	C
Propane	74-98-6	1.60E+00	6.27E-04	2.75E-03	C
Toluene	108-88-3	3.40E-03	1.33E-06	5.84E-06	C
Acenaphthene	83-32-9	1.80E-06	7.06E-10	3.09E-09	C
Acenaphthylene	203-96-8	1.80E-06	7.06E-10	3.09E-09	C
Anthracene	120-12-7	2.40E-06	9.41E-10	4.12E-09	C
Benz(a)anthracene	56-55-3	1.80E-06	7.06E-10	3.09E-09	C
Benzo(a)pyrene	50-32-8	1.20E-06	4.71E-10	2.06E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	7.06E-10	3.09E-09	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	4.71E-10	2.06E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	7.06E-10	3.09E-09	C
Chrysene	218-01-9	1.80E-06	7.06E-10	3.09E-09	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	4.71E-10	2.06E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	6.27E-09	2.75E-08	C
Fluoranthene	206-44-0	3.00E-06	1.18E-09	5.15E-09	C
Fluorene	86-73-7	2.80E-06	1.10E-09	4.81E-09	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	7.06E-10	3.09E-09	C
2-Methylnaphthalene	91-57-6	2.40E-05	9.41E-09	4.12E-08	C
3-Methylchloranthrene	56-49-5	1.80E-06	7.06E-10	3.09E-09	C
Phenanthrene	85-01-8	1.70E-05	6.67E-09	2.92E-08	C
Pyrene	129-00-0	5.00E-05	1.96E-08	8.59E-08	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	7.84E-08	3.44E-07	D
Barium	7440-39-3	4.40E-03	1.73E-06	7.56E-06	D
Beryllium	7440-41-7	1.20E-05	4.71E-09	2.06E-08	D
Cadmium	7440-43-9	1.10E-03	4.31E-07	1.89E-06	D
Chromium	7440-47-3	1.40E-03	5.49E-07	2.40E-06	D
Cobalt	7440-48-4	8.40E-05	3.29E-08	1.44E-07	D
Copper	7440-50-8	8.50E-04	3.33E-07	1.46E-06	D
Lead	7439-92-1	5.00E-04	1.96E-07	8.59E-07	D
Manganese	7439-96-5	3.80E-04	1.49E-07	6.53E-07	D
Mercury	7439-97-6	2.60E-04	1.02E-07	4.47E-07	D
Molybdenum	7439-98-7	1.10E-03	4.31E-07	1.89E-06	D
Nickel	7440-02-0	2.10E-03	8.24E-07	3.61E-06	D
Selenium	7782-49-2	2.40E-05	9.41E-09	4.12E-08	D
Vanadium	7440-62-2	2.30E-03	9.02E-07	3.95E-06	D
Zinc	7440-66-6	2.90E-02	1.14E-05	4.98E-05	D
Max. Single HAP				**5.32E-03**	H
Total HAP				**0.02**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1, CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 8
Boiler 5 (Hydronic Boiler) Combustion Emissions
STRU007
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	0.4	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0004	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	3.44	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
PM		7.60	2.98E-03	1.31E-02	A					
PM_{10}		7.60	2.98E-03	1.31E-02	A					
$PM_{2.5}$		7.60	2.98E-03	1.31E-02	A					
SO_2	744-09-5	0.60	2.35E-04	1.03E-03	A					
NO_x		100	3.92E-02	1.72E-01	B					
VOC		5.50	2.16E-03	9.45E-03	A					
CO	7440-48-4	84	3.29E-02	1.44E-01	B					

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
Greenhouse Gas (CO_2e)					G					
CO_2	124-38-9	120,019	47.07	206	E					
CH_4	74-82-8	2.26	0.022	0.10	F					
N_2O	10024-97-2	0.23	0.026	0.12	F					

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	8.24E-07	3.61E-06	C
Butane	106-97-8	2.10E+00	8.24E-04	3.61E-03	C
Dichlorobenzene	25321-22-6	1.20E-03	4.71E-07	2.06E-06	C
Ethane	75-84-0	3.10E+00	1.22E-03	5.32E-03	C
Formaldehyde	50-00-0	7.50E-02	2.94E-05	1.29E-04	C
Hexane	110-54-3	1.80E+00	7.06E-04	3.09E-03	C
Naphthalene	91-20-3	6.10E-04	2.39E-07	1.05E-06	C
Pentane	109-66-0	2.60E+00	1.02E-03	4.47E-03	C
Propane	74-98-6	1.60E+00	6.27E-04	2.75E-03	C
Toluene	108-88-3	3.40E-03	1.33E-06	5.84E-06	C
Acenaphthene	83-32-9	1.80E-06	7.06E-10	3.09E-09	C
Acenaphthylene	203-96-8	1.80E-06	7.06E-10	3.09E-09	C
Anthracene	120-12-7	2.40E-06	9.41E-10	4.12E-09	C
Benz(a)anthracene	56-55-3	1.80E-06	7.06E-10	3.09E-09	C
Benzo(a)pyrene	50-32-8	1.20E-06	4.71E-10	2.06E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	7.06E-10	3.09E-09	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	4.71E-10	2.06E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	7.06E-10	3.09E-09	C
Chrysene	218-01-9	1.80E-06	7.06E-10	3.09E-09	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	4.71E-10	2.06E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	6.27E-09	2.75E-08	C
Fluoranthene	206-44-0	3.00E-06	1.18E-09	5.15E-09	C
Fluorene	86-73-7	2.80E-06	1.10E-09	4.81E-09	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	7.06E-10	3.09E-09	C
2-Methylnaphthalene	91-57-6	2.40E-05	9.41E-09	4.12E-08	C
3-Methylchloranthrene	56-49-5	1.80E-06	7.06E-10	3.09E-09	C
Phenanthrene	85-01-8	1.70E-05	6.67E-09	2.92E-08	C
Pyrene	129-00-0	5.00E-05	1.96E-08	8.59E-08	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	7.84E-08	3.44E-07	D
Barium	7440-39-3	4.40E-03	1.73E-06	7.56E-06	D
Beryllium	7440-41-7	1.20E-05	4.71E-09	2.06E-08	D
Cadmium	7440-43-9	1.10E-03	4.31E-07	1.89E-06	D
Chromium	7440-47-3	1.40E-03	5.49E-07	2.40E-06	D
Cobalt	7440-48-4	8.40E-05	3.29E-08	1.44E-07	D
Copper	7440-50-8	8.50E-04	3.33E-07	1.46E-06	D
Lead	7139-92-1	5.00E-04	1.96E-07	8.59E-07	D
Manganese	7439-96-5	3.80E-04	1.49E-07	6.53E-07	D
Mercury	7439-97-6	2.60E-04	1.02E-07	4.47E-07	D
Molybdenum	7439-98-7	1.10E-03	4.31E-07	1.89E-06	D
Nickel	7440-02-0	2.10E-03	8.24E-07	3.61E-06	D
Selenium	7782-49-2	2.40E-05	9.41E-09	4.12E-08	D
Vanadium	7440-62-2	2.30E-03	9.02E-07	3.95E-06	D
Zinc	7440-66-6	2.90E-02	1.14E-05	4.98E-05	D
Max. Single HAP				**5.32E-03**	H
Total HAP				**0.02**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1: CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 9
Boiler 6 (Hydronic Boiler) Combustion Emissions
STRU008
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	0.4	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0004	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	3.44	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
PM		7.60	2.98E-03	1.31E-02	A
PM_{10}		7.60	2.98E-03	1.31E-02	A
$PM_{2.5}$		7.60	2.98E-03	1.31E-02	A
SO_2	744-09-5	0.60	2.35E-04	1.03E-03	A
NO_x		100	3.92E-02	1.72E-01	B
VOC		5.50	2.16E-03	9.45E-03	A
CO	7440-48-4	84	3.29E-02	1.44E-01	B

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Greenhouse Gas (CO_2e)					G
CO_2	124-38-9	120,019	47.07	206	E
CH_4	74-82-8	2.26	0.022	0.10	F
N_2O	10024-97-2	0.23	0.026	0.12	F

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	8.24E-07	3.61E-06	C
Butane	106-97-8	2.10E+00	8.24E-04	3.61E-03	C
Dichlorobenzene	25321-22-6	1.20E-03	4.71E-07	2.06E-06	C
Ethane	75-84-0	3.10E+00	1.22E-03	5.32E-03	C
Formaldehyde	50-00-0	7.50E-02	2.94E-05	1.29E-04	C
Hexane	110-54-3	1.80E+00	7.06E-04	3.09E-03	C
Naphthalene	91-20-3	6.10E-04	2.39E-07	1.05E-06	C
Pentane	109-66-0	2.60E+00	1.02E-03	4.47E-03	C
Propane	74-98-6	1.60E+00	6.27E-04	2.75E-03	C
Toluene	108-88-3	3.40E-03	1.33E-06	5.84E-06	C
Acenaphthene	83-32-9	1.80E-06	7.06E-10	3.09E-09	C
Acenaphthylene	203-96-8	1.80E-06	7.06E-10	3.09E-09	C
Anthracene	120-12-7	2.40E-06	9.41E-10	4.12E-09	C
Benz(a)anthracene	56-55-3	1.80E-06	7.06E-10	3.09E-09	C
Benzo(a)pyrene	50-32-8	1.20E-06	4.71E-10	2.06E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	7.06E-10	3.09E-09	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	4.71E-10	2.06E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	7.06E-10	3.09E-09	C
Chrysene	218-01-9	1.80E-06	7.06E-10	3.09E-09	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	4.71E-10	2.06E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	6.27E-09	2.75E-08	C
Fluoranthene	206-44-0	3.00E-06	1.18E-09	5.15E-09	C
Fluorene	86-73-7	2.80E-06	1.10E-09	4.81E-09	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	7.06E-10	3.09E-09	C
2-Methylnaphthalene	91-57-6	2.40E-05	9.41E-09	4.12E-08	C
3-Methylchlorenthrene	56-49-5	1.80E-06	7.06E-10	3.09E-09	C
Phenanthrene	85-01-8	1.70E-05	6.67E-09	2.92E-08	C
Pyrene	129-00-0	5.00E-05	1.96E-08	8.59E-08	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	7.84E-08	3.44E-07	D
Barium	7440-39-3	4.40E-03	1.73E-06	7.56E-06	D
Beryllium	7440-41-7	1.20E-05	4.71E-09	2.06E-08	D
Cadmium	7440-43-9	1.10E-03	4.31E-07	1.89E-06	D
Chromium	7440-47-3	1.40E-03	5.49E-07	2.40E-06	D
Cobalt	7440-48-4	8.40E-05	3.29E-08	1.44E-07	D
Copper	7440-50-8	8.50E-04	3.33E-07	1.46E-06	D
Lead	7139-92-1	5.00E-04	1.96E-07	8.59E-07	D
Manganese	7439-96-5	3.80E-04	1.49E-07	6.53E-07	D
Mercury	7439-97-6	2.60E-04	1.02E-07	4.47E-07	D
Molybdenum	7439-98-7	1.10E-03	4.31E-07	1.89E-06	D
Nickel	7440-02-0	2.10E-03	8.24E-07	3.61E-06	D
Selenium	7782-49-2	2.40E-05	9.41E-09	4.12E-08	D
Vanadium	7440-62-2	2.30E-03	9.02E-07	3.95E-06	D
Zinc	7440-66-6	2.90E-02	1.14E-05	4.98E-05	D
Max. Single HAP				**5.32E-03**	H
Total HAP				**0.02**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1: CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 10
Boiler 7 (Hydronic Boiler) Combustion Emissions
STRU009
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	0.4	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0004	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	3.44	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
PM		7.60	2.98E-03	1.31E-02	A
PM_{10}		7.60	2.98E-03	1.31E-02	A
$PM_{2.5}$		7.60	2.98E-03	1.31E-02	A
SO_2	744-09-5	0.60	2.35E-04	1.03E-03	A
NO_x		100	3.92E-02	1.72E-01	B
VOC		5.50	2.16E-03	9.45E-03	A
CO	7440-48-4	84	3.29E-02	1.44E-01	B

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Greenhouse Gas (CO_2e)					G
CO_2	124-38-9	120,019	47.07	206	E
CH_4	74-82-8	2.26	0.022	0.10	F
N_2O	10024-97-2	0.23	0.026	0.12	F

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	8.24E-07	3.61E-06	C
Butane	106-97-8	2.10E+00	8.24E-04	3.61E-03	C
Dichlorobenzene	25321-22-6	1.20E-03	4.71E-07	2.06E-06	C
Ethane	75-84-0	3.10E+00	1.22E-03	5.32E-03	C
Formaldehyde	50-00-0	7.50E-02	2.94E-05	1.29E-04	C
Hexane	110-54-3	1.80E+00	7.06E-04	3.09E-03	C
Naphthalene	91-20-3	6.10E-04	2.39E-07	1.05E-06	C
Pentane	109-66-0	2.60E+00	1.02E-03	4.47E-03	C
Propane	74-98-6	1.60E+00	6.27E-04	2.75E-03	C
Toluene	108-88-3	3.40E-03	1.33E-06	5.84E-06	C
Acenaphthene	83-32-9	1.80E-06	7.06E-10	3.09E-09	C
Acenaphthylene	203-96-8	1.80E-06	7.06E-10	3.09E-09	C
Anthracene	120-12-7	2.40E-06	9.41E-10	4.12E-09	C
Benz(a)anthracene	56-55-3	1.80E-06	7.06E-10	3.09E-09	C
Benzo(a)pyrene	50-32-8	1.20E-06	4.71E-10	2.06E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	7.06E-10	3.09E-09	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	4.71E-10	2.06E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	7.06E-10	3.09E-09	C
Chrysene	218-01-9	1.80E-06	7.06E-10	3.09E-09	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	4.71E-10	2.06E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	6.27E-09	2.75E-08	C
Fluoranthene	206-44-0	3.00E-06	1.18E-09	5.15E-09	C
Fluorene	86-73-7	2.80E-06	1.10E-09	4.81E-09	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	7.06E-10	3.09E-09	C
2-Methylnaphthalene	91-57-6	2.40E-05	9.41E-09	4.12E-08	C
3-Methylchloranthrene	56-49-5	1.80E-06	7.06E-10	3.09E-09	C
Phenanthrene	85-01-8	1.70E-05	6.67E-09	2.92E-08	C
Pyrene	129-00-0	5.00E-05	1.96E-08	8.59E-08	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	7.84E-08	3.44E-07	D
Barium	7440-39-3	4.40E-03	1.73E-06	7.56E-06	D
Beryllium	7440-41-7	1.20E-05	4.71E-09	2.06E-08	D
Cadmium	7440-43-9	1.10E-03	4.31E-07	1.89E-06	D
Chromium	7440-47-3	1.40E-03	5.49E-07	2.40E-06	D
Cobalt	7440-48-4	8.40E-05	3.29E-08	1.44E-07	D
Copper	7440-50-8	8.50E-04	3.33E-07	1.46E-06	D
Lead	7139-92-1	5.00E-04	1.96E-07	8.59E-07	D
Manganese	7439-96-5	3.80E-04	1.49E-07	6.53E-07	D
Mercury	7439-97-6	2.60E-04	1.02E-07	4.47E-07	D
Molybdenum	7439-98-7	1.10E-03	4.31E-07	1.89E-06	D
Nickel	7440-02-0	2.10E-03	8.24E-07	3.61E-06	D
Selenium	7782-49-2	2.40E-05	9.41E-09	4.12E-08	D
Vanadium	7440-62-2	2.30E-03	9.02E-07	3.95E-06	D
Zinc	7440-66-6	2.90E-02	1.14E-05	4.98E-05	D
Max. Single HAP				5.32E-03	H
Total HAP				0.02	

Emission Factor Footnotes
A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1: CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 11
Boiler 8 (Hydronic Boiler) Combustion Emissions
STRU010
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	0.4	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0004	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	3.44	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
PM		7.60	2.98E-03	1.31E-02	A
PM_{10}		7.60	2.98E-03	1.31E-02	A
$PM_{2.5}$		7.60	2.98E-03	1.31E-02	A
SO_2	744-09-5	0.60	2.35E-04	1.03E-03	A
NO_x		100	3.92E-02	1.72E-01	B
VOC		5.50	2.16E-03	9.45E-03	A
CO	7440-48-4	84	3.29E-02	1.44E-01	B

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Greenhouse Gas (CO_2e)					G
CO_2	124-38-9	120,019	47.07	206	E
CH_4	74-82-8	2.26	0.022	0.10	F
N_2O	10024-97-2	0.23	0.026	0.12	F

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	8.24E-07	3.61E-06	C
Butane	106-97-8	2.10E+00	8.24E-04	3.61E-03	C
Dichlorobenzene	25321-22-6	1.20E-03	4.71E-07	2.06E-06	C
Ethane	75-84-0	3.10E+00	1.22E-03	5.32E-03	C
Formaldehyde	50-00-0	7.50E-02	2.94E-05	1.29E-04	C
Hexane	110-54-3	1.80E+00	7.06E-04	3.09E-03	C
Naphthalene	91-20-3	6.10E-04	2.39E-07	1.05E-06	C
Pentane	109-66-0	2.60E+00	1.02E-03	4.47E-03	C
Propane	74-98-6	1.60E+00	6.27E-04	2.75E-03	C
Toluene	108-88-3	3.40E-03	1.33E-06	5.84E-06	C
Acenaphthene	83-32-9	1.80E-06	7.06E-10	3.09E-09	C
Acenaphthylene	203-96-8	1.80E-06	7.06E-10	3.09E-09	C
Anthracene	120-12-7	2.40E-06	9.41E-10	4.12E-09	C
Benz(a)anthracene	56-55-3	1.80E-06	7.06E-10	3.09E-09	C
Benzo(a)pyrene	50-32-8	1.20E-06	4.71E-10	2.06E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	7.06E-10	3.09E-09	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	4.71E-10	2.06E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	7.06E-10	3.09E-09	C
Chrysene	218-01-9	1.80E-06	7.06E-10	3.09E-09	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	4.71E-10	2.06E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	6.27E-09	2.75E-08	C
Fluoranthene	206-44-0	3.00E-06	1.18E-09	5.15E-09	C
Fluorene	86-73-7	2.80E-06	1.10E-09	4.81E-09	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	7.06E-10	3.09E-09	C
2-Methylnaphthalene	91-57-6	2.40E-05	9.41E-09	4.12E-08	C
3-Methylchloranthrene	56-49-5	1.80E-06	7.06E-10	3.09E-09	C
Phenanthrene	85-01-8	1.70E-05	6.67E-09	2.92E-08	C
Pyrene	129-00-0	5.00E-05	1.96E-08	8.59E-08	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	7.84E-08	3.44E-07	D
Barium	7440-39-3	4.40E-03	1.73E-06	7.56E-06	D
Beryllium	7440-41-7	1.20E-05	4.71E-09	2.06E-08	D
Cadmium	7440-43-9	1.10E-03	4.31E-07	1.89E-06	D
Chromium	7440-47-3	1.40E-03	5.49E-07	2.40E-06	D
Cobalt	7440-48-4	8.40E-05	3.29E-08	1.44E-07	D
Copper	7440-50-8	8.50E-04	3.33E-07	1.46E-06	D
Lead	7139-92-1	5.00E-04	1.96E-07	8.59E-07	D
Manganese	7439-96-5	3.80E-04	1.49E-07	6.53E-07	D
Mercury	7439-97-6	2.60E-04	1.02E-07	4.47E-07	D
Molybdenum	7439-98-7	1.10E-03	4.31E-07	1.89E-06	D
Nickel	7440-02-0	2.10E-03	8.24E-07	3.61E-06	D
Selenium	7782-49-2	2.40E-05	9.41E-09	4.12E-08	D
Vanadium	7440-62-2	2.30E-03	9.02E-07	3.95E-06	D
Zinc	7440-66-6	2.90E-02	1.14E-05	4.98E-05	D
Max. Single HAP				**5.32E-03**	H
Total HAP				**0.02**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1, CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 12
Boiler 9 (Hydronic Boiler) Combustion Emissions
STRU011
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	0.4	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0004	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	3.44	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
PM		7.60	2.98E-03	1.31E-02	A					
PM_{10}		7.60	2.98E-03	1.31E-02	A					
$PM_{2.5}$		7.60	2.98E-03	1.31E-02	A					
SO_2	744-09-5	0.60	2.35E-04	1.03E-03	A					
NO_x		100	3.92E-02	1.72E-01	B					
VOC		5.50	2.16E-03	9.45E-03	A					
CO	7440-48-4	84	3.29E-02	1.44E-01	B					

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
Greenhouse Gas (CO_2e)					G					
CO_2	124-38-9	120,019	47.07	206	E					
CH_4	74-82-8	2.26	0.022	0.10	F					
N_2O	10024-97-2	0.23	0.026	0.12	F					

