

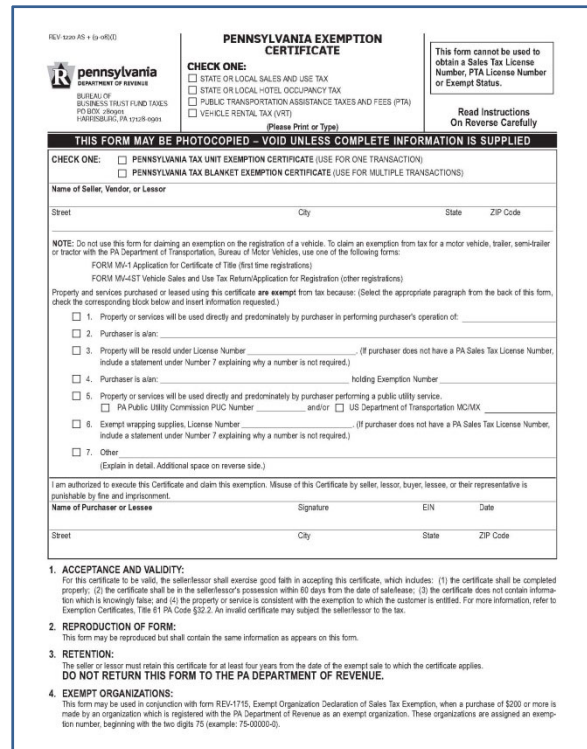
PROJECT SUMMARY

MANUFACTURING ENERGY USE SALES AND USE TAX EXEMPTION STUDY PRINTING AND BAKERY CLIENTS

PROJECT SUMMARY

Bridgestone Associates has conducted a number of Sales and Use Tax Exemption Studies for manufacturing clients in Pennsylvania. Under Commonwealth of Pennsylvania Code, the energy used directly in the process of manufacturing in facilities within the Commonwealth is exempt from Sales and Use Taxes. However, the remainder of the energy used within the same facility for non-manufacturing purposes is subject to these taxes and so the manufacturing and non-manufacturing uses must be distinguished for tax purposes. The studies performed were to determine and document the percentage of the total facility energy use that could be attributed to manufacturing and therefore tax exempt, and to assist the clients in preparing the necessary Certificate of Exemption forms to be filed with their energy suppliers and the Commonwealth of Pennsylvania's Department of Revenue.

In two recent projects of this type that Bridgestone Associates completed, studies were performed for a large commercial bakery client and a large commercial book printing facility. The bakery used both natural gas and electricity in their manufacturing processes while the printing facility used only electricity.



REV-1200 AS + (a) (6/02)

BRIDGESTONE ASSOCIATES LIMITED

DEPARTMENT OF REVENUE
BUREAU OF BUSINESS TRUST FUND TAXES
PO BOX 28099
HARRISBURG, PA 17105-1001

CHECK ONE:
 STATE OR LOCAL SALES AND USE TAX
 STATE OR LOCAL HOTEL OCCUPANCY TAX
 PUBLIC TRANSPORTATION ASSISTANCE TAXES AND FEES (PTA)
 VEHICLE RENTAL TAX (VRT)

(Please Print or Type)

THIS FORM MAY BE PHOTOCOPIED - VOID UNLESS COMPLETE INFORMATION IS SUPPLIED

CHECK ONE: PENNSYLVANIA TAX UNIT EXEMPTION CERTIFICATE (USE FOR ONE TRANSACTION)
 PENNSYLVANIA TAX BLANKET EXEMPTION CERTIFICATE (USE FOR MULTIPLE TRANSACTIONS)

Name of Seller, Vendor, or Lessor _____
 Street _____ City _____ State _____ ZIP Code _____

NOTE: Do not use this form for claiming an exemption on the registration of a vehicle. To claim an exemption from tax for a motor vehicle, trailer, semi-trailer or tractor with the PA Department of Transportation, Bureau of Motor Vehicles, use one of the following forms:
 FORM MV-1 Application for Certificate of Title (first-time registrations)
 FORM MV-4ST Vehicle Sales and Use Tax Return/Application for Registration (other registrations)

Property and services purchased or leased using this certificate are exempt from tax because: (Select the appropriate paragraph from the back of this form, check the corresponding block below and insert information requested.)

1. Property or services will be used directly and predominantly by purchaser in performing purchaser's operation of: _____

2. Purchaser is also: _____

3. Property will be resold under License Number: _____ (If purchaser does not have a PA Sales Tax License Number, include a statement under Number 7 explaining why a number is not required.)