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	8.24E-07	3.61E-06	C
Butane	106-97-8	2.10E+00	8.24E-04	3.61E-03	C
Dichlorobenzene	25321-22-6	1.20E-03	4.71E-07	2.06E-06	C
Ethane	75-84-0	3.10E+00	1.22E-03	5.32E-03	C
Formaldehyde	50-00-0	7.50E-02	2.94E-05	1.29E-04	C
Hexane	110-54-3	1.80E+00	7.06E-04	3.09E-03	C
Naphthalene	91-20-3	6.10E-04	2.39E-07	1.05E-06	C
Pentane	109-66-0	2.60E+00	1.02E-03	4.47E-03	C
Propane	74-98-6	1.60E+00	6.27E-04	2.75E-03	C
Toluene	108-88-3	3.40E-03	1.33E-06	5.84E-06	C
Acenaphthene	83-32-9	1.80E-06	7.06E-10	3.09E-09	C
Acenaphthylene	203-96-8	1.80E-06	7.06E-10	3.09E-09	C
Anthracene	120-12-7	2.40E-06	9.41E-10	4.12E-09	C
Benz(a)anthracene	56-55-3	1.80E-06	7.06E-10	3.09E-09	C
Benzo(a)pyrene	50-32-8	1.20E-06	4.71E-10	2.06E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	7.06E-10	3.09E-09	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	4.71E-10	2.06E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	7.06E-10	3.09E-09	C
Chrysene	218-01-9	1.80E-06	7.06E-10	3.09E-09	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	4.71E-10	2.06E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	6.27E-09	2.75E-08	C
Fluoranthene	206-44-0	3.00E-06	1.18E-09	5.15E-09	C
Fluorene	86-73-7	2.80E-06	1.10E-09	4.81E-09	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	7.06E-10	3.09E-09	C
2-Methylnaphthalene	91-57-6	2.40E-05	9.41E-09	4.12E-08	C
3-Methylchloranthrene	56-49-5	1.80E-06	7.06E-10	3.09E-09	C
Phenanthrene	85-01-8	1.70E-05	6.67E-09	2.92E-08	C
Pyrene	129-00-0	5.00E-05	1.96E-08	8.59E-08	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	7.84E-08	3.44E-07	D
Barium	7440-39-3	4.40E-03	1.73E-06	7.56E-06	D
Beryllium	7440-41-7	1.20E-05	4.71E-09	2.06E-08	D
Cadmium	7440-43-9	1.10E-03	4.31E-07	1.89E-06	D
Chromium	7440-47-3	1.40E-03	5.49E-07	2.40E-06	D
Cobalt	7440-48-4	8.40E-05	3.29E-08	1.44E-07	D
Copper	7440-50-8	8.50E-04	3.33E-07	1.46E-06	D
Lead	7139-92-1	5.00E-04	1.96E-07	8.59E-07	D
Manganese	7439-96-5	3.80E-04	1.49E-07	6.53E-07	D
Mercury	7439-97-6	2.60E-04	1.02E-07	4.47E-07	D
Molybdenum	7439-98-7	1.10E-03	4.31E-07	1.89E-06	D
Nickel	7440-02-0	2.10E-03	8.24E-07	3.61E-06	D
Selenium	7782-49-2	2.40E-05	9.41E-09	4.12E-08	D
Vanadium	7440-62-2	2.30E-03	9.02E-07	3.95E-06	D
Zinc	7440-66-6	2.90E-02	1.14E-05	4.98E-05	D
Max. Single HAP				5.32E-03	H
Total HAP				0.02	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1: CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 13
Roof Top Unit 4 Combustion Emissions
STRU015
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	0.64	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0006	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	5.50	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
PM		7.60	4.77E-03	2.09E-02	A
PM_{10}		7.60	4.77E-03	2.09E-02	A
$PM_{2.5}$		7.60	4.77E-03	2.09E-02	A
SO_2	744-09-5	0.60	3.76E-04	1.65E-03	A
NO_x		100	6.27E-02	2.75E-01	B
VOC		5.50	3.45E-03	1.51E-02	A
CO	7440-48-4	84	5.27E-02	2.31E-01	B

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Greenhouse Gas (CO_2e)					G
CO_2	124-38-9	120,019	75.31	330	E
CH_4	74-82-8	2.26	0.035	0.16	F
N_2O	10024-97-2	0.23	0.042	0.19	F

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	1.32E-06	5.77E-06	C
Butane	106-97-8	2.10E+00	1.32E-03	5.77E-03	C
Dichlorobenzene	25321-22-6	1.20E-03	7.53E-07	3.30E-06	C
Ethane	75-84-0	3.10E+00	1.95E-03	8.52E-03	C
Formaldehyde	50-00-0	7.50E-02	4.71E-05	2.06E-04	C
Hexane	110-54-3	1.80E+00	1.13E-03	4.95E-03	C
Naphthalene	91-20-3	6.10E-04	3.83E-07	1.68E-06	C
Pentane	109-66-0	2.60E+00	1.63E-03	7.15E-03	C
Propane	74-98-6	1.60E+00	1.00E-03	4.40E-03	C
Toluene	108-88-3	3.40E-03	2.13E-06	9.34E-06	C
Acenaphthene	83-32-9	1.80E-06	1.13E-09	4.95E-09	C
Acenaphthylene	203-96-8	1.80E-06	1.13E-09	4.95E-09	C
Anthracene	120-12-7	2.40E-06	1.51E-09	6.60E-09	C
Benz(a)anthracene	56-55-3	1.80E-06	1.13E-09	4.95E-09	C
Benzo(a)pyrene	50-32-8	1.20E-06	7.53E-10	3.30E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	1.13E-09	4.95E-09	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	7.53E-10	3.30E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	1.13E-09	4.95E-09	C
Chrysene	218-01-9	1.80E-06	1.13E-09	4.95E-09	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	7.53E-10	3.30E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	1.00E-08	4.40E-08	C
Fluoranthene	206-44-0	3.00E-06	1.88E-09	8.24E-09	C
Fluorene	86-73-7	2.80E-06	1.76E-09	7.70E-09	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	1.13E-09	4.95E-09	C
2-Methylnaphthalene	91-57-6	2.40E-05	1.51E-08	6.60E-08	C
3-Methylchloranthrene	56-49-5	1.80E-06	1.13E-09	4.95E-09	C
Phenanthrene	85-01-8	1.70E-05	1.07E-08	4.67E-08	C
Pyrene	129-00-0	5.00E-05	3.14E-08	1.37E-07	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	1.25E-07	5.50E-07	D
Barium	7440-39-3	4.40E-03	2.76E-06	1.21E-05	D
Beryllium	7440-41-7	1.20E-05	7.53E-09	3.30E-08	D
Cadmium	7440-43-9	1.10E-03	6.90E-07	3.02E-06	D
Chromium	7440-47-3	1.40E-03	8.78E-07	3.85E-06	D
Cobalt	7440-48-4	8.40E-05	5.27E-08	2.31E-07	D
Copper	7440-50-8	8.50E-04	5.33E-07	2.34E-06	D
Lead	7139-92-1	5.00E-04	3.14E-07	1.37E-06	D
Manganese	7439-96-5	3.80E-04	2.38E-07	1.04E-06	D
Mercury	7439-97-6	2.60E-04	1.63E-07	7.15E-07	D
Molybdenum	7439-98-7	1.10E-03	6.90E-07	3.02E-06	D
Nickel	7440-02-0	2.10E-03	1.32E-06	5.77E-06	D
Selenium	7782-49-2	2.40E-05	1.51E-08	6.60E-08	D
Vanadium	7440-62-2	2.30E-03	1.44E-06	6.32E-06	D
Zinc	7440-66-6	2.90E-02	1.82E-05	7.97E-05	D
Max. Single HAP				**8.52E-03**	H
Total HAP				**0.03**	

Emission Factor Footnotes
A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1. CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 15
Roof Top Unit 6 Combustion Emissions
STRU016
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	0.32	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0003	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	2.75	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
PM		7.60	2.38E-03	1.04E-02	A					
PM_{10}		7.60	2.38E-03	1.04E-02	A					
$PM_{2.5}$		7.60	2.38E-03	1.04E-02	A					
SO_2	744-09-5	0.60	1.88E-04	8.24E-04	A					
NO_x		100	3.14E-02	1.37E-01	B					
VOC		5.50	1.73E-03	7.56E-03	A					
CO	7440-48-4	84	2.64E-02	1.15E-01	B					

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
Greenhouse Gas (CO_2e)					G					
CO_2	124-38-9	120,019	37.65	165	E					
CH_4	74-82-8	2.26	0.018	0.08	F					
N_2O	10024-97-2	0.23	0.021	0.09	F					

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	6.59E-07	2.89E-06	C
Butane	106-97-8	2.10E+00	6.59E-04	2.89E-03	C
Dichlorobenzene	25321-22-6	1.20E-03	3.76E-07	1.65E-06	C
Ethane	75-84-0	3.10E+00	9.73E-04	4.26E-03	C
Formaldehyde	50-00-0	7.50E-02	2.35E-05	1.03E-04	C
Hexane	110-54-3	1.80E+00	5.65E-04	2.47E-03	C
Naphthalene	91-20-3	6.10E-04	1.91E-07	8.38E-07	C
Pentane	109-66-0	2.60E+00	8.16E-04	3.57E-03	C
Propane	74-98-6	1.60E+00	5.02E-04	2.20E-03	C
Toluene	108-88-3	3.40E-03	1.07E-06	4.67E-06	C
Acenaphthene	83-32-9	1.80E-06	5.65E-10	2.47E-09	C
Acenaphthylene	203-96-8	1.80E-06	5.65E-10	2.47E-09	C
Anthracene	120-12-7	2.40E-06	7.53E-10	3.30E-09	C
Benz(a)anthracene	56-55-3	1.80E-06	5.65E-10	2.47E-09	C
Benzo(a)pyrene	50-32-8	1.20E-06	3.76E-10	1.65E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	5.65E-10	2.47E-09	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	3.76E-10	1.65E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	5.65E-10	2.47E-09	C
Chrysene	218-01-9	1.80E-06	5.65E-10	2.47E-09	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	3.76E-10	1.65E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	5.02E-09	2.20E-08	C
Fluoranthene	206-44-0	3.00E-06	9.41E-10	4.12E-09	C
Fluorene	86-73-7	2.80E-06	8.78E-10	3.85E-09	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	5.65E-10	2.47E-09	C
2-Methylnaphthalene	91-57-6	2.40E-05	7.53E-09	3.30E-08	C
3-Methylchloranthrene	56-49-5	1.80E-06	5.65E-10	2.47E-09	C
Phenanthrene	85-01-8	1.70E-05	5.33E-09	2.34E-08	C
Pyrene	129-00-0	5.00E-05	1.57E-08	6.87E-08	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	6.27E-08	2.75E-07	D
Barium	7440-39-3	4.40E-03	1.38E-06	6.05E-06	D
Beryllium	7440-41-7	1.20E-05	3.76E-09	1.65E-08	D
Cadmium	7440-43-9	1.10E-03	3.45E-07	1.51E-06	D
Chromium	7440-47-3	1.40E-03	4.39E-07	1.92E-06	D
Cobalt	7440-48-4	8.40E-05	2.64E-08	1.15E-07	D
Copper	7440-50-8	8.50E-04	2.67E-07	1.17E-06	D
Lead	7139-92-1	5.00E-04	1.57E-07	6.87E-07	D
Manganese	7439-96-5	3.80E-04	1.19E-07	5.22E-07	D
Mercury	7439-97-6	2.60E-04	8.16E-08	3.57E-07	D
Molybdenum	7439-98-7	1.10E-03	3.45E-07	1.51E-06	D
Nickel	7440-02-0	2.10E-03	6.59E-07	2.89E-06	D
Selenium	7782-49-2	2.40E-05	7.53E-09	3.30E-08	D
Vanadium	7440-62-2	2.30E-03	7.22E-07	3.16E-06	D
Zinc	7440-66-6	2.90E-02	9.10E-06	3.98E-05	D
Max. Single HAP				4.26E-03	H
Total HAP				0.02	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1: CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 16
Roof Top Unit 7 Combustion Emissions
STRU017
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	0.27	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0003	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	2.32	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
PM		7.60	2.01E-03	8.81E-03	A
PM_{10}		7.60	2.01E-03	8.81E-03	A
$PM_{2.5}$		7.60	2.01E-03	8.81E-03	A
SO_2	744-09-5	0.60	1.59E-04	6.96E-04	A
NO_x		100	2.65E-02	1.16E-01	B
VOC		5.50	1.46E-03	6.38E-03	A
CO	7440-48-4	84	2.22E-02	9.74E-02	B

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Greenhouse Gas (CO_2e)					G
CO_2	124-38-9	120,019	31.77	139	E
CH_4	74-82-8	2.26	0.015	0.07	F
N_2O	10024-97-2	0.23	0.018	0.08	F

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	5.56E-07	2.43E-06	C
Butane	106-97-8	2.10E+00	5.56E-04	2.43E-03	C
Dichlorobenzene	25321-22-6	1.20E-03	3.18E-07	1.39E-06	C
Ethane	75-84-0	3.10E+00	8.21E-04	3.59E-03	C
Formaldehyde	50-00-0	7.50E-02	1.99E-05	8.70E-05	C
Hexane	110-54-3	1.80E+00	4.76E-04	2.09E-03	C
Naphthalene	91-20-3	6.10E-04	1.61E-07	7.07E-07	C
Pentane	109-66-0	2.60E+00	6.88E-04	3.01E-03	C
Propane	74-98-6	1.60E+00	4.24E-04	1.86E-03	C
Toluene	108-88-3	3.40E-03	9.00E-07	3.94E-06	C
Acenaphthene	83-32-9	1.80E-06	4.76E-10	2.09E-09	C
Acenaphthylene	203-96-8	1.80E-06	4.76E-10	2.09E-09	C
Anthracene	120-12-7	2.40E-06	6.35E-10	2.78E-09	C
Benz(a)anthracene	56-55-3	1.80E-06	4.76E-10	2.09E-09	C
Benzo(a)pyrene	50-32-8	1.20E-06	3.18E-10	1.39E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	4.76E-10	2.09E-09	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	3.18E-10	1.39E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	4.76E-10	2.09E-09	C
Chrysene	218-01-9	1.80E-06	4.76E-10	2.09E-09	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	3.18E-10	1.39E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	4.24E-09	1.86E-08	C
Fluoranthene	206-44-0	3.00E-06	7.94E-10	3.48E-09	C
Fluorene	86-73-7	2.80E-06	7.41E-10	3.25E-09	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	4.76E-10	2.09E-09	C
2-Methylnaphthalene	91-57-6	2.40E-05	6.35E-09	2.78E-08	C
3-Methylchloranthrene	56-49-5	1.80E-06	4.76E-10	2.09E-09	C
Phenanthrene	85-01-8	1.70E-05	4.50E-09	1.97E-08	C
Pyrene	129-00-0	5.00E-05	1.32E-08	5.80E-08	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	5.29E-08	2.32E-07	D
Barium	7440-39-3	4.40E-03	1.16E-06	5.10E-06	D
Beryllium	7440-41-7	1.20E-05	3.18E-09	1.39E-08	D
Cadmium	7440-43-9	1.10E-03	2.91E-07	1.28E-06	D
Chromium	7440-47-3	1.40E-03	3.71E-07	1.62E-06	D
Cobalt	7440-48-4	8.40E-05	2.22E-08	9.74E-08	D
Copper	7440-50-8	8.50E-04	2.25E-07	9.86E-07	D
Lead	7139-92-1	5.00E-04	1.32E-07	5.80E-07	D
Manganese	7439-96-5	3.80E-04	1.01E-07	4.41E-07	D
Mercury	7439-97-6	2.60E-04	6.88E-08	3.01E-07	D
Molybdenum	7439-98-7	1.10E-03	2.91E-07	1.28E-06	D
Nickel	7440-02-0	2.10E-03	5.56E-07	2.43E-06	D
Selenium	7782-49-2	2.40E-05	6.35E-09	2.78E-08	D
Vanadium	7440-62-2	2.30E-03	6.09E-07	2.67E-06	D
Zinc	7440-66-6	2.90E-02	7.68E-06	3.36E-05	D
Max. Single HAP				3.59E-03	H
Total HAP				0.01	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1. CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 14
Roof Top Unit 3 Combustion Emissions
STRU018
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	0.27	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0003	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	2.32	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
PM		7.60	2.01E-03	8.81E-03	A
PM_{10}		7.60	2.01E-03	8.81E-03	A
$PM_{2.5}$		7.60	2.01E-03	8.81E-03	A
SO_2	744-09-5	0.60	1.59E-04	6.96E-04	A
NO_x		100	2.65E-02	1.16E-01	B
VOC		5.50	1.46E-03	6.38E-03	A
CO	7440-48-4	84	2.22E-02	9.74E-02	B

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Greenhouse Gas (CO_2e)					G
CO_2	124-38-9	120,019	31.77	139	E
CH_4	74-82-8	2.26	0.015	0.07	F
N_2O	10024-97-2	0.23	0.018	0.08	F

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	5.56E-07	2.43E-06	C
Butane	106-97-8	2.10E+00	5.56E-04	2.43E-03	C
Dichlorobenzene	25321-22-6	1.20E-03	3.18E-07	1.39E-06	C
Ethane	75-84-0	3.10E+00	8.21E-04	3.59E-03	C
Formaldehyde	50-00-0	7.50E-02	1.99E-05	8.70E-05	C
Hexane	110-54-3	1.80E+00	4.76E-04	2.09E-03	C
Naphthalene	91-20-3	6.10E-04	1.61E-07	7.07E-07	C
Pentane	109-66-0	2.60E+00	6.88E-04	3.01E-03	C
Propane	74-98-6	1.60E+00	4.24E-04	1.86E-03	C
Toluene	108-88-3	3.40E-03	9.00E-07	3.94E-06	C
Acenaphthene	83-32-9	1.80E-06	4.76E-10	2.09E-09	C
Acenaphthylene	203-96-8	1.80E-06	4.76E-10	2.09E-09	C
Anthracene	120-12-7	2.40E-06	6.35E-10	2.78E-09	C
Benz(a)anthracene	56-55-3	1.80E-06	4.76E-10	2.09E-09	C
Benzo(a)pyrene	50-32-8	1.20E-06	3.18E-10	1.39E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	4.76E-10	2.09E-09	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	3.18E-10	1.39E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	4.76E-10	2.09E-09	C
Chrysene	218-01-9	1.80E-06	4.76E-10	2.09E-09	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	3.18E-10	1.39E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	4.24E-09	1.86E-08	C
Fluoranthene	206-44-0	3.00E-06	7.94E-10	3.48E-09	C
Fluorene	86-73-7	2.80E-06	7.41E-10	3.25E-09	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	4.76E-10	2.09E-09	C
2-Methylnaphthalene	91-57-6	2.40E-05	6.35E-09	2.78E-08	C
3-Methylchloranthrene	56-49-5	1.80E-06	4.76E-10	2.09E-09	C
Phenanthrene	85-01-8	1.70E-05	4.50E-09	1.97E-08	C
Pyrene	129-00-0	5.00E-05	1.32E-08	5.80E-08	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	5.29E-08	2.32E-07	D
Barium	7440-39-3	4.40E-03	1.16E-06	5.10E-06	D
Beryllium	7440-41-7	1.20E-05	3.18E-09	1.39E-08	D
Cadmium	7440-43-9	1.10E-03	2.91E-07	1.28E-06	D
Chromium	7440-47-3	1.40E-03	3.71E-07	1.62E-06	D
Cobalt	7440-48-4	8.40E-05	2.22E-08	9.74E-08	D
Copper	7440-50-8	8.50E-04	2.25E-07	9.86E-07	D
Lead	7139-92-1	5.00E-04	1.32E-07	5.80E-07	D
Manganese	7439-96-5	3.80E-04	1.01E-07	4.41E-07	D
Mercury	7439-97-6	2.60E-04	6.88E-08	3.01E-07	D
Molybdenum	7439-98-7	1.10E-03	2.91E-07	1.28E-06	D
Nickel	7440-02-0	2.10E-03	5.56E-07	2.43E-06	D
Selenium	7782-49-2	2.40E-05	6.35E-09	2.78E-08	D
Vanadium	7440-62-2	2.30E-03	6.09E-07	2.67E-06	D
Zinc	7440-66-6	2.90E-02	7.68E-06	3.36E-05	D
Max. Single HAP				3.59E-03	H
Total HAP				0.01	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1: CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 21
Water Heaters
Contributes to water heating > 1,600,000 Btu
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	Smith and BOCK		
Model	varies		
Maximum Heat Input	1.6	MMBtu/hr	There are two identical A.O. Smith water heaters and two identical BOCK water heaters with maximum heat input of 400,000 Btu each for a total maximum heat input of 1, 600,000 Btu.
Fuel	Natural Gas		
Maximum Fuel Input	0.0016	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	13.74	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
PM		7.60	1.19E-02	5.22E-02	A					
PM_{10}		7.60	1.19E-02	5.22E-02	A					
$PM_{2.5}$		7.60	1.19E-02	5.22E-02	A					
SO_2	744-09-5	0.60	9.41E-04	4.12E-03	A					
NO_x		100	1.57E-01	6.87E-01	B					
VOC		5.50	8.63E-03	3.78E-02	A					
CO	7440-48-4	84	1.32E-01	5.77E-01	B					

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
Greenhouse Gas (CO_2e)					G					
CO_2	124-38-9	120,019	188.26	825	E					
CH_4	74-82-8	2.26	0.089	0.39	F					
N_2O	10024-97-2	0.23	0.106	0.46	F					

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	3.29E-06	1.44E-05	C
Butane	106-97-8	2.10E+00	3.29E-03	1.44E-02	C
Dichlorobenzene	25321-22-6	1.20E-03	1.88E-06	8.24E-06	C
Ethane	75-84-0	3.10E+00	4.86E-03	2.13E-02	C
Formaldehyde	50-00-0	7.50E-02	1.18E-04	5.15E-04	C
Hexane	110-54-3	1.80E+00	2.82E-03	1.24E-02	C
Naphthalene	91-20-3	6.10E-04	9.57E-07	4.19E-06	C
Pentane	109-66-0	2.60E+00	4.08E-03	1.79E-02	C
Propane	74-98-6	1.60E+00	2.51E-03	1.10E-02	C
Toluene	108-88-3	3.40E-03	5.33E-06	2.34E-05	C
Acenaphthene	83-32-9	1.80E-06	2.82E-09	1.24E-08	C
Acenaphthylene	203-96-8	1.80E-06	2.82E-09	1.24E-08	C
Anthracene	120-12-7	2.40E-06	3.76E-09	1.65E-08	C
Benz(a)anthracene	56-55-3	1.80E-06	2.82E-09	1.24E-08	C
Benzo(a)pyrene	50-32-8	1.20E-06	1.88E-09	8.24E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	2.82E-09	1.24E-08	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	1.88E-09	8.24E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	2.82E-09	1.24E-08	C
Chrysene	218-01-9	1.80E-06	2.82E-09	1.24E-08	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	1.88E-09	8.24E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	2.51E-08	1.10E-07	C
Fluoranthene	206-44-0	3.00E-06	4.71E-09	2.06E-08	C
Fluorene	86-73-7	2.80E-06	4.39E-09	1.92E-08	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	2.82E-09	1.24E-08	C
2-Methylnaphthalene	91-57-6	2.40E-05	3.76E-08	1.65E-07	C
3-Methylchloranthrene	56-49-5	1.80E-06	2.82E-09	1.24E-08	C
Phenanthrene	85-01-8	1.70E-05	2.67E-08	1.17E-07	C
Pyrene	129-00-0	5.00E-05	7.84E-08	3.44E-07	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	3.14E-07	1.37E-06	D
Barium	7440-39-3	4.40E-03	6.90E-06	3.02E-05	D
Beryllium	7440-41-7	1.20E-05	1.88E-08	8.24E-08	D
Cadmium	7440-43-9	1.10E-03	1.73E-06	7.56E-06	D
Chromium	7440-47-3	1.40E-03	2.20E-06	9.62E-06	D
Cobalt	7440-48-4	8.40E-05	1.32E-07	5.77E-07	D
Copper	7440-50-8	8.50E-04	1.33E-06	5.84E-06	D
Lead	7139-92-1	5.00E-04	7.84E-07	3.44E-06	D
Manganese	7439-96-5	3.80E-04	5.96E-07	2.61E-06	D
Mercury	7439-97-6	2.60E-04	4.08E-07	1.79E-06	D
Molybdenum	7439-98-7	1.10E-03	1.73E-06	7.56E-06	D
Nickel	7440-02-0	2.10E-03	3.29E-06	1.44E-05	D
Selenium	7782-49-2	2.40E-05	3.76E-08	1.65E-07	D
Vanadium	7440-62-2	2.30E-03	3.61E-06	1.58E-05	D
Zinc	7440-66-6	2.90E-02	4.55E-05	1.99E-04	D
Max. Single HAP				**2.13E-02**	H
Total HAP				**0.08**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1. CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane
I AP-42 Table 1.5-1 Propane Emission factors for Commercial Boilers

Table
Oven 1 Non-Combustion Emissions
STRU001
Baldinger Bakery
St Paul MN

Table 23
Oven 1 Non-Combustion En
STRU001
Baldinger Bakery
St Paul MN

Source ID	Product Name	(Yi) Intial Yeast as a % of Flour	(ti) Total Ferment Time in Hours	(S) Yeast Spike as a % Flour	(ts) Spike Time in Hours
Oven 1	Buns	4.6	1.5	4.5	1.35

NOTES

[1] Based on the formula in AP-42 Section 9.9.6 - Pounds VOC per ton of baked bread = 0.95(Yi)+(

[2] Acetaldehyde is the only HAP emitted during the process. Acetaldehyde emissions based on 3% c

[3] Reference: EPA 453/R-92-017, section 2.3 Air Emissions. Alternative Control Technology Docun the equation uses the given that ethanol makes up 92% of the VOCs emitted in bread making. Durin; CO2 emissions (tons) are calculated by the equation: (Total VOC) *0.92*(47/49).

ıissions

VOC Emission Factor[1] (lbs/ton baked bread)	Total Units	Unit dough weight (pounds)	Bake out loss	Total Baked Product (tons)	Total VOC Emissions (tons)
3.11	39,960,683	1.5	12%	26,374	40.97

Total Non-combustion VOC Emissions (tons)	**40.97**

Total Non-combustion Acetaldehyde Emissions (tons)	**1.23**

Total Non-combustion CO2e Emissions (tons)	**36.14**

0.195(ti)-0.51(S)-0.86(ts)+1.90

›f VOC's per communication from John Chikkala, MPCA, April 23, 2008

nent for Bakery Oven Emissions. When estimating CO2 emissions from bread baking,

g yeast fermentation, 100 pounds of sugar is converted into 47 lbs CO2 compared to 49 lbs ethanol.

Total HAP[2] Emissions (tons)	CO2e[3] Emissions TPY
1.23	36.14

Table 24
Oven 2 Non-Combustion Emissions
STRU002
Baldinger Bakery
St Paul MN

Source ID	Product Name	(Yi) Intial Yeast as a % of Flour	(ti) Total Ferment Time in Hours	(S) Yeast Spike as a % Flour	(ts) Spike Time in Hours
Oven 2	Buns	4.6	1.5	4.5	1.35

NOTES

[1] Based on the formula in AP-42 Section 9.9.6 - Pounds VOC per ton of baked bread = 0.95(Yi)+0.1

[2] Acetaldehyde is the only HAP emitted during the process. Acetaldehyde emissions based on 3% of V

[3] Reference: EPA 453/R-92-017, section 2.3 Air Emissions. Alternative Control Technology Documer the equation uses the given that ethanol makes up 92% of the VOCs emitted in bread making. During y CO2 emissions (tons) are calculated by the equation: (Total VOC) *0.92*(47/49).

VOC Emission Factor[1] (lbs/ton baked bread)	Total Units	Unit dough weight (pounds)	Bake out loss	Total Baked Product (tons)	Total VOC Emissions (tons)
3.11	13,320,227	1.5	12%	8,791	13.66

Total Non-combustion VOC Emissions (tons)	**13.66**

Total Non-combustion Acetaldehyde Emissions (tons)	**0.41**

Total Non-combustion CO2e Emissions (tons)	**12.05**

95(ti)-0.51(S)-0.86(ts)+1.90

VOC's per communication from John Chikkala, MPCA, April 23, 2008

ıt for Bakery Oven Emissions. When estimating CO2 emissions from bread baking,

'east fermentation, 100 pounds of sugar is converted into 47 lbs CO2 compared to 49 lbs ethanol.

Total HAP[2] Emissions (tons)	CO2e[3] Emissions TPY
0.41	12.05

Monthly Tracker

Baldinger Bakery, 1256 Phalen Blvd., St. Paul, MN

Month, Year	Oven 1 VOC	Oven 2 VOC	Nat Gas VOC	Oven 1 T HAP
January	2.08	0.06	1.84	3.13
February	1.66	0.05	1.46	2.49
March	2.01	0.06	1.77	3.02
April	1.66	0.05	1.47	2.50
May	1.66	0.05	1.47	2.49
June	1.92	0.06	1.69	2.88
July	2.16	0.06	1.91	3.24
August	1.68	0.05	1.48	2.52
September	0.00	0.00	0.00	0.00
October	0.00	0.00	0.00	0.00
November	0.00	0.00	0.00	0.00
December	0.00	0.00	0.00	0.00
Annual Total	14.84	0.45	13.09	22.26

Rolling Average Month, Year	VOC Total Emitted	T HAP Total Emitted	CO2e Total Emitted	Nat Gas CO
January	3.99	5.98	389.75	0.27
February	3.17	4.76	340.16	0.24
March	3.85	5.77	398.27	0.28

Baldinger Bakery, 1256 Phalen Blvd., St. Paul, MN

Source ID	Product Name	(Yi) Intial Yeast as a % of Flour	(ti) Total Ferment Time in Hours	(S) Yeast Spike as a % Flour	(ts) Spike Time in Hours	VOC Emission Factor[1] (lbs/ton baked bread)	Total Units	Unit dough weight (pounds)	Bake out loss	Total Baked Product (tons)	Total VOC Emissions (tons)	Total HAP[2] Emissions (tons)	CO2e[3] Emissions TPY
Oven 1	Buns	4.6	1.5	4.5	1.35	3.11	2,033,622	1.5	12%	1,342	2.08	0.06	1.84
Oven 2	Buns	4.6	1.5	4.5	1.35	3.11	3,050,433	1.5	12%	2,013	3.13	0.09	2.76

Total Non-combustion VOC Emissions (tons)	**5.21**

Total Non-combustion Acetaldehyde Emissions (tons)	**0.16**

Total Non-combustion CO2e Emissions (tons)	**4.60**

NOTES

[1] Based on the formula in AP-42 Section 9.9.6 - Pounds VOC per ton of baked bread = 0.95(Yi)+0.195(ti)-0.51(S)-0.86(ts)+1.90

[2] Acetaldehyde is the only HAP emitted during the process. Acetaldehyde emissions based on 3% of VOC's per communication from John Chikkala, MPCA, April 23, 2008

[3] Reference: EPA 453/R-92-017, section 2.3 Air Emissions. Alternative Control Technology Document for Bakery Oven Emissions. When estimating CO2 emissions from bread baking, the equation uses the given that ethanol makes up 92% of the VOCs emitted in bread making. During yeast fermentation, 100 pounds of sugar is converted into 47 lbs CO2 compared to 49 lbs ethanol. CO2 emissions (tons) are calculated by the equation: (Total VOC) *0.92*(47/49).

Baldinger Bakery, 1256 Phalen Blvd., St. Paul, MN

Source ID	Product Name	(Yi) Intial Yeast as a % of Flour	(ti) Total Ferment Time in Hours	(S) Yeast Spike as a % Flour	(ts) Spike Time in Hours	VOC Emission Factor[1] (lbs/ton baked bread)	Total Units	Unit dough weight (pounds)	Bake out loss	Total Baked Product (tons)	Total VOC Emissions (tons)	Total HAP[2] Emissions (tons)	CO2e[3] Emissions TPY
Oven 1	Buns	4.6	1.5	4.5	1.35	3.11	1,617,722	1.5	12%	1,068	1.66	0.05	1.46
Oven 2	Buns	4.6	1.5	4.5	1.35	3.11	2,426,582	1.5	12%	1,602	2.49	0.07	2.19

Total Non-combustion VOC Emissions (tons)	**4.15**

Total Non-combustion Acetaldehyde Emissions (tons)	**0.12**

Total Non-combustion CO2e Emissions (tons)	**3.66**

NOTES

[1] Based on the formula in AP-42 Section 9.9.6 - Pounds VOC per ton of baked bread = 0.95(Yi)+0.195(ti)-0.51(S)-0.86(ts)+1.90

[2] Acetaldehyde is the only HAP emitted during the process. Acetaldehyde emissions based on 3% of VOC's per communication from John Chikkala, MPCA, April 23, 2008

[3] Reference: EPA 453/R-92-017, section 2.3 Air Emissions. Alternative Control Technology Document for Bakery Oven Emissions. When estimating CO2 emissions from bread baking, the equation uses the given that ethanol makes up 92% of the VOCs emitted in bread making. During yeast fermentation, 100 pounds of sugar is converted into 47 lbs CO2 compared to 49 lbs ethanol. CO2 emissions (tons) are calculated by the equation: (Total VOC) *0.92*(47/49).

Baldinger Bakery, 1256 Phalen Blvd., St. Paul, MN

Source ID	Product Name	(Yi) Intial Yeast as a % of Flour	(ti) Total Ferment Time in Hours	(S) Yeast Spike as a % Flour	(ts) Spike Time in Hours	VOC Emission Factor[1] (lbs/ton baked bread)	Total Units	Unit dough weight (pounds)	Bake out loss	Total Baked Product (tons)	Total VOC Emissions (tons)	Total HAP[2] Emissions (tons)	CO2e[3] Emissions TPY
Oven 1	Buns	4.6	1.5	4.5	1.35	3.11	1,961,976	1.5	12%	1,295	2.01	0.06	1.77
Oven 2	Buns	4.6	1.5	4.5	1.35	3.11	2,942,965	1.5	12%	1,942	3.02	0.09	2.66

Total Non-combustion VOC Emissions (tons)	5.03

Total Non-combustion Acetaldehyde Emissions (tons)	0.15

Total Non-combustion CO2e Emissions (tons)	4.44

NOTES

[1] Based on the formula in AP-42 Section 9.9.6 - Pounds VOC per ton of baked bread = 0.95(Yi)+0.195(ti)-0.51(S)-0.86(ts)+1.90

[2] Acetaldehyde is the only HAP emitted during the process. Acetaldehyde emissions based on 3% of VOC's per communication from John Chikkala, MPCA, April 23, 2008

[3] Reference: EPA 453/R-92-017, section 2.3 Air Emissions, Alternative Control Technology Document for Bakery Oven Emissions. When estimating CO2 emissions from bread baking, the equation uses the given that ethanol makes up 92% of the VOCs emitted in bread making. During yeast fermentation, 100 pounds of sugar is converted into 47 lbs CO2 compared to 49 lbs ethanol. CO2 emissions (tons) are calculated by the equation: (Total VOC) *0.92*(47/49).

Baldinger Bakery, 1256 Phalen Blvd., St. Paul, MN

Source ID	Product Name	(Yi) Intial Yeast as a % of Flour	(ti) Total Ferment Time in Hours	(S) Yeast Spike as a % Flour	(ts) Spike Time in Hours	VOC Emission Factor[1] (lbs/ton baked bread)	Total Units	Unit dough weight (pounds)	Bake out loss	Total Baked Product (tons)	Total VOC Emissions (tons)	Total HAP[2] Emissions (tons)	CO2e[3] Emissions TPY
Oven 1	Buns	4.6	1.5	4.5	1.35	3.11	1,623,266	1.5	12%	1,071	1.66	0.05	1.47
Oven 2	Buns	4.6	1.5	4.5	1.35	3.11	2,434,899	1.5	12%	1,607	2.50	0.07	2.20

Total Non-combustion VOC Emissions (tons)	**4.16**
Total Non-combustion Acetaldehyde Emissions (tons)	**0.12**
Total Non-combustion CO2e Emissions (tons)	**3.67**

NOTES

[1] Based on the formula in AP-42 Section 9.9.6 - Pounds VOC per ton of baked bread = 0.95(Yi)+0.195(ti)-0.51(S)-0.86(ts)+1.90

[2] Acetaldehyde is the only HAP emitted during the process. Acetaldehyde emissions based on 3% of VOC's per communication from John Chikkala, MPCA, April 23, 2008

[3] Reference: EPA 453/R-92-017, section 2.3 Air Emissions. Alternative Control Technology Document for Bakery Oven Emissions. When estimating CO2 emissions from bread baking, the equation uses the given that ethanol makes up 92% of the VOCs emitted in bread making. During yeast fermentation, 100 pounds of sugar is converted into 47 lbs CO2 compared to 49 lbs ethanol. CO2 emissions (tons) are calculated by the equation: (Total VOC) *0.92*(47/49).

Baldinger Bakery, 1256 Phalen Blvd., St. Paul, MN

Source ID	Product Name	(Yi) Intial Yeast as a % of Flour	(ti) Total Ferment Time in Hours	(S) Yeast Spike as a % Flour	(ts) Spike Time in Hours	VOC Emission Factor[1] (lbs/ton baked bread)	Total Units	Unit dough weight (pounds)	Bake out loss	Total Baked Product (tons)	Total VOC Emissions (tons)	Total HAP[2] Emissions (tons)	CO_2e[3] Emissions TPY
Oven 1	Buns	4.6	1.5	4.5	1.35	3.11	1,622,376	1.5	12%	1,071	1.66	0.05	1.47
Oven 2	Buns	4.6	1.5	4.5	1.35	3.11	2,433,564	1.5	12%	1,606	2.49	0.07	2.20

Total Non-combustion VOC Emissions (tons)	**4.16**

Total Non-combustion Acetaldehyde Emissions (tons)	**0.12**

Total Non-combustion CO2e Emissions (tons)	**3.67**

NOTES

[1] Based on the formula in AP-42 Section 9.9.6 - Pounds VOC per ton of baked bread = 0.95(Yi)+0.195(ti)-0.51(S)-0.86(ts)+1.90

[2] Acetaldehyde is the only HAP emitted during the process. Acetaldehyde emissions based on 3% of VOC's per communication from John Chikkala, MPCA, April 23, 2008

[3] Reference: EPA 453/R-92-017, section 2.3 Air Emissions. Alternative Control Technology Document for Bakery Oven Emissions. When estimating CO2 emissions from bread baking, the equation uses the given that ethanol makes up 92% of the VOCs emitted in bread making. During yeast fermentation, 100 pounds of sugar is converted into 47 lbs CO2 compared to 49 lbs ethanol. CO2 emissions (tons) are calculated by the equation: (Total VOC) *0.92*(47/49).

Baldinger Bakery, 1256 Phalen Blvd., St. Paul, MN

Source ID	Product Name	(Yi) Intial Yeast as a % of Flour	(ti) Total Ferment Time in Hours	(S) Yeast Spike as a % Flour	(ts) Spike Time in Hours	VOC Emission Factor[1] (lbs/ton baked bread)	Total Units	Unit dough weight (pounds)	Bake out loss	Total Baked Product (tons)	Total VOC Emissions (tons)	Total HAP[2] Emissions (tons)	CO2e[3] Emissions TPY
Oven 1	Buns	4.6	1.5	4.5	1.35	3.11	1,869,920	1.5	12%	1,234	1.92	0.06	1.69
Oven 2	Buns	4.6	1.5	4.5	1.35	3.11	2,804,880	1.5	12%	1,851	2.88	0.09	2.54

Total Non-combustion VOC Emissions (tons)	**4.79**

Total Non-combustion Acetaldehyde Emissions (tons)	**0.14**

Total Non-combustion CO2e Emissions (tons)	**4.23**

NOTES

[1] Based on the formula in AP-42 Section 9.9.6 - Pounds VOC per ton of baked bread = 0.95(Yi)+0.195(ti)-0.51(S)-0.86(ts)+1.90

[2] Acetaldehyde is the only HAP emitted during the process. Acetaldehyde emissions based on 3% of VOC's per communication from John Chikkala, MPCA, April 23, 2008

[3] Reference: EPA 453/R-92-017, section 2.3 Air Emissions. Alternative Control Technology Document for Bakery Oven Emissions. When estimating CO2 emissions from bread baking, the equation uses the given that ethanol makes up 92% of the VOCs emitted in bread making. During yeast fermentation, 100 pounds of sugar is converted into 47 lbs CO2 compared to 49 lbs ethanol. CO2 emissions (tons) are calculated by the equation: (Total VOC) *0.92*(47/49).

Baldinger Bakery, 1256 Phalen Blvd., St. Paul, MN

Source ID	Product Name	(Yi) Intial Yeast as a % of Flour	(ti) Total Ferment Time in Hours	(S) Yeast Spike as a % Flour	(ts) Spike Time in Hours	VOC Emission Factor[1] (lbs/ton baked bread)	Total Units	Unit dough weight (pounds)	Bake out loss	Total Baked Product (tons)	Total VOC Emissions (tons)	Total HAP[2] Emissions (tons)	CO2e[3] Emissions TPY
Oven 1	Buns	4.6	1.5	4.5	1.35	3.11	2,110,240	1.5	12%	1,393	2.16	0.06	1.91
Oven 2	Buns	4.6	1.5	4.5	1.35	3.11	3,165,360	1.5	12%	2,089	3.24	0.10	2.86

Total Non-combustion VOC Emissions (tons)	5.41

Total Non-combustion Acetaldehyde Emissions (tons)	0.16

Total Non-combustion CO2e Emissions (tons)	4.77

NOTES

[1] Based on the formula in AP-42 Section 9.9.6 - Pounds VOC per ton of baked bread = 0.95(Yi)+0.195(ti)-0.51(S)-0.86(ts)+1.90

[2] Acetaldehyde is the only HAP emitted during the process. Acetaldehyde emissions based on 3% of VOC's per communication from John Chikkala, MPCA, April 23, 2008

[3] Reference: EPA 453/R-92-017, section 2.3 Air Emissions. Alternative Control Technology Document for Bakery Oven Emissions. When estimating CO2 emissions from bread baking, the equation uses the given that ethanol makes up 92% of the VOCs emitted in bread making. During yeast fermentation, 100 pounds of sugar is converted into 47 lbs CO2 compared to 49 lbs ethanol. CO2 emissions (tons) are calculated by the equation: (Total VOC) *0.92*(47/49).

Baldinger Bakery, 1256 Phalen Blvd., St. Paul, MN

Source ID	Product Name	(Yi) Intial Yeast as a % of Flour	(ti) Total Ferment Time in Hours	(S) Yeast Spike as a % Flour	(ts) Spike Time in Hours	VOC Emission Factor[1] (lbs/ton baked bread)	Total Units	Unit dough weight (pounds)	Bake out loss	Total Baked Product (tons)	Total VOC Emissions (tons)	Total HAP[2] Emissions (tons)	CO2e[3] Emissions TPY
Oven 1	Buns	4.6	1.5	4.5	1.35	3.11	1,636,800	1.5	12%	1,080	1.68	0.05	1.48
Oven 2	Buns	4.6	1.5	4.5	1.35	3.11	2,455,200	1.5	12%	1,620	2.52	0.08	2.22

Total Non-combustion VOC Emissions (tons)	**4.19**

Total Non-combustion Acetaldehyde Emissions (tons)	**0.13**

Total Non-combustion CO2e Emissions (tons)	**3.70**

NOTES

[1] Based on the formula in AP-42 Section 9.9.6 - Pounds VOC per ton of baked bread = 0.95(Yi)+0.195(ti)-0.51(S)-0.86(ts)+1.90

[2] Acetaldehyde is the only HAP emitted during the process. Acetaldehyde emissions based on 3% of VOC's per communication from John Chikkala, MPCA, April 23, 2008

[3] Reference: EPA 453/R-92-017, section 2.3 Air Emissions. Alternative Control Technology Document for Bakery Oven Emissions. When estimating CO2 emissions from bread baking, the equation uses the given that ethanol makes up 92% of the VOCs emitted in bread making. During yeast fermentation, 100 pounds of sugar is converted into 47 lbs CO2 compared to 49 lbs ethanol. CO2 emissions (tons) are calculated by the equation: (Total VOC) *0.92*(47/49).