4. Purchaser is also: _____ holding Exemption Number: _____

5. Property or services will be used directly and predominantly by purchaser performing a public utility service:
 PA Public Utility Commission PUC Number: _____ and/or US Department of Transportation MCMX _____

6. Exempt wrapping supplies, License Number: _____ (If purchaser does not have a PA Sales Tax License Number, include a statement under Number 7 explaining why a number is not required.)

7. Other _____
(Explain in detail. Additional space on reverse side.)

I am authorized to execute this Certificate and claim this exemption. Misuse of this Certificate by seller, lessor, buyer, lessee, or their representative is punishable by fine and imprisonment.

Name of Purchaser or Lessee _____ Signature _____ EIN _____ Date _____
 Street _____ City _____ State _____ ZIP Code _____

1. ACCEPTANCE AND VALIDITY:
 For this certificate to be valid, the seller/lessor shall exercise good faith in accepting this certificate, which includes: (1) the certificate shall be completed properly; (2) the certificate shall be in the seller/lessor's possession within 60 days from the date of sale/lease; (3) the certificate does not contain information which is knowingly false; and (4) the property or service is consistent with the exemption to which the customer is entitled. For more information, refer to Exemption Certificates, Title 61 PA Code §32.2. An invalid certificate may subject the seller/lessor to the tax.

2. REPRODUCTION OF FORM:
 This form may be reproduced but shall contain the same information as appears on this form.

3. RETENTION:
 The seller or lessor must retain this certificate for at least four years from the date of the exempt sale to which the certificate applies.
DO NOT RETURN THIS FORM TO THE PA DEPARTMENT OF REVENUE.

4. EXEMPT ORGANIZATIONS:
 This form may be used in conjunction with Form REV-1715, Exempt Organization Declaration of Sales Tax Exemption, when a purchase of \$200 or more is made by an organization which is registered with the PA Department of Revenue as an exempt organization. These organizations are assigned an exemption number, beginning with the two digits 75 (example: 75-00000-0).

PROJECT STATISTICS

Clients:	Confidential
Project Type:	Detailed Sales and Use Tax Exemption Studies
Facility Type and Size:	Client 1: 250,000 sq. ft. Commercial Bakery Client 2: 110,000 sq. ft. Commercial Book Printers
Energy Use:	Client 1: 18,000,000 kWh/year; 100,000 MCF/year natural gas Client 2: 4,500,000 kWh/year



Manufacturing Equipment: Client 1: 780 pieces of equipment related to manufacturing were evaluated and their energy use measured and/or nameplate data recorded.
Client 2: 184 pieces of equipment related to manufacturing were evaluated and their energy use measured and/or nameplate data recorded.

Exemption Results: Client 1: 81.8% of electricity purchased and 88.6% of natural gas purchased by the facility is used in manufacturing
Client 2: 84.3% of electricity purchased by the facility is used in manufacturing

PROJECT DESCRIPTION

The Commonwealth of Pennsylvania’s Code provides an exemption from Sales and Use Taxes for parts, services and supplies, including energy, used directly in manufacturing or processing. This means that the percentage of the total energy used in a manufacturing facility that can be directly attributed to the manufacturing processes is exempt from Sales and Use Taxes, and a manufacturer can save by preparing and filing an exemption certificate.

To complete the necessary exemption certificate (PA Revenue Form 1220), the energy used in manufacturing as a percentage of a facility’s the total use must be calculated. To do this it is necessary to measure and/or estimate the actual energy use of each individual piece or group of manufacturing or processing equipment and then compare that total with the facility’s total energy use. Unfortunately, while it might seem to be easier to measure or estimate the non-manufacturing energy use and then subtract that from the total facility use in order to obtain the portion attributable to manufacturing, this is not an approved calculation approach under the Pennsylvania Department of Revenue’s guidelines. Under these guidelines the manufacturing energy use must be calculated and/or measured and then compared to the total.

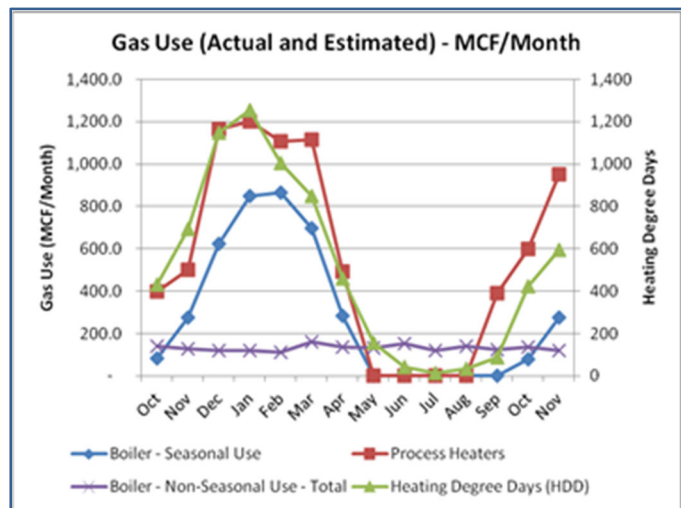
061 PA Code §32.32 Manufacturing and Processing – Equipment, machinery, parts and foundations therefor and supplies used directly in manufacturing or processing – the purchase or use of tangible personal property or services performed thereon by a person engaged in the business of manufacturing or processing is exempt from tax if the property is predominantly used directly by him in manufacturing or processing operations.