Baldinger Bakery, 1256 Phalen Blvd., St. Paul, MN

Source ID	Product Name	(Yi) Intial Yeast as a % of Flour	(ti) Total Ferment Time in Hours	(S) Yeast Spike as a % Flour	(ts) Spike Time in Hours	VOC Emission Factor[1] (lbs/ton baked bread)	Total Units	Unit dough weight (pounds)	Bake out loss	Total Baked Product (tons)	Total VOC Emissions (tons)	Total HAP[2] Emissions (tons)	CO2e[3] Emissions TPY
Oven 1	Buns	4.6	1.5	4.5	1.35	3.11		1.5	12%	0	0.00	0.00	0.00
Oven 2	Buns	4.6	1.5	4.5	1.35	3.11		1.5	12%	0	0.00	0.00	0.00

Total Non-combustion VOC Emissions (tons)	**0.00**

Total Non-combustion Acetaldehyde Emissions (tons)	**0.00**

Total Non-combustion CO2e Emissions (tons)	**0.00**

NOTES

[1] Based on the formula in AP-42 Section 9.9.6 - Pounds VOC per ton of baked bread = 0.95(Yi)+0.195(ti)-0.51(S)-0.86(ts)+1.90

[2] Acetaldehyde is the only HAP emitted during the process. Acetaldehyde emissions based on 3% of VOC's per communication from John Chikkala, MPCA, April 23, 2008

[3] Reference: EPA 453/R-92-017, section 2.3 Air Emissions. Alternative Control Technology Document for Bakery Oven Emissions. When estimating CO2 emissions from bread baking, the equation uses the given that ethanol makes up 92% of the VOCs emitted in bread making. During yeast fermentation, 100 pounds of sugar is converted into 47 lbs CO2 compared to 49 lbs ethanol. CO2 emissions (tons) are calculated by the equation: (Total VOC) *0.92*(47/49).

Baldinger Bakery, 1256 Phalen Blvd., St. Paul, MN

Source ID	Product Name	(Yi) Intial Yeast as a % of Flour	(ti) Total Ferment Time in Hours	(S) Yeast Spike as a % Flour	(ts) Spike Time in Hours	VOC Emission Factor[1] (lbs/ton baked bread)	Total Units	Unit dough weight (pounds)	Bake out loss	Total Baked Product (tons)	Total VOC Emissions (tons)	Total HAP[2] Emissions (tons)	CO2e[3] Emissions TPY
Oven 1	Buns	4.6	1.5	4.5	1.35	3.11		1.5	12%	0	0.00	0.00	0.00
Oven 2	Buns	4.6	1.5	4.5	1.35	3.11		1.5	12%	0	0.00	0.00	0.00

Total Non-combustion VOC Emissions (tons)	**0.00**

Total Non-combustion Acetaldehyde Emissions (tons)	**0.00**

Total Non-combustion CO2e Emissions (tons)	**0.00**

NOTES

[1] Based on the formula in AP-42 Section 9.9.6 - Pounds VOC per ton of baked bread = 0.95(Yi)+0.195(ti)-0.51(S)-0.86(ts)+1.90

[2] Acetaldehyde is the only HAP emitted during the process. Acetaldehyde emissions based on 3% of VOC's per communication from John Chikkala, MPCA, April 23, 2008

[3] Reference: EPA 453/R-92-017, section 2.3 Air Emissions. Alternative Control Technology Document for Bakery Oven Emissions. When estimating CO2 emissions from bread baking, the equation uses the given that ethanol makes up 92% of the VOCs emitted in bread making. During yeast fermentation, 100 pounds of sugar is converted into 47 lbs CO2 compared to 49 lbs ethanol. CO2 emissions (tons) are calculated by the equation: (Total VOC) *0.92*(47/49).

Baldinger Bakery, 1256 Phalen Blvd., St. Paul, MN

Source ID	Product Name	(Yi) Intial Yeast as a % of Flour	(ti) Total Ferment Time in Hours	(S) Yeast Spike as a % Flour	(ts) Spike Time in Hours	VOC Emission Factor[1] (lbs/ton baked bread)	Total Units	Unit dough weight (pounds)	Bake out loss	Total Baked Product (tons)	Total VOC Emissions (tons)	Total HAP[2] Emissions (tons)	$CO2e^3$ Emissions TPY
Oven 1	Buns	4.6	1.5	4.5	1.35	3.11		1.5	12%	0	0.00	0.00	0.00
Oven 2	Buns	4.6	1.5	4.5	1.35	3.11		1.5	12%	0	0.00	0.00	0.00

Total Non-combustion VOC Emissions (tons)	**0.00**

Total Non-combustion Acetaldehyde Emissions (tons)	**0.00**

Total Non-combustion CO2e Emissions (tons)	**0.00**

NOTES

[1] Based on the formula in AP-42 Section 9.9.6 - Pounds VOC per ton of baked bread = 0.95(Yi)+0.195(ti)-0.51(S)-0.86(ts)+1.90

[2] Acetaldehyde is the only HAP emitted during the process. Acetaldehyde emissions based on 3% of VOC's per communication from John Chikkala, MPCA, April 23, 2008

[3] Reference: EPA 453/R-92-017, section 2.3 Air Emissions. Alternative Control Technology Document for Bakery Oven Emissions. When estimating CO2 emissions from bread baking, the equation uses the given that ethanol makes up 92% of the VOCs emitted in bread making. During yeast fermentation, 100 pounds of sugar is converted into 47 lbs CO2 compared to 49 lbs ethanol. CO2 emissions (tons) are calculated by the equation: (Total VOC) *0.92*(47/49).

Baldinger Bakery, 1256 Phalen Blvd., St. Paul, MN

Source ID	Product Name	(Yi) Intial Yeast as a % of Flour	(ti) Total Ferment Time in Hours	(S) Yeast Spike as a % Flour	(ts) Spike Time in Hours	VOC Emission Factor[1] (lbs/ton baked bread)	Total Units	Unit dough weight (pounds)	Bake out loss	Total Baked Product (tons)	Total VOC Emissions (tons)	Total HAP[2] Emissions (tons)	CO2e[3] Emissions TPY
Oven 1	Buns	4.6	1.5	4.5	1.35	3.11		1.5	12%	0	0.00	0.00	0.00
Oven 2	Buns	4.6	1.5	4.5	1.35	3.11		1.5	12%	0	0.00	0.00	0.00

Total Non-combustion VOC Emissions (tons)	0.00

Total Non-combustion Acetaldehyde Emissions (tons)	0.00

Total Non-combustion CO2e Emissions (tons)	0.00

NOTES

[1] Based on the formula in AP-42 Section 9.9.6 - Pounds VOC per ton of baked bread = 0.95(Yi)+0.195(ti)-0.51(S)-0.86(ts)+1.90

[2] Acetaldehyde is the only HAP emitted during the process. Acetaldehyde emissions based on 3% of VOC's per communication from John Chikkala, MPCA, April 23, 2008

[3] Reference: EPA 453/R-92-017, section 2.3 Air Emissions. Alternative Control Technology Document for Bakery Oven Emissions. When estimating CO2 emissions from bread baking, the equation uses the given that ethanol makes up 92% of the VOCs emitted in bread making. During yeast fermentation, 100 pounds of sugar is converted into 47 lbs CO2 compared to 49 lbs ethanol. CO2 emissions (tons) are calculated by the equation: (Total VOC) *0.92*(47/49).

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

Alternate Format

1a) AQ Facility ID number: 12300764 1b) Agency Interest ID number: 131464

2) Facility name: Baldinger Bakery

You may use and submit this spreadsheet in place of Form GI-07. Follow the instructions for Form GI-07 to complete this spreadsheet. This spreadsheet can be copied into a tab for your emissions spreadsheet i more emissions units, add more sets of columns (3a through 3f) to the right as needed in the Emissions by Source table. If you need to provide information for more pollutants, add rows as needed.

Emissions by Source Table

3a) Delta ID number: EU001						**3a)** Delta ID number: EU002					
3b) Tempo SI ID No.:						**3b)** Tempo SI ID No.:					
3c) Pollutant Name	**3d)** CAS #	**3e)** Potential lbs per Hr	**3e)** Potential tpy un-restricted	**3e)** Potential tpy limited	**3f)** Actual tpy	**3c)** Pollutant Name	**3d)** CAS #	**3e)** Potential lbs per Hr	**3e)** Potential tpy un-restricted	**3e)** Potential tpy limited	**3f)** Actual tpy
PM		0.05	0.24			PM		0.05	0.24		
PM10		0.05	0.24			PM10		0.05	0.24		
PM2.5		0.05	0.24			PM2.5		0.05	0.24		
SO2	744-09-5	0.00	0.02			SO2	744-09-5	0.00	0.02		
NOx		0.72	3.16			NOx		0.72	3.16		
VOC		0.04	41.01			VOC		0.04	13.79		
CO	7440-48-4	0.61	2.65			CO	7440-48-4	0.61	2.65		
CO2	124-38-9	866.02	3793.16			CO2	124-38-9	866.02	3793.16		
CH4	74-82-8	0.41	1.79			CH4	74-82-8	0.41	1.79		
N2O	10024-97-2	0.49	2.13			N2O	10024-97-2	0.49	2.13		
Benzene	71-43-2	0.00	0.00			Benzene	71-43-2	0.00	0.00		
Butane	106-97-8	0.02	0.07			Butane	106-97-8	0.02	0.07		
Dichlorobenzene	25321-22-6	0.00	0.00			Dichlorobenzene	25321-22-6	0.00	0.00		
Ethane	75-84-0	0.02	0.10			Ethane	75-84-0	0.02	0.10		
Formaldehyde	50-00-0	0.00	0.00			Formaldehyde	50-00-0	0.00	0.00		
Hexane	110-54-3	0.01	0.06			Hexane	110-54-3	0.01	0.06		
Naphthalene	91-20-3	0.00	0.00			Naphthalene	91-20-3	0.00	0.00		
Pentane	109-66-0	0.02	0.08			Pentane	109-66-0	0.02	0.08		
Propane	74-98-6	0.01	0.05			Propane	74-98-6	0.01	0.05		
Toluene	108-88-3	0.00	0.00			Toluene	108-88-3	0.00	0.00		
Acenaphthene	83-32-9	0.00	0.00			Acenaphthene	83-32-9	0.00	0.00		

GI-07 Spreadsheet

Facility Emissions Summary

Air Quality Permit Program

Doc Type: Permit Application

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and must be submitted on a CD with your application. If you need to provide emissions information for

3a) Delta ID number: EU003					
3b) Tempo SI ID No.:					
3c) Pollutant Name	**3d)** CAS #	**3e)** Potential lbs per Hr	**3e)** Potential tpy un-restricted	**3e)** Potential tpy limited	**3f)** Actual tpy
PM		0.01	0.05		
PM10		0.01	0.05		
PM2.5		0.01	0.05		
SO2	744-09-5	0.00	0.00		
NOx		0.16	0.72		
VOC		0.01	0.04		
CO	7440-43-4	0.14	0.60		
CO2	124-38-9	197.09	863.25		
CH4	74-82-8	0.09	0.41		
N2O	10024-97-2	0.11	0.48		
Benzene	71-43-2	0.00	0.00		
Butane	106-97-8	0.00	0.02		
Dichlorobenzene	25321-22-6	0.00	0.00		
Ethane	75-84-0	0.01	0.02		
Formaldehyde	50-00-0	0.00	0.00		
Hexane	110-54-3	0.00	0.01		
Naphthalene	91-20-3	0.00	0.00		
Pentane	109-66-0	0.00	0.02		
Propane	74-98-6	0.00	0.01		
Toluene	108-88-3	0.00	0.00		
Acenaphthene	83-32-9	0.00	0.00		

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

Alternate Format

1a) AQ Facility ID number: 12300764 1b) Agency Interest ID number: 131464

2) Facility name: Baldinger Bakery

Emissions by Source Table

3a) Delta ID number: EU004						3a) Delta ID number: EU005					
3b) Tempo SI ID No.:						3b) Tempo SI ID No.:					
3c) Pollutant Name	3d) CAS #	3e) Potential lbs per Hr	3e) Potential tpy un-restricted	3e) Potential tpy limited	3f) Actual tpy	3c) Pollutant Name	3d) CAS #	3e) Potential lbs per Hr	3e) Potential tpy un-restricted	3e) Potential tpy limited	3f) Actual tpy
PM		0.01	0.04			PM		0.01	0.04		
PM10		0.01	0.04			PM10		0.01	0.04		
PM2.5		0.01	0.04			PM2.5		0.01	0.04		
SO2	744-09-5	0.00	0.00			SO2	744-09-5	0.00	0.00		
NOx		0.12	0.54			NOx		0.12	0.54		
VOC		0.01	0.03			VOC		0.01	0.03		
CO	7440-48-4	0.10	0.45			CO	7440-48-4	0.10	0.45		
CO2	124-38-9	148.26	649.37			CO2	124-38-9	148.26	649.37		
CH4	74-82-8	0.07	0.31			CH4	74-82-8	0.07	0.31		
N2O	10024-97-2	0.08	0.36			N2O	10024-97-2	0.08	0.36		
Benzene	71-43-2	0.00	0.00			Benzene	71-43-2	0.00	0.00		
Butane	106-97-8	0.00	0.01			Butane	106-97-8	0.00	0.01		
Dichlorobenzene	25321-22-6	0.00	0.00			Dichlorobenzene	25321-22-6	0.00	0.00		
Ethane	75-84-0	0.00	0.02			Ethane	75-84-0	0.00	0.02		
Formaldehyde	50-00-0	0.00	0.00			Formaldehyde	50-00-0	0.00	0.00		
Hexane	110-54-3	0.00	0.01			Hexane	110-54-3	0.00	0.01		
Naphthalene	91-20-3	0.00	0.00			Naphthalene	91-20-3	0.00	0.00		
Pentane	109-66-0	0.00	0.01			Pentane	109-66-0	0.00	0.01		
Propane	74-98-6	0.00	0.01			Propane	74-98-6	0.00	0.01		
Toluene	108-88-3	0.00	0.00			Toluene	108-88-3	0.00	0.00		
Acenaphthene	83-32-9	0.00	0.00			Acenaphthene	83-32-9	0.00	0.00		

GI-07 Spreadsheet

Facility Emissions Summary

Air Quality Permit Program

Doc Type: Permit Application

Emissions by Source Table

3a) Delta ID number: EU006				
3b) Tempo SI ID No.:				
3c) Pollutant Name	**3d)** CAS #	**3e)** Potential lbs per Hr	tpy un-restricted	tpy limited
PM		0.00	0.01	
PM10		0.00	0.01	
PM2.5		0.00	0.01	
SO2	744-09-5	0.00	0.00	
NOx		0.04	0.17	
VOC		0.00	0.01	
CO	7440-43-4	0.03	0.14	
CO2	124-38-9	47.07	206.15	
CH4	74-82-8	0.02	0.10	
N2O	10024-97-2	0.03	0.12	
Benzene	71-43-2	0.00	0.00	
Butane	106-97-8	0.00	0.00	
Dichlorobenzene	25321-22-6	0.00	0.00	
Ethane	75-84-0	0.00	0.01	
Formaldehyde	50-00-0	0.00	0.00	
Hexane	110-54-3	0.00	0.00	
Naphthalene	91-20-3	0.00	0.00	
Pentane	109-66-0	0.00	0.00	
Propane	74-98-6	0.00	0.00	
Toluene	108-88-3	0.00	0.00	
Acenaphthene	83-32-9	0.00	0.00	

Table 1
Unrestricted PTE from Combustion
Baldinger Bakery
St Paul MN

Criteria Pollutants Unrestricted Potential to Emit

	Pollutant (TPY)								
Emission Unit	PM	PM_{10}	$PM_{2.5}$	SO2	NO_X	VOC	CO	CO_{2e}	Total VOC
EU001 Oven 1	2.40E-01	2.40E-01	2.40E-01	1.90E-02	3.14E+00	0.17	3.65E+00	3.83E+03	4.11E+01
EU002 Oven 2	2.40E-01	2.40E-01	2.40E-01	1.90E-02	3.14E+00	0.17	3.65E+00	3.81E+03	1.38E+01
EU003 Boiler 1	5.47E-02	5.47E-02	5.47E-02	4.33E-03	7.19E-01	0.04	8.84E-01	8.84E+02	
EU004 Boiler 2	4.11E-02	4.11E-02	4.11E-02	3.25E-03	5.41E-01	0.03	6.54E-01	6.76E+02	
EU005 Boiler 3	4.11E-02	4.11E-02	4.11E-02	3.25E-03	5.41E-01	0.03	6.54E-01	6.76E+02	
EU006 Boiler 4	1.31E-02	1.31E-02	1.31E-02	1.03E-03	1.72E-01	0.01	1.44E-01	1.86E+02	
EU007 Boiler 5	1.31E-02	1.31E-02	1.31E-02	1.03E-03	1.72E-01	0.01	1.44E-01	2.06E+02	
EU008 Boiler 6	1.31E-02	1.31E-02	1.31E-02	1.93E-03	1.72E-01	0.01	1.44E-01	2.06E+02	
EU009 Boiler 7	1.31E-02	1.31E-02	1.31E-02	1.03E-03	1.72E-01	0.01	1.44E-01	2.06E+02	
EU010 Boiler 8	1.31E-02	1.31E-02	1.31E-02	1.03E-03	1.72E-01	0.01	1.44E-01	2.06E+02	
EU011 Boiler 9	1.31E-02	1.31E-02	1.31E-02	1.03E-03	1.72E-01	0.01	1.44E-01	2.06E+02	
EU015 Roof Top Unit 4	2.09E-01	2.09E-01	2.09E-01	1.65E-02	2.75E-01	0.01	2.31E-01	3.30E+02	
EU016 Roof Top Unit 6	8.81E-03	8.81E-03	8.81E-03	6.96E-04	1.16E-01	0.01	9.74E-02	1.39E+02	
EU017 Roof Top Unit 7	1.04E-01	1.04E-01	1.04E-01	8.24E-04	1.37E-01	0.01	1.15E-01	1.65E+02	
EU018 Roof Top Unit 8	8.81E-03	8.81E-03	8.81E-03	6.96E-04	1.16E-01	0.01	9.74E-02	1.39E+02	
GP001 Water Heaters	5.22E-02	5.22E-02	5.22E-02	4.12E-03	6.87E-01	0.04	5.77E-01	8.26E+02	
Total Facility Emissions	0.80	0.80	0.80	0.06	10.48	1	0.91	12644.66	55

Actual Emissions from 2022 Non-combustion Processes

Source ID	Product Name	(VI) Initial Yeast as a % of Flour	(fii) Total Ferment Time in Hours	(S) Yeast Spike as a % Flour	(ts) Spike Time in Hours	VOC Emission Factor[1] (lbs/ton baked bread)	Total Units	Unit dough weight (pounds)	Bake out loss	Total Baked Product (tons)	Total VOC Emissions (tons)	Total HAP[2] Emissions (tons)
Oven 1	Buns	4.6	1.5	4.5	1.35	3.11	99,960,583	1.5	12%	26,324	40.87	1.23
Oven 2	Buns	4.6	1.5	4.5	1.35	3.11	13,320,227	1.5	12%	8,791	13.66	0.41

Total Non-combustion VOC Emissions (tons)	54.62
Total Non-combustion Acetaldehyde Emissions (tons)	1.64
Total Non-combustion CO2e Emissions (tons)	48.19

NOTES
[1] Based on the formula in AP-42 Section 9.9.6 - Pounds VOC per ton of baked bread = 0.95(Yi)+0.195(fii)-0.51(S)-0.86(ts)+1.90
[2] Acetaldehyde is the only HAP emitted during the process. Acetaldehyde emissions based on 3% of VOC's per communication from John Chikkala, MPCA, April 25, 2008
[3] Reference: EPA 453/R-92-017, section 2.3 Air Emissions, Alternative Control Technology Document for Bakery Oven Emissions. When estimating CO2 emissions from bread baking, the equation uses the given that ethanol makes up 92% of the VOCs emitted as bread making. During yeast fermentation, 100 pounds of sugar is converted into 47 lbs CO2 compared to 49 lbs ethanol. CO2 emissions (tons) are calculated by the equation: (Total VOC) *0.92*(47/49).

Hazardous Air Pollutants Unrestricted Potential to Emit

Emission Units	EU001 Oven 1	EU002 Oven 2	EU003 Boiler 1	EU004 Boiler 2	EU005 Boiler 3	EU006 Boiler 4	EU007 Boiler 5	EU008 Boiler 6	EU009 Boiler 7	EU010 Boiler 8	EU011 Boiler 9	EU015 Roof Top Unit 4	EU016 Roof Top Unit 6	EU017 Roof Top Unit 7	EU018 Roof Top Unit 8	EU003, EU013 EU029 and EU030 Water Heaters	Facility Total HAPs	Max Single HAP
Total HAPs by Unit	TPY 0.36	TPY 0.36	TPY 0.08	TPY 0.06	TPY 0.06	TPY 0.019	TPY 0.019	TPY 0.019	TPY 0.02	TPY 0.02	TPY 0.02	TPY 0.03	TPY 0.01	TPY 0.016	TPY 0.013	TPY 0.08	TPY 1.19	TPY 3.25E-01
Pollutant																		Single HAPs
Benzene	6.62E-05	6.64E-05	1.52E-05	1.14E-05	1.13E-05	3.61E-06	3.61E-06	3.61E-06	3.61E-06	3.61E-06	3.61E-06	5.77E-05	2.43E-06	2.89E-06	2.43E-06	1.48E-05	2.20E-04	2.20E-04
Butane	6.64E-02	6.84E-02	1.51E-02	1.14E-02	1.13E-02	3.61E-03	3.61E-03	3.61E-03	3.61E-03	3.61E-03	3.61E-03	5.77E-03	2.43E-03	2.89E-03	2.43E-03	1.48E-02	2.20E-01	2.20E-01
Dichlorobenzene	3.79E-05	3.79E-05	8.63E-06	6.49E-06	6.45E-06	2.06E-06	2.06E-06	2.06E-06	2.06E-06	2.06E-06	2.06E-06	3.30E-06	1.39E-06	1.65E-06	1.39E-06	8.24E-06	1.26E-04	1.26E-04
Ethane	9.80E-02	9.80E-02	2.23E-02	1.68E-02	1.68E-02	5.32E-03	5.32E-03	5.32E-03	5.32E-03	5.32E-03	5.32E-03	8.52E-03	3.59E-03	4.26E-03	3.59E-03	2.18E-02	3.25E-01	3.24E-01
Formaldehyde	2.37E-03	2.37E-03	5.39E-04	4.06E-04	4.06E-04	1.29E-04	1.29E-04	1.29E-04	1.29E-04	1.29E-04	1.29E-04	2.06E-04	8.70E-05	1.03E-04	8.70E-05	5.15E-04	7.86E-03	7.86E-03
Hexane	5.66E-02	5.68E-02	1.29E-02	9.74E-03	9.74E-03	3.08E-03	3.08E-03	3.08E-03	3.08E-03	3.08E-03	3.08E-03	4.95E-03	2.09E-03	2.47E-03	2.09E-03	1.24E-02	1.89E-01	1.89E-01
Naphthalene	1.81E-03	1.81E-03	4.29E-04	3.24E-04	3.24E-04	1.03E-04	1.03E-04	1.03E-04	1.03E-04	1.03E-04	1.03E-04	1.65E-04	6.96E-05	8.24E-05	6.96E-05	4.12E-04	6.40E-03	6.40E-03
Pentane	8.27E-02	8.27E-02	1.87E-02	1.41E-02	1.41E-02	4.47E-03	4.47E-03	4.47E-03	4.47E-03	4.47E-03	4.47E-03	7.19E-03	3.01E-03	3.57E-03	3.01E-03	1.79E-02	2.73E-01	2.73E-01
Propane	5.06E-02	5.06E-02	1.15E-02	8.66E-03	8.66E-03	2.75E-03	2.75E-03	2.75E-03	2.75E-03	2.75E-03	2.75E-03	4.40E-03	1.86E-03	2.20E-03	1.86E-03	1.10E-02	1.68E-01	1.68E-01
Toluene	1.87E-04	1.87E-04	2.43E-05	1.84E-05	1.84E-05	5.84E-06	5.84E-06	5.84E-06	5.84E-06	5.84E-06	5.84E-06	9.34E-06	3.94E-06	4.67E-06	3.94E-06	2.34E-05	3.56E-04	3.56E-04
Acetaldehyde	1.89E-08	1.89E-08	1.25E-08	9.74E-09	9.74E-09	1.89E-09	1.89E-09	1.89E-09	1.89E-09	1.89E-09	1.89E-09	4.85E-09	2.09E-09	2.47E-09	2.09E-09	1.24E-08	1.89E-07	1.89E-07
Acetaldehyde-free	1.89E-08	1.89E-08	1.25E-08	9.74E-09	9.74E-09	1.89E-09	1.89E-09	1.89E-09	1.89E-09	1.89E-09	1.89E-09	4.85E-09	2.09E-09	2.47E-09	2.09E-09	1.24E-08	1.89E-07	1.89E-07
Anthracene	7.56E-08	7.56E-08	1.73E-08	1.30E-08	1.30E-08	4.12E-09	4.12E-09	4.12E-09	4.12E-09	4.12E-09	4.12E-09	6.60E-09	2.78E-09	3.30E-09	2.78E-09	1.65E-08	2.52E-07	2.52E-07
Benz(a)anthracene	3.69E-08	3.69E-08	1.29E-08	9.74E-09	9.74E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	4.95E-09	2.09E-09	2.47E-09	2.09E-09	1.24E-08	1.89E-07	1.89E-07
Benzo(a)pyrene	3.79E-08	3.79E-08	8.63E-09	6.49E-09	6.49E-09	2.06E-09	2.06E-09	2.06E-09	2.06E-09	2.06E-09	2.06E-09	3.30E-09	1.39E-09	1.65E-09	1.39E-09	8.24E-09	1.26E-07	1.26E-07
Benzo(b)fluoranthene	3.69E-08	3.69E-08	1.29E-08	9.74E-09	9.74E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	4.95E-09	2.09E-09	2.47E-09	2.09E-09	1.24E-08	1.89E-07	1.89E-07
Benzo(g,h,i)perylene	3.79E-08	3.79E-08	8.63E-09	6.49E-09	6.49E-09	2.06E-09	2.06E-09	2.06E-09	2.06E-09	2.06E-09	2.06E-09	3.30E-09	1.39E-09	1.65E-09	1.39E-09	8.24E-09	1.26E-07	1.26E-07
Benzo(k)fluoranthene	3.69E-08	3.69E-08	1.29E-08	9.74E-09	9.74E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	4.95E-09	2.09E-09	2.47E-09	2.09E-09	1.24E-08	1.89E-07	1.89E-07
Chrysene	3.69E-08	3.69E-08	1.29E-08	9.74E-09	9.74E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	4.95E-09	2.09E-09	2.47E-09	2.09E-09	1.24E-08	1.89E-07	1.89E-07
Dibenz(a,h)anthracene	3.79E-08	3.79E-08	8.63E-09	6.49E-09	6.49E-09	2.06E-09	2.06E-09	2.06E-09	2.06E-09	2.06E-09	2.06E-09	3.30E-09	1.39E-09	1.65E-09	1.39E-09	8.24E-09	1.26E-07	1.26E-07
7,12-Dimethylbenz(a)anthracene	5.66E-07	5.66E-07	1.17E-07	8.66E-08	8.66E-08	2.75E-08	2.75E-08	2.75E-08	2.75E-08	2.75E-08	2.75E-08	4.40E-08	1.86E-08	2.20E-08	1.86E-08	1.10E-07	1.68E-06	1.68E-06
Fluoranthene	9.45E-08	9.46E-08	2.16E-08	1.62E-08	1.62E-08	5.15E-09	5.15E-09	5.15E-09	5.15E-09	5.15E-09	5.15E-09	8.24E-09	3.48E-09	4.12E-09	3.48E-09	2.06E-08	3.15E-07	3.15E-07
Fluorene	8.87E-08	8.87E-08	2.01E-08	1.51E-08	1.51E-08	4.81E-09	4.81E-09	4.81E-09	4.81E-09	4.81E-09	4.81E-09	7.70E-09	3.25E-09	3.85E-09	3.25E-09	1.92E-08	2.94E-07	2.94E-07
Indeno(1,2,3-cd)pyrene	3.69E-08	3.69E-08	1.29E-08	9.74E-09	9.74E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	4.95E-09	2.09E-09	2.47E-09	2.09E-09	1.24E-08	1.89E-07	1.89E-07
2-Methylnaphthalene	7.39E-07	7.39E-07	1.73E-07	1.30E-07	1.30E-07	4.12E-08	4.12E-08	4.12E-08	4.12E-08	4.12E-08	4.12E-08	6.60E-08	2.78E-08	3.30E-08	2.78E-08	1.65E-07	2.52E-06	2.52E-06
3-Methylchloranthrene	5.66E-08	5.66E-08	1.29E-08	9.74E-09	9.74E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	3.09E-09	4.95E-09	2.09E-09	2.47E-09	2.09E-09	1.24E-08	1.89E-07	1.89E-07
Pentachloroethane	9.37E-07	9.37E-07	2.22E-07	9.29E-08	9.29E-08	2.85E-08	2.92E-08	2.85E-08	2.92E-08	2.92E-08	2.92E-08	2.92E-08	3.09E-08	4.67E-08	1.87E-08	2.34E-08	1.87E-08	1.17E-07	1.78E-06	1.78E-06
Pyrene	1.58E-07	1.58E-07	3.60E-07	2.71E-07	2.71E-07	8.59E-08	8.59E-08	8.59E-08	8.59E-08	8.59E-08	8.59E-08	1.37E-07	5.80E-08	6.87E-08	5.80E-08	3.44E-07	5.24E-06	5.24E-06
Arsenic	6.32E-06	6.32E-06	1.44E-06	1.08E-06	1.08E-06	3.44E-07	3.44E-07	3.44E-07	3.44E-07	3.44E-07	3.44E-07	5.50E-07	2.32E-07	2.75E-07	2.32E-07	1.37E-06	2.10E-05	2.10E-05
Barium	1.37E-04	1.39E-04	3.14E-05	2.36E-05	2.36E-05	7.50E-06	7.50E-06	7.50E-06	7.50E-06	7.50E-06	7.50E-06	1.21E-05	5.10E-06	6.00E-06	5.10E-06	3.01E-05	4.61E-04	4.61E-04
Beryllium	3.79E-07	3.79E-07	8.63E-08	6.49E-08	6.49E-08	2.06E-08	2.06E-08	2.06E-08	2.06E-08	2.06E-08	2.06E-08	3.30E-08	1.39E-08	1.65E-08	1.39E-08	8.24E-08	1.26E-06	1.26E-06
Cadmium	3.48E-05	3.48E-05	7.91E-06	5.95E-06	5.95E-06	1.89E-06	1.89E-06	1.89E-06	1.89E-06	1.89E-06	1.89E-06	3.02E-06	1.28E-06	1.51E-06	1.28E-06	7.56E-06	1.15E-04	1.15E-04
Chromium	4.42E-05	4.42E-05	1.01E-05	7.57E-06	7.57E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	3.85E-06	1.62E-06	1.92E-06	1.62E-06	9.62E-06	1.47E-04	1.47E-04
Cobalt	2.83E-06	2.83E-06	6.46E-07	4.84E-07	4.84E-07	1.54E-07	1.54E-07	1.54E-07	1.54E-07	1.54E-07	1.54E-07	2.31E-07	9.74E-08	1.15E-07	9.74E-08	5.77E-07	8.81E-06	8.81E-06
Copper	3.69E-05	3.69E-05	8.41E-06	6.30E-06	6.30E-06	1.80E-06	1.80E-06	1.80E-06	1.80E-06	1.80E-06	1.80E-06	2.70E-06	1.09E-06	1.35E-06	1.09E-06	6.75E-06	1.03E-04	1.03E-04
Lead	1.58E-05	1.58E-05	3.60E-06	2.71E-06	2.71E-06	8.59E-07	8.59E-07	8.59E-07	8.59E-07	8.59E-07	8.59E-07	1.37E-06	5.80E-07	6.87E-07	5.80E-07	3.44E-06	5.24E-05	5.24E-05
Manganese	1.20E-05	1.20E-05	2.73E-06	2.06E-06	2.06E-06	6.53E-07	6.53E-07	6.53E-07	6.53E-07	6.53E-07	6.53E-07	1.04E-06	4.41E-07	5.22E-07	4.41E-07	2.61E-06	3.98E-05	3.98E-05
Mercury	8.27E-06	8.27E-06	1.87E-06	1.41E-06	1.41E-06	4.47E-07	4.47E-07	4.47E-07	4.47E-07	4.47E-07	4.47E-07	7.19E-07	3.01E-07	3.57E-07	3.01E-07	1.79E-06	2.73E-05	2.73E-05
Methylchloranthrene	3.48E-05	3.48E-05	7.91E-06	5.95E-06	5.95E-06	1.89E-06	1.89E-06	1.89E-06	1.89E-06	1.89E-06	1.89E-06	3.02E-06	1.28E-06	1.51E-06	1.28E-06	7.56E-06	1.15E-04	1.15E-04
Nickel	6.64E-05	6.64E-05	1.51E-05	1.14E-05	1.14E-05	3.61E-06	3.61E-06	3.61E-06	3.61E-06	3.61E-06	3.61E-06	5.77E-06	2.43E-06	2.89E-06	2.43E-06	1.44E-05	2.20E-04	2.20E-04
Selenium	7.56E-07	7.56E-07	1.73E-07	1.30E-07	1.30E-07	4.12E-08	4.12E-08	4.12E-08	4.12E-08	4.12E-08	4.12E-08	6.60E-08	2.78E-08	3.30E-08	2.78E-08	1.65E-07	2.52E-06	2.52E-06
Vanadium	7.27E-05	7.27E-05	1.65E-05	1.24E-05	1.24E-05	3.95E-06	3.95E-06	3.95E-06	3.95E-06	3.95E-06	3.95E-06	6.32E-06	2.67E-06	3.16E-06	2.67E-06	1.58E-05	2.41E-04	2.41E-04
Zinc	9.17E-04	9.17E-04	2.09E-04	1.57E-04	1.57E-04	4.98E-05	4.98E-05	4.98E-05	4.98E-05	4.98E-05	4.98E-05	7.97E-05	3.36E-05	3.98E-05	3.36E-05	1.99E-04	3.04E-03	3.04E-03

Table 2
Oven 1 Combustion Emissions
STRU001
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	Bakelech		Baldinger Bakery
Model	NA		
Maximum Heat Input	7.36	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0072	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	63.21	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
PM		7.60	5.48E-02	0.24	A
PM_{10}		7.60	5.48E-02	0.24	A
$PM_{2.5}$		7.60	5.48E-02	0.24	A
SO_2	744-09-5	0.60	4.33E-03	0.02	A
NO_x		100	7.22E-01	3.16	B
VOC		5.50	3.97E-02	0.17	A
CO	7440-48-4	84	6.06E-01	2.65	B

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Greenhouse Gas (CO_2e)					G
CO_2	124-38-9	120,019	866.02	3793	E
CH_4	74-82-8	2.26	0.408	1.79	F
N_2O	10024-97-2	0.23	0.486	2.13	F

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	1.52E-05	6.64E-05	C
Butane	106-97-8	2.10E+00	1.52E-02	6.64E-02	C
Dichlorobenzene	25321-22-6	1.20E-03	8.66E-06	3.79E-05	C
Ethane	75-84-0	3.10E+00	2.24E-02	9.80E-02	C
Formaldehyde	50-00-0	7.50E-02	5.41E-04	2.37E-03	C
Hexane	110-54-3	1.80E+00	1.30E-02	5.69E-02	C
Naphthalene	91-20-3	6.10E-04	4.40E-06	1.93E-05	C
Pentane	109-66-0	2.60E+00	1.88E-02	8.22E-02	C
Propane	74-98-6	1.60E+00	1.15E-02	5.06E-02	C
Toluene	108-88-3	3.40E-03	2.45E-05	1.07E-04	C
Acenaphthene	83-32-9	1.80E-06	1.30E-08	5.69E-08	C
Acenaphthylene	203-96-8	1.80E-06	1.30E-08	5.69E-08	C
Anthracene	120-12-7	2.40E-06	1.73E-08	7.59E-08	C
Benz(a)anthracene	56-55-3	1.80E-06	1.30E-08	5.69E-08	C
Benzo(a)pyrene	50-32-8	1.20E-06	8.66E-09	3.79E-08	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	1.30E-08	5.69E-08	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	8.66E-09	3.79E-08	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	1.30E-08	5.69E-08	C
Chrysene	218-01-9	1.80E-06	1.30E-08	5.69E-08	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	8.66E-09	3.79E-08	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	1.15E-07	5.06E-07	C
Fluoranthene	206-44-0	3.00E-06	2.16E-08	9.48E-08	C
Fluorene	86-73-7	2.80E-06	2.02E-08	8.85E-08	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	1.30E-08	5.69E-08	C
2-Methylnaphthalene	91-57-6	2.40E-05	1.73E-07	7.59E-07	C
3-Methylchloranthrene	56-49-5	1.80E-06	1.30E-08	5.69E-08	C
Phenanthrene	85-01-8	1.70E-05	1.23E-07	5.37E-07	C
Pyrene	129-00-0	5.00E-05	3.61E-07	1.58E-06	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	1.44E-06	6.32E-06	D
Barium	7440-39-3	4.40E-03	3.17E-05	1.39E-04	D
Beryllium	7440-41-7	1.20E-05	8.66E-08	3.79E-07	D
Cadmium	7440-43-9	1.10E-03	7.94E-06	3.48E-05	D
Chromium	7440-47-3	1.40E-03	1.01E-05	4.42E-05	D
Cobalt	7440-48-4	8.40E-05	6.06E-07	2.65E-06	D
Copper	7440-50-8	8.50E-04	6.13E-06	2.69E-05	D
Lead	7139-92-1	5.00E-04	3.61E-06	1.58E-05	D
Manganese	7439-96-5	3.80E-04	2.74E-06	1.20E-05	D
Mercury	7439-97-6	2.60E-04	1.88E-06	8.22E-06	D
Molybdenum	7439-98-7	1.10E-03	7.94E-06	3.48E-05	D
Nickel	7440-02-0	2.10E-03	1.52E-05	6.64E-05	D
Selenium	7782-49-2	2.40E-05	1.73E-07	7.59E-07	D
Vanadium	7440-62-2	2.30E-03	1.66E-05	7.27E-05	D
Zinc	7440-66-6	2.90E-02	2.09E-04	9.17E-04	D
Max. Single HAP				**9.80E-02**	H
Total HAP				**0.36**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1: CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 3
Oven 2 Combustion Emissions
STRU002
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	Baketech		Baldinger Bakery
Model	NA		
Maximum Heat Input	7.36	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0072	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	63.21	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
PM		7.60	5.48E-02	2.40E-01	A					
PM_{10}		7.60	5.48E-02	2.40E-01	A					
$PM_{2.5}$		7.60	5.48E-02	2.40E-01	A					
SO_2	744-09-5	0.60	4.33E-03	1.90E-02	A					
NO_x		100	7.22E-01	3.16E+00	B					
VOC		5.50	3.97E-02	1.74E-01	A					
CO	7440-48-4	84	6.06E-01	2.65E+00	B					

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
Greenhouse Gas (CO_2e)					G					
CO_2	124-38-9	120,019	866.02	3793	E					
CH_4	74-82-8	2.26	0.408	1.79	F					
N_2O	10024-97-2	0.23	0.486	2.13	F					

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	1.52E-05	6.64E-05	C
Butane	106-97-8	2.10E+00	1.52E-02	6.64E-02	C
Dichlorobenzene	25321-22-6	1.20E-03	8.66E-06	3.79E-05	C
Ethane	75-84-0	3.10E+00	2.24E-02	9.80E-02	C
Formaldehyde	50-00-0	7.50E-02	5.41E-04	2.37E-03	C
Hexane	110-54-3	1.80E+00	1.30E-02	5.69E-02	C
Naphthalene	91-20-3	6.10E-04	4.40E-06	1.93E-05	C
Pentane	109-66-0	2.60E+00	1.88E-02	8.22E-02	C
Propane	74-98-6	1.60E+00	1.15E-02	5.06E-02	C
Toluene	108-88-3	3.40E-03	2.45E-05	1.07E-04	C
Acenaphthene	83-32-9	1.80E-06	1.30E-08	5.69E-08	C
Acenaphthylene	203-96-8	1.80E-06	1.30E-08	5.69E-08	C
Anthracene	120-12-7	2.40E-06	1.73E-08	7.59E-08	C
Benz(a)anthracene	56-55-3	1.80E-06	1.30E-08	5.69E-08	C
Benzo(a)pyrene	50-32-8	1.20E-06	8.66E-09	3.79E-08	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	1.30E-08	5.69E-08	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	8.66E-09	3.79E-08	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	1.30E-08	5.69E-08	C
Chrysene	218-01-9	1.80E-06	1.30E-08	5.69E-08	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	8.66E-09	3.79E-08	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	1.15E-07	5.06E-07	C
Fluoranthene	206-44-0	3.00E-06	2.16E-08	9.48E-08	C
Fluorene	86-73-7	2.80E-06	2.02E-08	8.85E-08	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	1.30E-08	5.69E-08	C
2-Methylnaphthalene	91-57-6	2.40E-05	1.73E-07	7.59E-07	C
3-Methylcholoranthrene	56-49-5	1.80E-06	1.30E-08	5.69E-08	C
Phenanthrene	85-01-8	1.70E-05	1.23E-07	5.37E-07	C
Pyrene	129-00-0	5.00E-05	3.61E-07	1.58E-06	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	1.44E-06	6.32E-06	D
Barium	7440-39-3	4.40E-03	3.17E-05	1.39E-04	D
Beryllium	7440-41-7	1.20E-05	8.66E-08	3.79E-07	D
Cadmium	7440-43-9	1.10E-03	7.94E-06	3.48E-05	D
Chromium	7440-47-3	1.40E-03	1.01E-05	4.42E-05	D
Cobalt	7440-48-4	8.40E-05	6.06E-07	2.65E-06	D
Copper	7440-50-8	8.50E-04	6.13E-06	2.69E-05	D
Lead	7139-92-1	5.00E-04	3.61E-06	1.58E-05	D
Manganese	7439-96-5	3.80E-04	2.74E-06	1.20E-05	D
Mercury	7439-97-6	2.60E-04	1.88E-06	8.22E-06	D
Molybdenum	7439-98-7	1.10E-03	7.94E-06	3.48E-05	D
Nickel	7440-02-0	2.10E-03	1.52E-05	6.64E-05	D
Selenium	7782-49-2	2.40E-05	1.73E-07	7.59E-07	D
Vanadium	7440-62-2	2.30E-03	1.66E-05	7.27E-05	D
Zinc	7440-66-6	2.90E-02	2.09E-04	9.17E-04	D
Max. Single HAP				**9.80E-02**	H
Total HAP				**0.36**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1: CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 4
Boiler 1 (Steam Boiler) Combustion Emissions
STRU003
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	1.675	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0016	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	14.39	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
PM		7.60	1.25E-02	5.47E-02	A					
PM_{10}		7.60	1.25E-02	5.47E-02	A					
$PM_{2.5}$		7.60	1.25E-02	5.47E-02	A					
SO_2	744-09-5	0.60	9.85E-04	4.32E-03	A					
NO_x		100	1.64E-01	7.19E-01	B					
VOC		5.50	9.03E-03	3.96E-02	A					
CO	7440-48-4	84	1.38E-01	6.04E-01	B					