The Sales and Use Tax Exemption Study for Client 1 was performed in conjunction with a study being performed by Bridgestone Associates on the potential use of waste heat from their Bakery ovens. The Sales Tax Exemption Study included measuring and calculating manufacturing use of both natural gas and electricity. An asset list of approximately 1,750 pieces of equipment used in the manufacturing process was provided by the Client. This was reviewed with Plant operations and engineering personnel and those pieces of equipment that did not use either electricity or natural gas were removed from the list leaving approximately 750 pieces of equipment that used electricity and 30 that used natural gas. Because many of the electrical devices were small and inaccessible (e.g. motors on conveyor belts), especially with the Bakery in operation, it was determined that operating current measurements should be taken at the distribution panels for these devices. Using the Plant’s electrical drawings, equipment was grouped by its electrical distribution panel and then a qualified electrician assisted in taking

measurements for all relevant panels. Nameplate data were also collected and recorded for all of the larger pieces of equipment.

Using actual operating hours for each of the production lines and a combination of nameplate data with estimated load factors and actual measured data, it was then possible to construct a spreadsheet showing the calculated annual electric energy use for each of the 750 pieces of equipment. The total manufacturing equipment energy use was then compared to the total facility’s energy use in order to calculate the percentage used in manufacturing. For Client 1 this percentage was 81.8%.

Client 1 used natural gas in the Bakery ovens, for heating process water, for heating washdown water, for space heating, in their cafeteria, and for domestic hot water. There were separate gas meters on each of the Bakery ovens but no separate gas meters on any of the other equipment to allow simple recording of the actual consumption for each of these separate uses. As a result, this had to be estimated. A number of calculations were performed comparing summertime (non-heating) gas use with wintertime (heating season) gas use in order to determine the space heating (non-manufacturing) component of overall gas use. It was also possible to estimate the other non-manufacturing uses (cafeteria and domestic hot water) so that the washdown and process water gas use could be determined. These uses were then added to the Bakery oven use in order to obtain the total gas use in manufacturing. This was then compared with the total annual Plant use and found to be 88.6% of the total.



The approximate annual savings in Sales and Use Taxes from the electricity and natural gas manufacturing exemptions for Client 1 were \$56,000/year for electricity and \$29,000/year for natural gas purchases.

For Client 2 there was no natural gas use so the Sales and Use Tax Exemption Study was for their electric use only. This Study was conducted as a standalone study and not part of any other energy study.

Client 2’s 110,000 sq. ft. commercial book printing facility was approximately 3 years old. They had estimated their manufacturing electric use and filed a Certificate of Exemption with the Commonwealth of Pennsylvania’s Department of Revenue. However, the Department of Revenue had challenged their calculations and so Bridgestone Associates was engaged by Client 2 to perform a complete study and verify their original calculations.

Client 2 provided a complete list of equipment used in the printing processes. Using this list, a spreadsheet was prepared listing all manufacturing equipment starting with the rolled paper un-winders feeding the main printing machines at the beginning of the book printing process and ending with the protective wrapping of the finished product before being packed for shipment. Nameplate data for all

equipment on this list were then recorded. Where nameplate data were unavailable or hard to obtain (e.g. conveyor belt motor drives), measurements were taken of actual loads on distribution panels. Also, some actual loads for other equipment were measured on their distribution panels in order to verify the estimates of load factor used in the energy use calculations.



Using actual operating hours for each piece of equipment and a combination of nameplate data with estimated load factors and actual measured data, it was then possible to calculate the annual electric energy use for each of the 184 pieces of equipment. The total energy use was then compared to the total facility's energy use in order to calculate the percentage used in manufacturing.

For Client 2 the percentage of the facility's total electricity use used in manufacturing was 84.3%. Bridgestone Associates then completed the Exemption Certificate (Form 1220) for Client 2. The approximate annual savings in Sales and Use Taxes from this exemption were \$14,300/year.

Other Sales and Use Tax Exemption studies have been performed at a number of facilities in Pennsylvania including:

- Helicopter remanufacturing plant
- Small commercial printers
- Food manufacturing plants
- Electronic component manufacturing plant