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
Greenhouse Gas (CO_2e)					G					
CO_2	124-38-9	120,019	197.09	863	E					
CH_4	74-82-8	2.26	0.093	0.41	F					
N_2O	10024-97-2	0.23	0.111	0.48	F					

Natural Gas Harardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	3.45E-06	1.51E-05	C
Butane	106-97-8	2.10E+00	3.45E-03	1.51E-02	C
Dichlorobenzene	25321-22-6	1.20E-03	1.97E-06	8.63E-06	C
Ethane	75-84-0	3.10E+00	5.09E-03	2.23E-02	C
Formaldehyde	50-00-0	7.50E-02	1.23E-04	5.39E-04	C
Hexane	110-54-3	1.80E+00	2.96E-03	1.29E-02	C
Naphthalene	91-20-3	6.10E-04	1.00E-06	4.39E-06	C
Pentane	109-66-0	2.60E+00	4.27E-03	1.87E-02	C
Propane	74-98-6	1.60E+00	2.63E-03	1.15E-02	C
Toluene	108-88-3	3.40E-03	5.58E-06	2.45E-05	C
Acenaphthene	83-32-9	1.80E-06	2.96E-09	1.29E-08	C
Acenaphthylene	203-96-8	1.80E-06	2.96E-09	1.29E-08	C
Anthracene	120-12-7	2.40E-06	3.94E-09	1.73E-08	C
Benz(a)anthracene	56-55-3	1.80E-06	2.96E-09	1.29E-08	C
Benzo(a)pyrene	50-32-8	1.20E-06	1.97E-09	8.63E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	2.96E-09	1.29E-08	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	1.97E-09	8.63E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	2.96E-09	1.29E-08	C
Chrysene	218-01-9	1.80E-06	2.96E-09	1.29E-08	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	1.97E-09	8.63E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	2.63E-08	1.15E-07	C
Fluoranthene	206-44-0	3.00E-06	4.93E-09	2.16E-08	C
Fluorene	86-73-7	2.80E-06	4.60E-09	2.01E-08	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	2.96E-09	1.29E-08	C
2-Methylnaphthalene	91-57-6	2.40E-05	3.94E-08	1.73E-07	C
3-Methylchloranthrene	56-49-5	1.80E-06	2.96E-09	1.29E-08	C
Phenanthrene	85-01-8	1.70E-05	2.79E-08	1.22E-07	C
Pyrene	129-00-0	5.00E-05	8.21E-08	3.60E-07	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	3.28E-07	1.44E-06	D
Barium	7440-39-3	4.40E-03	7.23E-06	3.16E-05	D
Beryllium	7440-41-7	1.20E-05	1.97E-08	8.63E-08	D
Cadmium	7440-43-9	1.10E-03	1.81E-06	7.91E-06	D
Chromium	7440-47-3	1.40E-03	2.30E-06	1.01E-05	D
Cobalt	7440-48-4	8.40E-05	1.38E-07	6.04E-07	D
Copper	7440-50-8	8.50E-04	1.40E-06	6.11E-06	D
Lead	7139-92-1	5.00E-04	8.21E-07	3.60E-06	D
Manganese	7439-96-5	3.80E-04	6.24E-07	2.73E-06	D
Mercury	7439-97-6	2.60E-04	4.27E-07	1.87E-06	D
Molybdenum	7439-98-7	1.10E-03	1.81E-06	7.91E-06	D
Nickel	7440-02-0	2.10E-03	3.45E-06	1.51E-05	D
Selenium	7782-49-2	2.40E-05	3.94E-08	1.73E-07	D
Vanadium	7440-62-2	2.30E-03	3.78E-06	1.65E-05	D
Zinc	7440-66-6	2.90E-02	4.76E-05	2.09E-04	D
Max. Single HAP				**2.23E-02**	H
Total HAP				**0.08**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1: CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 5
Boiler 2 (Hydronic Boiler) Combustion Emissions
STRU004
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	1.26	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0012	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	10.82	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
PM		7.60	9.39E-03	4.11E-02	A					
PM_{10}		7.60	9.39E-03	4.11E-02	A					
$PM_{2.5}$		7.60	9.39E-03	4.11E-02	A					
SO_2	744-09-5	0.60	7.41E-04	3.25E-03	A					
NO_x		100	1.24E-01	5.41E-01	B					
VOC		5.50	6.79E-03	2.98E-02	A					
CO	7440-48-4	84	1.04E-01	4.54E-01	B					

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
Greenhouse Gas (CO_2e)					G					
CO_2	124-38-9	120,019	148.26	649	E					
CH_4	74-82-8	2.26	0.070	0.31	F					
N_2O	10024-97-2	0.23	0.083	0.36	F					

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	2.59E-06	1.14E-05	C
Butane	106-97-8	2.10E+00	2.59E-03	1.14E-02	C
Dichlorobenzene	25321-22-6	1.20E-03	1.48E-06	6.49E-06	C
Ethane	75-84-0	3.10E+00	3.83E-03	1.68E-02	C
Formaldehyde	50-00-0	7.50E-02	9.26E-05	4.06E-04	C
Hexane	110-54-3	1.80E+00	2.22E-03	9.74E-03	C
Naphthalene	91-20-3	6.10E-04	7.54E-07	3.30E-06	C
Pentane	109-66-0	2.60E+00	3.21E-03	1.41E-02	C
Propane	74-98-6	1.60E+00	1.98E-03	8.66E-03	C
Toluene	108-88-3	3.40E-03	4.20E-06	1.84E-05	C
Acenaphthene	83-32-9	1.80E-06	2.22E-09	9.74E-09	C
Acenaphthylene	203-96-8	1.80E-06	2.22E-09	9.74E-09	C
Anthracene	120-12-7	2.40E-06	2.96E-09	1.30E-08	C
Benz(a)anthracene	56-55-3	1.80E-06	2.22E-09	9.74E-09	C
Benzo(a)pyrene	50-32-8	1.20E-06	1.48E-09	6.49E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	2.22E-09	9.74E-09	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	1.48E-09	6.49E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	2.22E-09	9.74E-09	C
Chrysene	218-01-9	1.80E-06	2.22E-09	9.74E-09	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	1.48E-09	6.49E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	1.98E-08	8.66E-08	C
Fluoranthene	206-44-0	3.00E-06	3.71E-09	1.62E-08	C
Fluorene	86-73-7	2.80E-06	3.46E-09	1.51E-08	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	2.22E-09	9.74E-09	C
2-Methylnaphthalene	91-57-6	2.40E-05	2.96E-08	1.30E-07	C
3-Methylchloranthrene	56-49-5	1.80E-06	2.22E-09	9.74E-09	C
Phenanthrene	85-01-8	1.70E-05	2.10E-08	9.20E-08	C
Pyrene	129-00-0	5.00E-05	6.18E-08	2.71E-07	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	2.47E-07	1.08E-06	D
Barium	7440-39-3	4.40E-03	5.44E-06	2.38E-05	D
Beryllium	7440-41-7	1.20E-05	1.48E-08	6.49E-08	D
Cadmium	7440-43-9	1.10E-03	1.36E-06	5.95E-06	D
Chromium	7440-47-3	1.40E-03	1.73E-06	7.57E-06	D
Cobalt	7440-48-4	8.40E-05	1.04E-07	4.54E-07	D
Copper	7440-50-8	8.50E-04	1.05E-06	4.60E-06	D
Lead	7139-92-1	5.00E-04	6.18E-07	2.71E-06	D
Manganese	7439-96-5	3.80E-04	4.69E-07	2.06E-06	D
Mercury	7439-97-6	2.60E-04	3.21E-07	1.41E-06	D
Molybdenum	7439-98-7	1.10E-03	1.36E-06	5.95E-06	D
Nickel	7440-02-0	2.10E-03	2.59E-06	1.14E-05	D
Selenium	7782-49-2	2.40E-05	2.96E-08	1.30E-07	D
Vanadium	7440-62-2	2.30E-03	2.84E-06	1.24E-05	D
Zinc	7440-66-6	2.90E-02	3.58E-05	1.57E-04	D
Max. Single HAP				**1.68E-02**	H
Total HAP				**0.06**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1. CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 6
Boiler 3 (Hydronic Boiler) Combustion Emissions
STRU005
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	1.26	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0012	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	10.82	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
PM		7.60	9.39E-03	4.11E-02	A					
PM_{10}		7.60	9.39E-03	4.11E-02	A					
$PM_{2.5}$		7.60	9.39E-03	4.11E-02	A					
SO_2	744-09-5	0.60	7.41E-04	3.25E-03	A					
NO_x		100	1.24E-01	5.41E-01	B					
VOC		5.50	6.79E-03	2.98E-02	A					
CO	7440-48-4	84	1.04E-01	4.54E-01	B					

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
Greenhouse Gas (CO_2e)					G					
CO_2	124-38-9	120,019	148.26	649	E					
CH_4	74-82-8	2.26	0.070	0.31	F					
N_2O	10024-97-2	0.23	0.083	0.36	F					

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	2.59E-06	1.14E-05	C
Butane	106-97-8	2.10E+00	2.59E-03	1.14E-02	C
Dichlorobenzene	25321-22-6	1.20E-03	1.48E-06	6.49E-06	C
Ethane	75-84-0	3.10E+00	3.83E-03	1.68E-02	C
Formaldehyde	50-00-0	7.50E-02	9.26E-05	4.06E-04	C
Hexane	110-54-3	1.80E+00	2.22E-03	9.74E-03	C
Naphthalene	91-20-3	6.10E-04	7.54E-07	3.30E-06	C
Pentane	109-66-0	2.60E+00	3.21E-03	1.41E-02	C
Propane	74-98-6	1.60E+00	1.98E-03	8.66E-03	C
Toluene	108-88-3	3.40E-03	4.20E-06	1.84E-05	C
Acenaphthene	83-32-9	1.80E-06	2.22E-09	9.74E-09	C
Acenaphthylene	203-96-8	1.80E-06	2.22E-09	9.74E-09	C
Anthracene	120-12-7	2.40E-06	2.96E-09	1.30E-08	C
Benz(a)anthracene	56-55-3	1.80E-06	2.22E-09	9.74E-09	C
Benzo(a)pyrene	50-32-8	1.20E-06	1.48E-09	6.49E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	2.22E-09	9.74E-09	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	1.48E-09	6.49E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	2.22E-09	9.74E-09	C
Chrysene	218-01-9	1.80E-06	2.22E-09	9.74E-09	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	1.48E-09	6.49E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	1.98E-08	8.66E-08	C
Fluoranthene	206-44-0	3.00E-06	3.71E-09	1.62E-08	C
Fluorene	86-73-7	2.80E-06	3.46E-09	1.51E-08	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	2.22E-09	9.74E-09	C
2-Methylnaphthalene	91-57-6	2.40E-05	2.96E-08	1.30E-07	C
3-Methylchloranthrene	56-49-5	1.80E-06	2.22E-09	9.74E-09	C
Phenanthrene	85-01-8	1.70E-05	2.10E-08	9.20E-08	C
Pyrene	129-00-0	5.00E-05	6.18E-08	2.71E-07	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	2.47E-07	1.08E-06	D
Barium	7440-39-3	4.40E-03	5.44E-06	2.38E-05	D
Beryllium	7440-41-7	1.20E-05	1.48E-08	6.49E-08	D
Cadmium	7440-43-9	1.10E-03	1.36E-06	5.95E-06	D
Chromium	7440-47-3	1.40E-03	1.73E-06	7.57E-06	D
Cobalt	7440-48-4	8.40E-05	1.04E-07	4.54E-07	D
Copper	7440-50-8	8.50E-04	1.05E-06	4.60E-06	D
Lead	7139-92-1	5.00E-04	6.18E-07	2.71E-06	D
Manganese	7439-96-5	3.80E-04	4.69E-07	2.06E-06	D
Mercury	7439-97-6	2.60E-04	3.21E-07	1.41E-06	D
Molybdenum	7439-98-7	1.10E-03	1.36E-06	5.95E-06	D
Nickel	7440-02-0	2.10E-03	2.59E-06	1.14E-05	D
Selenium	7782-49-2	2.40E-05	2.96E-08	1.30E-07	D
Vanadium	7440-62-2	2.30E-03	2.84E-06	1.24E-05	D
Zinc	7440-66-6	2.90E-02	3.58E-05	1.57E-04	D
Max. Single HAP				**1.68E-02**	H
Total HAP				**0.06**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1: CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 7
Boiler 4 (Hydronic Boiler) Combustion Emissions
STRU006
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	0.4	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0004	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	3.44	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
PM		7.60	2.98E-03	1.31E-02	A					
PM_{10}		7.60	2.98E-03	1.31E-02	A					
$PM_{2.5}$		7.60	2.98E-03	1.31E-02	A					
SO_2	744-09-5	0.60	2.35E-04	1.03E-03	A					
NO_x		100	3.92E-02	1.72E-01	B					
VOC		5.50	2.16E-03	9.45E-03	A					
CO	7440-48-4	84	3.29E-02	1.44E-01	B					

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
Greenhouse Gas (CO_2e)					G					
CO_2	124-38-9	120,019	47.07	206	E					
CH_4	74-82-8	2.26	0.022	0.10	F					
N_2O	10024-97-2	0.23	0.026	0.12	F					

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	8.24E-07	3.61E-06	C
Butane	106-97-8	2.10E+00	8.24E-04	3.61E-03	C
Dichlorobenzene	25321-22-6	1.20E-03	4.71E-07	2.06E-06	C
Ethane	75-84-0	3.10E+00	1.22E-03	5.32E-03	C
Formaldehyde	50-00-0	7.50E-02	2.94E-05	1.29E-04	C
Hexane	110-54-3	1.80E+00	7.06E-04	3.09E-03	C
Naphthalene	91-20-3	6.10E-04	2.39E-07	1.05E-06	C
Pentane	109-66-0	2.60E+00	1.02E-03	4.47E-03	C
Propane	74-98-6	1.60E+00	6.27E-04	2.75E-03	C
Toluene	108-88-3	3.40E-03	1.33E-06	5.84E-06	C
Acenaphthene	83-32-9	1.80E-06	7.06E-10	3.09E-09	C
Acenaphthylene	203-96-8	1.80E-06	7.06E-10	3.09E-09	C
Anthracene	120-12-7	2.40E-06	9.41E-10	4.12E-09	C
Benz(a)anthracene	56-55-3	1.80E-06	7.06E-10	3.09E-09	C
Benzo(a)pyrene	50-32-8	1.20E-06	4.71E-10	2.06E-09	C
Benzo(b)fluroanthene	205-99-2	1.80E-06	7.06E-10	3.09E-09	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	4.71E-10	2.06E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	7.06E-10	3.09E-09	C
Chrysene	218-01-9	1.80E-06	7.06E-10	3.09E-09	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	4.71E-10	2.06E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	6.27E-09	2.75E-08	C
Fluoranthene	206-44-0	3.00E-06	1.18E-09	5.15E-09	C
Fluorene	86-73-7	2.80E-06	1.10E-09	4.81E-09	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	7.06E-10	3.09E-09	C
2-Methylnaphthalene	91-57-6	2.40E-05	9.41E-09	4.12E-08	C
3-Methylchloranthrene	56-49-5	1.80E-06	7.06E-10	3.09E-09	C
Phenanthrene	85-01-8	1.70E-05	6.67E-09	2.92E-08	C
Pyrene	129-00-0	5.00E-05	1.96E-08	8.59E-08	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	7.84E-08	3.44E-07	D
Barium	7440-39-3	4.40E-03	1.73E-06	7.56E-06	D
Beryllium	7440-41-7	1.20E-05	4.71E-09	2.06E-08	D
Cadmium	7440-43-9	1.10E-03	4.31E-07	1.89E-06	D
Chromium	7440-47-3	1.40E-03	5.49E-07	2.40E-06	D
Cobalt	7440-48-4	8.40E-05	3.29E-08	1.44E-07	D
Copper	7440-50-8	8.50E-04	3.33E-07	1.46E-06	D
Lead	7139-92-1	5.00E-04	1.96E-07	8.59E-07	D
Manganese	7439-96-5	3.80E-04	1.49E-07	6.53E-07	D
Mercury	7439-97-6	2.60E-04	1.02E-07	4.47E-07	D
Molybdenum	7439-98-7	1.10E-03	4.31E-07	1.89E-06	D
Nickel	7440-02-0	2.10E-03	8.24E-07	3.61E-06	D
Selenium	7782-49-2	2.40E-05	9.41E-09	4.12E-08	D
Vanadium	7440-62-2	2.30E-03	9.02E-07	3.95E-06	D
Zinc	7440-66-6	2.90E-02	1.14E-05	4.98E-05	D
Max. Single HAP				**5.32E-03**	H
Total HAP				**0.02**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1: CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 8
Boiler 5 (Hydronic Boiler) Combustion Emissions
STRU007
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	0.4	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0004	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	3.44	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
PM		7.60	2.98E-03	1.31E-02	A					
PM_{10}		7.60	2.98E-03	1.31E-02	A					
$PM_{2.5}$		7.60	2.98E-03	1.31E-02	A					
SO_2	744-09-5	0.60	2.35E-04	1.03E-03	A					
NO_x		100	3.92E-02	1.72E-01	B					
VOC		5.50	2.16E-03	9.45E-03	A					
CO	7440-48-4	84	3.29E-02	1.44E-01	B					

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
Greenhouse Gas (CO_2e)					G					
CO_2	124-38-9	120,019	47.07	206	E					
CH_4	74-82-8	2.26	0.022	0.10	F					
N_2O	10024-97-2	0.23	0.026	0.12	F					

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	8.24E-07	3.61E-06	C
Butane	106-97-8	2.10E+00	8.24E-04	3.61E-03	C
Dichlorobenzene	25321-22-6	1.20E-03	4.71E-07	2.06E-06	C
Ethane	75-84-0	3.10E+00	1.22E-03	5.32E-03	C
Formaldehyde	50-00-0	7.50E-02	2.94E-05	1.29E-04	C
Hexane	110-54-3	1.80E+00	7.06E-04	3.09E-03	C
Naphthalene	91-20-3	6.10E-04	2.39E-07	1.05E-06	C
Pentane	109-66-0	2.60E+00	1.02E-03	4.47E-03	C
Propane	74-98-6	1.60E+00	6.27E-04	2.75E-03	C
Toluene	108-88-3	3.40E-03	1.33E-06	5.84E-06	C
Acenaphthene	83-32-9	1.80E-06	7.06E-10	3.09E-09	C
Acenaphthylene	203-96-8	1.80E-06	7.06E-10	3.09E-09	C
Anthracene	120-12-7	2.40E-06	9.41E-10	4.12E-09	C
Benz(a)anthracene	56-55-3	1.80E-06	7.06E-10	3.09E-09	C
Benzo(a)pyrene	50-32-8	1.20E-06	4.71E-10	2.06E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	7.06E-10	3.09E-09	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	4.71E-10	2.06E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	7.06E-10	3.09E-09	C
Chrysene	218-01-9	1.80E-06	7.06E-10	3.09E-09	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	4.71E-10	2.06E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	6.27E-09	2.75E-08	C
Fluoranthene	206-44-0	3.00E-06	1.18E-09	5.15E-09	C
Fluorene	86-73-7	2.80E-06	1.10E-09	4.81E-09	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	7.06E-10	3.09E-09	C
2-Methylnaphthalene	91-57-6	2.40E-05	9.41E-09	4.12E-08	C
3-Methylchlornthrene	56-49-5	1.80E-06	7.06E-10	3.09E-09	C
Phenanthrene	85-01-8	1.70E-05	6.67E-09	2.92E-08	C
Pyrene	129-00-0	5.00E-05	1.96E-08	8.59E-08	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	7.84E-08	3.44E-07	D
Barium	7440-39-3	4.40E-03	1.73E-06	7.56E-06	D
Beryllium	7440-41-7	1.20E-05	4.71E-09	2.06E-08	D
Cadmium	7440-43-9	1.10E-03	4.31E-07	1.89E-06	D
Chromium	7440-47-3	1.40E-03	5.49E-07	2.40E-06	D
Cobalt	7440-48-4	8.40E-05	3.29E-08	1.44E-07	D
Copper	7440-50-8	8.50E-04	3.33E-07	1.46E-06	D
Lead	7139-92-1	5.00E-04	1.96E-07	8.59E-07	D
Manganese	7439-96-5	3.80E-04	1.49E-07	6.53E-07	D
Mercury	7439-97-6	2.60E-04	1.02E-07	4.47E-07	D
Molybdenum	7439-98-7	1.10E-03	4.31E-07	1.89E-06	D
Nickel	7440-02-0	2.10E-03	8.24E-07	3.61E-06	D
Selenium	7782-49-2	2.40E-05	9.41E-09	4.12E-08	D
Vanadium	7440-62-2	2.30E-03	9.02E-07	3.95E-06	D
Zinc	7440-66-6	2.90E-02	1.14E-05	4.98E-05	D
Max. Single HAP				**5.32E-03**	H
Total HAP				**0.02**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1, CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 9
Boiler 6 (Hydronic Boiler) Combustion Emissions
STRU008
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	0.4	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0004	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	3.44	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
PM		7.60	2.98E-03	1.31E-02	A					
PM_{10}		7.60	2.98E-03	1.31E-02	A					
$PM_{2.5}$		7.60	2.98E-03	1.31E-02	A					
SO_2	744-09-5	0.60	2.35E-04	1.03E-03	A					
NO_x		100	3.92E-02	1.72E-01	B					
VOC		5.50	2.16E-03	9.45E-03	A					
CO	7440-48-4	84	3.29E-02	1.44E-01	B					

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
Greenhouse Gas (CO_2e)					G					
CO_2	124-38-9	120,019	47.07	206	E					
CH_4	74-82-8	2.26	0.022	0.10	F					
N_2O	10024-97-2	0.23	0.026	0.12	F					

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	8.24E-07	3.61E-06	C
Butane	106-97-8	2.10E+00	8.24E-04	3.61E-03	C
Dichlorobenzene	25321-22-6	1.20E-03	4.71E-07	2.06E-06	C
Ethane	75-84-0	3.10E+00	1.22E-03	5.32E-03	C
Formaldehyde	50-00-0	7.50E-02	2.94E-05	1.29E-04	C
Hexane	110-54-3	1.80E+00	7.06E-04	3.09E-03	C
Naphthalene	91-20-3	6.10E-04	2.39E-07	1.05E-06	C
Pentane	109-66-0	2.60E+00	1.02E-03	4.47E-03	C
Propane	74-98-6	1.60E+00	6.27E-04	2.75E-03	C
Toluene	108-88-3	3.40E-03	1.33E-06	5.84E-06	C
Acenaphthene	83-32-9	1.80E-06	7.06E-10	3.09E-09	C
Acenaphthylene	203-96-8	1.80E-06	7.06E-10	3.09E-09	C
Anthracene	120-12-7	2.40E-06	9.41E-10	4.12E-09	C
Benz(a)anthracene	56-55-3	1.80E-06	7.06E-10	3.09E-09	C
Benzo(a)pyrene	50-32-8	1.20E-06	4.71E-10	2.06E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	7.06E-10	3.09E-09	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	4.71E-10	2.06E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	7.06E-10	3.09E-09	C
Chrysene	218-01-9	1.80E-06	7.06E-10	3.09E-09	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	4.71E-10	2.06E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	6.27E-09	2.75E-08	C
Fluoranthene	206-44-0	3.00E-06	1.18E-09	5.15E-09	C
Fluorene	86-73-7	2.80E-06	1.10E-09	4.81E-09	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	7.06E-10	3.09E-09	C
2-Methylnaphthalene	91-57-6	2.40E-05	9.41E-09	4.12E-08	C
3-Methylchloranthrene	56-49-5	1.80E-06	7.06E-10	3.09E-09	C
Phenanthrene	85-01-8	1.70E-05	6.67E-09	2.92E-08	C
Pyrene	129-00-0	5.00E-05	1.96E-08	8.59E-08	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	7.84E-08	3.44E-07	D
Barium	7440-39-3	4.40E-03	1.73E-06	7.56E-06	D
Beryllium	7440-41-7	1.20E-05	4.71E-09	2.06E-08	D
Cadmium	7440-43-9	1.10E-03	4.31E-07	1.89E-06	D
Chromium	7440-47-3	1.40E-03	5.49E-07	2.40E-06	D
Cobalt	7440-48-4	8.40E-05	3.29E-08	1.44E-07	D
Copper	7440-50-8	8.50E-04	3.33E-07	1.46E-06	D
Lead	7139-92-1	5.00E-04	1.96E-07	8.59E-07	D
Manganese	7439-96-5	3.80E-04	1.49E-07	6.53E-07	D
Mercury	7439-97-6	2.60E-04	1.02E-07	4.47E-07	D
Molybdenum	7439-98-7	1.10E-03	4.31E-07	1.89E-06	D
Nickel	7440-02-0	2.10E-03	8.24E-07	3.61E-06	D
Selenium	7782-49-2	2.40E-05	9.41E-09	4.12E-08	D
Vanadium	7440-62-2	2.30E-03	9.02E-07	3.95E-06	D
Zinc	7440-66-6	2.90E-02	1.14E-05	4.98E-05	D
Max. Single HAP				**5.32E-03**	H
Total HAP				**0.02**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1: CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 10
Boiler 7 (Hydronic Boiler) Combustion Emissions
STRU009
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	0.4	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0004	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	3.44	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
PM		7.60	2.98E-03	1.31E-02	A					
PM_{10}		7.60	2.98E-03	1.31E-02	A					
$PM_{2.5}$		7.60	2.98E-03	1.31E-02	A					
SO_2	744-09-5	0.60	2.35E-04	1.03E-03	A					
NO_x		100	3.92E-02	1.72E-01	B					
VOC		5.50	2.16E-03	9.45E-03	A					
CO	7440-48-4	84	3.29E-02	1.44E-01	B					

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
Greenhouse Gas (CO_2e)					G					
CO_2	124-38-9	120,019	47.07	206	E					
CH_4	74-82-8	2.26	0.022	0.10	F					
N_2O	10024-97-2	0.23	0.026	0.12	F					

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	8.24E-07	3.61E-06	C
Butane	106-97-8	2.10E+00	8.24E-04	3.61E-03	C
Dichlorobenzene	25321-22-6	1.20E-03	4.71E-07	2.06E-06	C
Ethane	75-84-0	3.10E+00	1.22E-03	5.32E-03	C
Formaldehyde	50-00-0	7.50E-02	2.94E-05	1.29E-04	C
Hexane	110-54-3	1.80E+00	7.06E-04	3.09E-03	C
Naphthalene	91-20-3	6.10E-04	2.39E-07	1.05E-06	C
Pentane	109-66-0	2.60E+00	1.02E-03	4.47E-03	C
Propane	74-98-6	1.60E+00	6.27E-04	2.75E-03	C
Toluene	108-88-3	3.40E-03	1.33E-06	5.84E-06	C
Acenaphthene	83-32-9	1.80E-06	7.06E-10	3.09E-09	C
Acenaphthylene	203-96-8	1.80E-06	7.06E-10	3.09E-09	C
Anthracene	120-12-7	2.40E-06	9.41E-10	4.12E-09	C
Benz(a)anthracene	56-55-3	1.80E-06	7.06E-10	3.09E-09	C
Benzo(a)pyrene	50-32-8	1.20E-06	4.71E-10	2.06E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	7.06E-10	3.09E-09	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	4.71E-10	2.06E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	7.06E-10	3.09E-09	C
Chrysene	218-01-9	1.80E-06	7.06E-10	3.09E-09	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	4.71E-10	2.06E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	6.27E-09	2.75E-08	C
Fluoranthene	206-44-0	3.00E-06	1.18E-09	5.15E-09	C
Fluorene	86-73-7	2.80E-06	1.10E-09	4.81E-09	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	7.06E-10	3.09E-09	C
2-Methylnaphthalene	91-57-6	2.40E-05	9.41E-09	4.12E-08	C
3-Methylchloranthrene	56-49-5	1.80E-06	7.06E-10	3.09E-09	C
Phenanthrene	85-01-8	1.70E-05	6.67E-09	2.92E-08	C
Pyrene	129-00-0	5.00E-05	1.96E-08	8.59E-08	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	7.84E-08	3.44E-07	D
Barium	7440-39-3	4.40E-03	1.73E-06	7.56E-06	D
Beryllium	7440-41-7	1.20E-05	4.71E-09	2.06E-08	D
Cadmium	7440-43-9	1.10E-03	4.31E-07	1.89E-06	D
Chromium	7440-47-3	1.40E-03	5.49E-07	2.40E-06	D
Cobalt	7440-48-4	8.40E-05	3.29E-08	1.44E-07	D
Copper	7440-50-8	8.50E-04	3.33E-07	1.46E-06	D
Lead	7139-92-1	5.00E-04	1.96E-07	8.59E-07	D
Manganese	7439-96-5	3.80E-04	1.49E-07	6.53E-07	D
Mercury	7439-97-6	2.60E-04	1.02E-07	4.47E-07	D
Molybdenum	7439-98-7	1.10E-03	4.31E-07	1.89E-06	D
Nickel	7440-02-0	2.10E-03	8.24E-07	3.61E-06	D
Selenium	7782-49-2	2.40E-05	9.41E-09	4.12E-08	D
Vanadium	7440-62-2	2.30E-03	9.02E-07	3.95E-06	D
Zinc	7440-66-6	2.90E-02	1.14E-05	4.98E-05	D
Max. Single HAP				**5.32E-03**	H
Total HAP				**0.02**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1, CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 11
Boiler 8 (Hydronic Boiler) Combustion Emissions
STRU010
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	0.4	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0004	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	3.44	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
PM		7.60	2.98E-03	1.31E-02	A					
PM_{10}		7.60	2.98E-03	1.31E-02	A					
$PM_{2.5}$		7.60	2.98E-03	1.31E-02	A					
SO_2	744-09-5	0.60	2.35E-04	1.03E-03	A					
NO_x		100	3.92E-02	1.72E-01	B					
VOC		5.50	2.16E-03	9.45E-03	A					
CO	7440-48-4	84	3.29E-02	1.44E-01	B					

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
Greenhouse Gas (CO_2e)					G					
CO_2	124-38-9	120,019	47.07	206	E					
CH_4	74-82-8	2.26	0.022	0.10	F					
N_2O	10024-97-2	0.23	0.026	0.12	F					

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	8.24E-07	3.61E-06	C
Butane	106-97-8	2.10E+00	8.24E-04	3.61E-03	C
Dichlorobenzene	25321-22-6	1.20E-03	4.71E-07	2.06E-06	C
Ethane	75-84-0	3.10E+00	1.22E-03	5.32E-03	C
Formaldehyde	50-00-0	7.50E-02	2.94E-05	1.29E-04	C
Hexane	110-54-3	1.80E+00	7.06E-04	3.09E-03	C
Naphthalene	91-20-3	6.10E-04	2.39E-07	1.05E-06	C
Pentane	109-66-0	2.60E+00	1.02E-03	4.47E-03	C
Propane	74-98-6	1.60E+00	6.27E-04	2.75E-03	C
Toluene	108-88-3	3.40E-03	1.33E-06	5.84E-06	C
Acenaphthene	83-32-9	1.80E-06	7.06E-10	3.09E-09	C
Acenaphthylene	203-96-8	1.80E-06	7.06E-10	3.09E-09	C
Anthracene	120-12-7	2.40E-06	9.41E-10	4.12E-09	C
Benz(a)anthracene	56-55-3	1.80E-06	7.06E-10	3.09E-09	C
Benzo(a)pyrene	50-32-8	1.20E-06	4.71E-10	2.06E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	7.06E-10	3.09E-09	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	4.71E-10	2.06E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	7.06E-10	3.09E-09	C
Chrysene	218-01-9	1.80E-06	7.06E-10	3.09E-09	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	4.71E-10	2.06E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	6.27E-09	2.75E-08	C
Fluoranthene	206-44-0	3.00E-06	1.18E-09	5.15E-09	C
Fluorene	86-73-7	2.80E-06	1.10E-09	4.81E-09	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	7.06E-10	3.09E-09	C
2-Methylnaphthalene	91-57-6	2.40E-05	9.41E-09	4.12E-08	C
3-Methylchloranthrene	56-49-5	1.80E-06	7.06E-10	3.09E-09	C
Phenanthrene	85-01-8	1.70E-05	6.67E-09	2.92E-08	C
Pyrene	129-00-0	5.00E-05	1.96E-08	8.59E-08	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	7.84E-08	3.44E-07	D
Barium	7440-39-3	4.40E-03	1.73E-06	7.56E-06	D
Beryllium	7440-41-7	1.20E-05	4.71E-09	2.06E-08	D
Cadmium	7440-43-9	1.10E-03	4.31E-07	1.89E-06	D
Chromium	7440-47-3	1.40E-03	5.49E-07	2.40E-06	D
Cobalt	7440-48-4	8.40E-05	3.29E-08	1.44E-07	D
Copper	7440-50-8	8.50E-04	3.33E-07	1.46E-06	D
Lead	7139-92-1	5.00E-04	1.96E-07	8.59E-07	D
Manganese	7439-96-5	3.80E-04	1.49E-07	6.53E-07	D
Mercury	7439-97-6	2.60E-04	1.02E-07	4.47E-07	D
Molybdenum	7439-98-7	1.10E-03	4.31E-07	1.89E-06	D
Nickel	7440-02-0	2.10E-03	8.24E-07	3.61E-06	D
Selenium	7782-49-2	2.40E-05	9.41E-09	4.12E-08	D
Vanadium	7440-62-2	2.30E-03	9.02E-07	3.95E-06	D
Zinc	7440-66-6	2.90E-02	1.14E-05	4.98E-05	D
Max. Single HAP				**5.32E-03**	H
Total HAP				**0.02**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1. CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 12
Boiler 9 (Hydronic Boiler) Combustion Emissions
STRU011
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	0.4	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0004	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	3.44	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
PM		7.60	2.98E-03	1.31E-02	A					
PM_{10}		7.60	2.98E-03	1.31E-02	A					
$PM_{2.5}$		7.60	2.98E-03	1.31E-02	A					
SO_2	744-09-5	0.60	2.35E-04	1.03E-03	A					
NO_x		100	3.92E-02	1.72E-01	B					
VOC		5.50	2.16E-03	9.45E-03	A					
CO	7440-48-4	84	3.29E-02	1.44E-01	B					

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
Greenhouse Gas (CO_2e)					G					
CO_2	124-38-9	120,019	47.07	206	E					
CH_4	74-82-8	2.26	0.022	0.10	F					
N_2O	10024-97-2	0.23	0.026	0.12	F					

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	8.24E-07	3.61E-06	C
Butane	106-97-8	2.10E+00	8.24E-04	3.61E-03	C
Dichlorobenzene	25321-22-6	1.20E-03	4.71E-07	2.06E-06	C
Ethane	75-84-0	3.10E+00	1.22E-03	5.32E-03	C
Formaldehyde	50-00-0	7.50E-02	2.94E-05	1.29E-04	C
Hexane	110-54-3	1.80E+00	7.06E-04	3.09E-03	C
Naphthalene	91-20-3	6.10E-04	2.39E-07	1.05E-06	C
Pentane	109-66-0	2.60E+00	1.02E-03	4.47E-03	C
Propane	74-98-6	1.60E+00	6.27E-04	2.75E-03	C
Toluene	108-88-3	3.40E-03	1.33E-06	5.84E-06	C
Acenaphthene	83-32-9	1.80E-06	7.06E-10	3.09E-09	C
Acenaphthylene	203-96-8	1.80E-06	7.06E-10	3.09E-09	C
Anthracene	120-12-7	2.40E-06	9.41E-10	4.12E-09	C
Benz(a)anthracene	56-55-3	1.80E-06	7.06E-10	3.09E-09	C
Benzo(a)pyrene	50-32-8	1.20E-06	4.71E-10	2.06E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	7.06E-10	3.09E-09	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	4.71E-10	2.06E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	7.06E-10	3.09E-09	C
Chrysene	218-01-9	1.80E-06	7.06E-10	3.09E-09	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	4.71E-10	2.06E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	6.27E-09	2.75E-08	C
Fluoranthene	206-44-0	3.00E-06	1.18E-09	5.15E-09	C
Fluorene	86-73-7	2.80E-06	1.10E-09	4.81E-09	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	7.06E-10	3.09E-09	C
2-Methylnaphthalene	91-57-6	2.40E-05	9.41E-09	4.12E-08	C
3-Methylchloranthrene	56-49-5	1.80E-06	7.06E-10	3.09E-09	C
Phenanthrene	85-01-8	1.70E-05	6.67E-09	2.92E-08	C
Pyrene	129-00-0	5.00E-05	1.96E-08	8.59E-08	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	7.84E-08	3.44E-07	D
Barium	7440-39-3	4.40E-03	1.73E-06	7.56E-06	D
Beryllium	7440-41-7	1.20E-05	4.71E-09	2.06E-08	D
Cadmium	7440-43-9	1.10E-03	4.31E-07	1.89E-06	D
Chromium	7440-47-3	1.40E-03	5.49E-07	2.40E-06	D
Cobalt	7440-48-4	8.40E-05	3.29E-08	1.44E-07	D
Copper	7440-50-8	8.50E-04	3.33E-07	1.46E-06	D
Lead	7139-92-1	5.00E-04	1.96E-07	8.59E-07	D
Manganese	7439-96-5	3.80E-04	1.49E-07	6.53E-07	D
Mercury	7439-97-6	2.60E-04	1.02E-07	4.47E-07	D
Molybdenum	7439-98-7	1.10E-03	4.31E-07	1.89E-06	D
Nickel	7440-02-0	2.10E-03	8.24E-07	3.61E-06	D
Selenium	7782-49-2	2.40E-05	9.41E-09	4.12E-08	D
Vanadium	7440-62-2	2.30E-03	9.02E-07	3.95E-06	D
Zinc	7440-66-6	2.90E-02	1.14E-05	4.98E-05	D
Max. Single HAP				**5.32E-03**	H
Total HAP				**0.02**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1. CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 13
Roof Top Unit 4 Combustion Emissions
STRU015
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	0.64	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0006	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	5.50	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
PM		7.60	4.77E-03	2.09E-02	A					
PM_{10}		7.60	4.77E-03	2.09E-02	A					
$PM_{2.5}$		7.60	4.77E-03	2.09E-02	A					
SO_2	744-09-5	0.60	3.76E-04	1.65E-03	A					
NO_x		100	6.27E-02	2.75E-01	B					
VOC		5.50	3.45E-03	1.51E-02	A					
CO	7440-48-4	84	5.27E-02	2.31E-01	B					

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
Greenhouse Gas (CO_2e)					G					
CO_2	124-38-9	120,019	75.31	330	E					
CH_4	74-82-8	2.26	0.035	0.16	F					
N_2O	10024-97-2	0.23	0.042	0.19	F					

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	1.32E-06	5.77E-06	C
Butane	106-97-8	2.10E+00	1.32E-03	5.77E-03	C
Dichlorobenzene	25321-22-6	1.20E-03	7.53E-07	3.30E-06	C
Ethane	75-84-0	3.10E+00	1.95E-03	8.52E-03	C
Formaldehyde	50-00-0	7.50E-02	4.71E-05	2.06E-04	C
Hexane	110-54-3	1.80E+00	1.13E-03	4.95E-03	C
Naphthalene	91-20-3	6.10E-04	3.83E-07	1.68E-06	C
Pentane	109-66-0	2.60E+00	1.63E-03	7.15E-03	C
Propane	74-98-6	1.60E+00	1.00E-03	4.40E-03	C
Toluene	108-88-3	3.40E-03	2.13E-06	9.34E-06	C
Acenaphthene	83-32-9	1.80E-06	1.13E-09	4.95E-09	C
Acenaphthylene	203-96-8	1.80E-06	1.13E-09	4.95E-09	C
Anthracene	120-12-7	2.40E-06	1.51E-09	6.60E-09	C
Benz(a)anthracene	56-55-3	1.80E-06	1.13E-09	4.95E-09	C
Benzo(a)pyrene	50-32-8	1.20E-06	7.53E-10	3.30E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	1.13E-09	4.95E-09	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	7.53E-10	3.30E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	1.13E-09	4.95E-09	C
Chrysene	218-01-9	1.80E-06	1.13E-09	4.95E-09	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	7.53E-10	3.30E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	1.00E-08	4.40E-08	C
Fluoranthene	206-44-0	3.00E-06	1.88E-09	8.24E-09	C
Fluorene	86-73-7	2.80E-06	1.76E-09	7.70E-09	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	1.13E-09	4.95E-09	C
2-Methylnaphthalene	91-57-6	2.40E-05	1.51E-08	6.60E-08	C
3-Methylchloranthrene	56-49-5	1.80E-06	1.13E-09	4.95E-09	C
Phenanthrene	85-01-8	1.70E-05	1.07E-08	4.67E-08	C
Pyrene	129-00-0	5.00E-05	3.14E-08	1.37E-07	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	1.25E-07	5.50E-07	D
Barium	7440-39-3	4.40E-03	2.76E-06	1.21E-05	D
Beryllium	7440-41-7	1.20E-05	7.53E-09	3.30E-08	D
Cadmium	7440-43-9	1.10E-03	6.90E-07	3.02E-06	D
Chromium	7440-47-3	1.40E-03	8.78E-07	3.85E-06	D
Cobalt	7440-48-4	8.40E-05	5.27E-08	2.31E-07	D
Copper	7440-50-8	8.50E-04	5.33E-07	2.34E-06	D
Lead	7139-92-1	5.00E-04	3.14E-07	1.37E-06	D
Manganese	7439-96-5	3.80E-04	2.38E-07	1.04E-06	D
Mercury	7439-97-6	2.60E-04	1.63E-07	7.15E-07	D
Molybdenum	7439-98-7	1.10E-03	6.90E-07	3.02E-06	D
Nickel	7440-02-0	2.10E-03	1.32E-06	5.77E-06	D
Selenium	7782-49-2	2.40E-05	1.51E-08	6.60E-08	D
Vanadium	7440-62-2	2.30E-03	1.44E-06	6.32E-06	D
Zinc	7440-66-6	2.90E-02	1.82E-05	7.97E-05	D
Max. Single HAP				**8.52E-03**	H
Total HAP				**0.03**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1: CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 15
Roof Top Unit 6 Combustion Emissions
STRU016
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	0.32	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0003	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	2.75	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
PM		7.60	2.38E-03	1.04E-02	A					
PM_{10}		7.60	2.38E-03	1.04E-02	A					
$PM_{2.5}$		7.60	2.38E-03	1.04E-02	A					
SO_2	744-09-5	0.60	1.88E-04	8.24E-04	A					
NO_x		100	3.14E-02	1.37E-01	B					
VOC		5.50	1.73E-03	7.56E-03	A					
CO	7440-48-4	84	2.64E-02	1.15E-01	B					

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
Greenhouse Gas (CO_2e)					G					
CO_2	124-38-9	120,019	37.65	165	E					
CH_4	74-82-8	2.26	0.018	0.08	F					
N_2O	10024-97-2	0.23	0.021	0.09	F					

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	6.59E-07	2.89E-06	C
Butane	106-97-8	2.10E+00	6.59E-04	2.89E-03	C
Dichlorobenzene	25321-22-6	1.20E-03	3.76E-07	1.65E-06	C
Ethane	75-84-0	3.10E+00	9.73E-04	4.26E-03	C
Formaldehyde	50-00-0	7.50E-02	2.35E-05	1.03E-04	C
Hexane	110-54-3	1.80E+00	5.65E-04	2.47E-03	C
Naphthalene	91-20-3	6.10E-04	1.91E-07	8.38E-07	C
Pentane	109-66-0	2.60E+00	8.16E-04	3.57E-03	C
Propane	74-98-6	1.60E+00	5.02E-04	2.20E-03	C
Toluene	108-88-3	3.40E-03	1.07E-06	4.67E-06	C
Acenaphthene	83-32-9	1.80E-06	5.65E-10	2.47E-09	C
Acenaphthylene	203-96-8	1.80E-06	5.65E-10	2.47E-09	C
Anthracene	120-12-7	2.40E-06	7.53E-10	3.30E-09	C
Benz(a)anthracene	56-55-3	1.80E-06	5.65E-10	2.47E-09	C
Benzo(a)pyrene	50-32-8	1.20E-06	3.76E-10	1.65E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	5.65E-10	2.47E-09	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	3.76E-10	1.65E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	5.65E-10	2.47E-09	C
Chrysene	218-01-9	1.80E-06	5.65E-10	2.47E-09	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	3.76E-10	1.65E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	5.02E-09	2.20E-08	C
Fluoranthene	206-44-0	3.00E-06	9.41E-10	4.12E-09	C
Fluorene	86-73-7	2.80E-06	8.78E-10	3.85E-09	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	5.65E-10	2.47E-09	C
2-Methylnaphthalene	91-57-6	2.40E-05	7.53E-09	3.30E-08	C
3-Methylchloranthrene	56-49-5	1.80E-06	5.65E-10	2.47E-09	C
Phenanthrene	85-01-8	1.70E-05	5.33E-09	2.34E-08	C
Pyrene	129-00-0	5.00E-05	1.57E-08	6.87E-08	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	6.27E-08	2.75E-07	D
Barium	7440-39-3	4.40E-03	1.38E-06	6.05E-06	D
Beryllium	7440-41-7	1.20E-05	3.76E-09	1.65E-08	D
Cadmium	7440-43-9	1.10E-03	3.45E-07	1.51E-06	D
Chromium	7440-47-3	1.40E-03	4.39E-07	1.92E-06	D
Cobalt	7440-48-4	8.40E-05	2.64E-08	1.15E-07	D
Copper	7440-50-8	8.50E-04	2.67E-07	1.17E-06	D
Lead	7139-92-1	5.00E-04	1.57E-07	6.87E-07	D
Manganese	7439-96-5	3.80E-04	1.19E-07	5.22E-07	D
Mercury	7439-97-6	2.60E-04	8.16E-08	3.57E-07	D
Molybdenum	7439-98-7	1.10E-03	3.45E-07	1.51E-06	D
Nickel	7440-02-0	2.10E-03	6.59E-07	2.89E-06	D
Selenium	7782-49-2	2.40E-05	7.53E-09	3.30E-08	D
Vanadium	7440-62-2	2.30E-03	7.22E-07	3.16E-06	D
Zinc	7440-66-6	2.90E-02	9.10E-06	3.98E-05	D
Max. Single HAP				**4.26E-03**	H
Total HAP				**0.02**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1. CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 16
Roof Top Unit 7 Combustion Emissions
STRU017
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	0.27	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0003	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	2.32	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
PM		7.60	2.01E-03	8.81E-03	A					
PM_{10}		7.60	2.01E-03	8.81E-03	A					
$PM_{2.5}$		7.60	2.01E-03	8.81E-03	A					
SO_2	744-09-5	0.60	1.59E-04	6.96E-04	A					
NO_x		100	2.65E-02	1.16E-01	B					
VOC		5.50	1.46E-03	6.38E-03	A					
CO	7440-48-4	84	2.22E-02	9.74E-02	B					

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
Greenhouse Gas (CO_2e)					G					
CO_2	124-38-9	120,019	31.77	139	E					
CH_4	74-82-8	2.26	0.015	0.07	F					
N_2O	10024-97-2	0.23	0.018	0.08	F					

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	5.56E-07	2.43E-06	C
Butane	106-97-8	2.10E+00	5.56E-04	2.43E-03	C
Dichlorobenzene	25321-22-6	1.20E-03	3.18E-07	1.39E-06	C
Ethane	75-84-0	3.10E+00	8.21E-04	3.59E-03	C
Formaldehyde	50-00-0	7.50E-02	1.99E-05	8.70E-05	C
Hexane	110-54-3	1.80E+00	4.76E-04	2.09E-03	C
Naphthalene	91-20-3	6.10E-04	1.61E-07	7.07E-07	C
Pentane	109-66-0	2.60E+00	6.88E-04	3.01E-03	C
Propane	74-98-6	1.60E+00	4.24E-04	1.86E-03	C
Toluene	108-88-3	3.40E-03	9.00E-07	3.94E-06	C
Acenaphthene	83-32-9	1.80E-06	4.76E-10	2.09E-09	C
Acenaphthylene	203-96-8	1.80E-06	4.76E-10	2.09E-09	C
Anthracene	120-12-7	2.40E-06	6.35E-10	2.78E-09	C
Benz(a)anthracene	56-55-3	1.80E-06	4.76E-10	2.09E-09	C
Benzo(a)pyrene	50-32-8	1.20E-06	3.18E-10	1.39E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	4.76E-10	2.09E-09	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	3.18E-10	1.39E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	4.76E-10	2.09E-09	C
Chrysene	218-01-9	1.80E-06	4.76E-10	2.09E-09	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	3.18E-10	1.39E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	4.24E-09	1.86E-08	C
Fluoranthene	206-44-0	3.00E-06	7.94E-10	3.48E-09	C
Fluorene	86-73-7	2.80E-06	7.41E-10	3.25E-09	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	4.76E-10	2.09E-09	C
2-Methylnaphthalene	91-57-6	2.40E-05	6.35E-09	2.78E-08	C
3-Methylchloranthrene	56-49-5	1.80E-06	4.76E-10	2.09E-09	C
Phenanthrene	85-01-8	1.70E-05	4.50E-09	1.97E-08	C
Pyrene	129-00-0	5.00E-05	1.32E-08	5.80E-08	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	5.29E-08	2.32E-07	D
Barium	7440-39-3	4.40E-03	1.16E-06	5.10E-06	D
Beryllium	7440-41-7	1.20E-05	3.18E-09	1.39E-08	D
Cadmium	7440-43-9	1.10E-03	2.91E-07	1.28E-06	D
Chromium	7440-47-3	1.40E-03	3.71E-07	1.62E-06	D
Cobalt	7440-48-4	8.40E-05	2.22E-08	9.74E-08	D
Copper	7440-50-8	8.50E-04	2.25E-07	9.86E-07	D
Lead	7139-92-1	5.00E-04	1.32E-07	5.80E-07	D
Manganese	7439-96-5	3.80E-04	1.01E-07	4.41E-07	D
Mercury	7439-97-6	2.60E-04	6.88E-08	3.01E-07	D
Molybdenum	7439-98-7	1.10E-03	2.91E-07	1.28E-06	D
Nickel	7440-02-0	2.10E-03	5.56E-07	2.43E-06	D
Selenium	7782-49-2	2.40E-05	6.35E-09	2.78E-08	D
Vanadium	7440-62-2	2.30E-03	6.09E-07	2.67E-06	D
Zinc	7440-66-6	2.90E-02	7.68E-06	3.36E-05	D
Max. Single HAP				**3.59E-03**	H
Total HAP				**0.01**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1: CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 14
Roof Top Unit 3 Combustion Emissions
STRU018
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	NA		Baldinger Bakery
Model	NA		
Maximum Heat Input	0.27	MMBtu/hr	
Fuel	Natural Gas		
Maximum Fuel Input	0.0003	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	2.32	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
PM		7.60	2.01E-03	8.81E-03	A					
PM_{10}		7.60	2.01E-03	8.81E-03	A					
$PM_{2.5}$		7.60	2.01E-03	8.81E-03	A					
SO_2	744-09-5	0.60	1.59E-04	6.96E-04	A					
NO_x		100	2.65E-02	1.16E-01	B					
VOC		5.50	1.46E-03	6.38E-03	A					
CO	7440-48-4	84	2.22E-02	9.74E-02	B					

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
Greenhouse Gas (CO_2e)					G					
CO_2	124-38-9	120,019	31.77	139	E					
CH_4	74-82-8	2.26	0.015	0.07	F					
N_2O	10024-97-2	0.23	0.018	0.08	F					

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	5.56E-07	2.43E-06	C
Butane	106-97-8	2.10E+00	5.56E-04	2.43E-03	C
Dichlorobenzene	25321-22-6	1.20E-03	3.18E-07	1.39E-06	C
Ethane	75-84-0	3.10E+00	8.21E-04	3.59E-03	C
Formaldehyde	50-00-0	7.50E-02	1.99E-05	8.70E-05	C
Hexane	110-54-3	1.80E+00	4.76E-04	2.09E-03	C
Naphthalene	91-20-3	6.10E-04	1.61E-07	7.07E-07	C
Pentane	109-66-0	2.60E+00	6.88E-04	3.01E-03	C
Propane	74-98-6	1.60E+00	4.24E-04	1.86E-03	C
Toluene	108-88-3	3.40E-03	9.00E-07	3.94E-06	C
Acenaphthene	83-32-9	1.80E-06	4.76E-10	2.09E-09	C
Acenaphthylene	203-96-8	1.80E-06	4.76E-10	2.09E-09	C
Anthracene	120-12-7	2.40E-06	6.35E-10	2.78E-09	C
Benz(a)anthracene	56-55-3	1.80E-06	4.76E-10	2.09E-09	C
Benzo(a)pyrene	50-32-8	1.20E-06	3.18E-10	1.39E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	4.76E-10	2.09E-09	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	3.18E-10	1.39E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	4.76E-10	2.09E-09	C
Chrysene	218-01-9	1.80E-06	4.76E-10	2.09E-09	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	3.18E-10	1.39E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	4.24E-09	1.86E-08	C
Fluoranthene	206-44-0	3.00E-06	7.94E-10	3.48E-09	C
Fluorene	86-73-7	2.80E-06	7.41E-10	3.25E-09	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	4.76E-10	2.09E-09	C
2-Methylnaphthalene	91-57-6	2.40E-05	6.35E-09	2.78E-08	C
3-Methylchloranthrene	56-49-5	1.80E-06	4.76E-10	2.09E-09	C
Phenanthrene	85-01-8	1.70E-05	4.50E-09	1.97E-08	C
Pyrene	129-00-0	5.00E-05	1.32E-08	5.80E-08	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	5.29E-08	2.32E-07	D
Barium	7440-39-3	4.40E-03	1.16E-06	5.10E-06	D
Beryllium	7440-41-7	1.20E-05	3.18E-09	1.39E-08	D
Cadmium	7440-43-9	1.10E-03	2.91E-07	1.28E-06	D
Chromium	7440-47-3	1.40E-03	3.71E-07	1.62E-06	D
Cobalt	7440-48-4	8.40E-05	2.22E-08	9.74E-08	D
Copper	7440-50-8	8.50E-04	2.25E-07	9.86E-07	D
Lead	7439-92-1	5.00E-04	1.32E-07	5.80E-07	D
Manganese	7439-96-5	3.80E-04	1.01E-07	4.41E-07	D
Mercury	7439-97-6	2.60E-04	6.88E-08	3.01E-07	D
Molybdenum	7439-98-7	1.10E-03	2.91E-07	1.28E-06	D
Nickel	7440-02-0	2.10E-03	5.56E-07	2.43E-06	D
Selenium	7782-49-2	2.40E-05	6.35E-09	2.78E-08	D
Vanadium	7440-62-2	2.30E-03	6.09E-07	2.67E-06	D
Zinc	7440-66-6	2.90E-02	7.68E-06	3.36E-05	D
Max. Single HAP				**3.59E-03**	H
Total HAP				**0.01**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
F 40 CFR Part 98 Table C-2: Pipeline natural gas = 1026 Btu/scf, CH_4 = 0.001 kg CH_4/MMBtu, N_2O = 0.0001 kg N_2O/MMBtu
G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1, CO_2 = 1, CH_4 = 25, N_2O= 298
H Largest single HAP is Ethane

Table 21
Water Heaters
Contributes to water heating > 1,600,000 Btu
Baldinger Bakery
St Paul MN

Parameter	Value	Units	Source
Make	Smith and BOCK		
Model	varies		
Maximum Heat Input	1.6	MMBtu/hr	There are two identical A.O. Smith water heaters and two identical BOCK water heaters with maximum heat input of 400,000 Btu each for a total maximum heat input of 1, 600,000 Btu
Fuel	Natural Gas		
Maximum Fuel Input	0.0016	MMSCF/hr	(Maximum Heat Input) / (Fuel Heat Value)
Annual Operation	8760	hr/yr	Used for Unrestricted Emission Rate
Annual Fuel Input	13.74	MMSCF/yr	(Max Fuel Input) * (Annual Operation)
Natural Gas Fuel Heat Value	1020	Btu/scf	AP-42 Chapter 1.4, page 4

Natural Gas Criteria Pollutants Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
PM		7.60	1.19E-02	5.22E-02	A					
PM_{10}		7.60	1.19E-02	5.22E-02	A					
$PM_{2.5}$		7.60	1.19E-02	5.22E-02	A					
SO_2	744-09-5	0.60	9.41E-04	4.12E-03	A					
NO_x		100	1.57E-01	6.87E-01	B					
VOC		5.50	8.63E-03	3.78E-02	A					
CO	7440-48-4	84	1.32E-01	5.77E-01	B					

Natural Gas Greenhouse Gas Potential to Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes					
Greenhouse Gas (CO_2e)					G					
CO_2	124-38-9	120,019	188.26	825	E					
CH_4	74-82-8	2.26	0.089	0.39	F					
N_2O	10024-97-2	0.23	0.106	0.46	F					

Natural Gas Hazardous Air Pollutants Potential To Emit

Pollutant	CAS No.	Natural Gas Emission Factor (lb/MMSCF)	Emission Rate (lb/hr)	Unrestricted Emission Rate (tpy)	Footnotes
Organics					
Benzene	71-43-2	2.10E-03	3.29E-06	1.44E-05	C
Butane	106-97-8	2.10E+00	3.29E-03	1.44E-02	C
Dichlorobenzene	25321-22-6	1.20E-03	1.88E-06	8.24E-06	C
Ethane	75-84-0	3.10E+00	4.86E-03	2.13E-02	C
Formaldehyde	50-00-0	7.50E-02	1.18E-04	5.15E-04	C
Hexane	110-54-3	1.80E+00	2.82E-03	1.24E-02	C
Naphthalene	91-20-3	6.10E-04	9.57E-07	4.19E-06	C
Pentane	109-66-0	2.60E+00	4.08E-03	1.79E-02	C
Propane	74-98-6	1.60E+00	2.51E-03	1.10E-02	C
Toluene	108-88-3	3.40E-03	5.33E-06	2.34E-05	C
Acenaphthene	83-32-9	1.80E-06	2.82E-09	1.24E-08	C
Acenaphthylene	203-96-8	1.80E-06	2.82E-09	1.24E-08	C
Anthracene	120-12-7	2.40E-06	3.76E-09	1.65E-08	C
Benz(a)anthracene	56-55-3	1.80E-06	2.82E-09	1.24E-08	C
Benzo(a)pyrene	50-32-8	1.20E-06	1.88E-09	8.24E-09	C
Benzo(b)fluoranthene	205-99-2	1.80E-06	2.82E-09	1.24E-08	C
Benzo(g,h,i)perylene	191-24-2	1.20E-06	1.88E-09	8.24E-09	C
Benzo(k)fluoranthene	205-82-3	1.80E-06	2.82E-09	1.24E-08	C
Chrysene	218-01-9	1.80E-06	2.82E-09	1.24E-08	C
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	1.88E-09	8.24E-09	C
7,12-Dimethylbenz(a)anthracene	57-97-6	1.60E-05	2.51E-08	1.10E-07	C
Fluoranthene	206-44-0	3.00E-06	4.71E-09	2.06E-08	C
Fluorene	86-73-7	2.80E-06	4.39E-09	1.92E-08	C
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	2.82E-09	1.24E-08	C
2-Methylnaphthalene	91-57-6	2.40E-05	3.76E-08	1.65E-07	C
3-Methylchloranthrene	56-49-5	1.80E-06	2.82E-09	1.24E-08	C
Phenanthrene	85-01-8	1.70E-05	2.67E-08	1.17E-07	C
Pyrene	129-00-0	5.00E-05	7.84E-08	3.44E-07	C
HAP Metals					
Arsenic	7440-38-2	2.00E-04	3.14E-07	1.37E-06	D
Barium	7440-39-3	4.40E-03	6.90E-06	3.02E-05	D
Beryllium	7440-41-7	1.20E-05	1.88E-08	8.24E-08	D
Cadmium	7440-43-9	1.10E-03	1.73E-06	7.56E-06	D
Chromium	7440-47-3	1.40E-03	2.20E-06	9.62E-06	D
Cobalt	7440-48-4	8.40E-05	1.32E-07	5.77E-07	D
Copper	7440-50-8	8.50E-04	1.33E-06	5.84E-06	D
Lead	7139-92-1	5.00E-04	7.84E-07	3.44E-06	D
Manganese	7439-96-5	3.80E-04	5.96E-07	2.61E-06	D
Mercury	7439-97-6	2.60E-04	4.08E-07	1.79E-06	D
Molybdenum	7439-98-7	1.10E-03	1.73E-06	7.56E-06	D
Nickel	7440-02-0	2.10E-03	3.29E-06	1.44E-05	D
Selenium	7782-49-2	2.40E-05	3.76E-08	1.65E-07	D
Vanadium	7440-62-2	2.30E-03	3.61E-06	1.58E-05	D
Zinc	7440-66-6	2.90E-02	4.55E-05	1.99E-04	D
Max. Single HAP				**2.13E-02**	H
Total HAP				**0.08**	

Emission Factor Footnotes

A AP-42 Table 1.4-2
B AP-42 Table 1.4-2
C AP-42 Table 1.4-3
D AP-42 Table 1.4-4
E 40 CFR Part 98 Table C-1: Pipeline natural gas = 1026 Btu/scf, CO_2 emission = 53.06 kg CO_2/MMBtu = 120162 lb/MMBtu = 120019 lb/MMscf
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G CO_2e = (Global Warming Potential, GWP) * (Emission). GWP from 40 CFR Part 98 Table A-1: CO_2 = 1, CH_4 = 25, N_2O= 298

Largest single HAP is Ethane
AP-42 Table 1.5-1 Propane Emission factors for Commercial Boilers

Table
Oven 1 Non-Combustion Emissions
STRU001
Baldinger Bakery
St Paul MN

Table 23
Oven 1 Non-Combustion Emissions
STRU001
Baldinger Bakery
St Paul MN

Source ID	Product Name	(Yi) Intial Yeast as a % of Flour	(ti) Total Ferment Time in Hours	(S) Yeast Spike as a % Flour	(ts) Spike Time in Hours	VOC Emission Factor[1] (lbs/ton baked bread)	Total Units	Unit dough weight (pounds)	Bake out loss	Total Baked Product (tons)	Total VOC Emissions (tons)	Total HAP[2] Emissions (tons)	CO2e[3] Emissions TPY
Oven 1	Buns	4.6	1.5	4.5	1.35	3.11	39,960,683	1.5	12%	26,374	40.97	1.23	36.14

Total Non-combustion VOC Emissions (tons)	40.97
Total Non-combustion Acetaldehyde Emissions (tons)	1.23
Total Non-combustion CO2e Emissions (tons)	36.14

NOTES

[1] Based on the formula in AP-42 Section 9.9.6 - Pounds VOC per ton of baked bread = 0.95(Yi)+0.195(ti)-0.51(S)-0.86(ts)+1.90

[2] Acetaldehyde is the only HAP emitted during the process. Acetaldehyde emissions based on 3% of VOC's per communication from John Chikkala, MPCA, April 23, 2008

[3] Reference: EPA 453/R-92-017, section 2.3 Air Emissions. Alternative Control Technology Document for Bakery Oven Emissions. When estimating CO2 emissions from bread baking, the equation uses the given that ethanol makes up 92% of the VOCs emitted in bread making. During yeast fermentation, 100 pounds of sugar is converted into 47 lbs CO2 compared to 49 lbs ethanol. CO2 emissions (tons) are calculated by the equation: (Total VOC) *0.92*(47/49).

Table 24
Oven 2 Non-Combustion Emissions
STRU002
Baldinger Bakery
St Paul MN

Source ID	Product Name	(Yi) Intial Yeast as a % of Flour	(ti) Total Ferment Time in Hours	(S) Yeast Spike as a % Flour	(ts) Spike Time in Hours
Oven 2	Buns	4.6	1.5	4.5	1.35

NOTES

[1] Based on the formula in AP-42 Section 9.9.6 - Pounds VOC per ton of baked bread = 0.95(Yi)+0.1

[2] Acetaldehyde is the only HAP emitted during the process. Acetaldehyde emissions based on 3% of V

[3] Reference: EPA 453/R-92-017, section 2.3 Air Emissions. Alternative Control Technology Documer the equation uses the given that ethanol makes up 92% of the VOCs emitted in bread making. During y CO2 emissions (tons) are calculated by the equation: (Total VOC) *0.92*(47/49).

VOC Emission Factor[1] (lbs/ton baked bread)	Total Units	Unit dough weight (pounds)	Bake out loss	Total Baked Product (tons)	Total VOC Emissions (tons)
3.11	13,320,227	1.5	12%	8,791	13.66

Total Non-combustion VOC Emissions (tons)	**13.66**

Total Non-combustion Acetaldehyde Emissions (tons)	**0.41**

Total Non-combustion CO2e Emissions (tons)	**12.05**

95(ti)-0.51(S)-0.86(ts)+1.90

VOC's per communication from John Chikkala, MPCA, April 23, 2008

nt for Bakery Oven Emissions. When estimating CO2 emissions from bread baking,

east fermentation, 100 pounds of sugar is converted into 47 lbs CO2 compared to 49 lbs ethanol.

Total HAP[2] Emissions (tons)	CO2e[3] Emissions TPY
0.41	12.05