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#### **Learning Objectives**

At the end of this session, you will be able to:

- Recognize the purpose of a utility study and the requirements to take advantage of sales and use tax exemptions
- Identify facilities that are good candidates for a utility study
- Outline the process for determining the exempt utility usage percentage
- Identify if your business has opportunities to claim exemptions on an ongoing basis and refunds for overpaid sales and use tax paid from past utility bills

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#### **Speaker Introductions**

- Muthu Periakaruppan, CPA
  - Principal
  - State & Local Tax
- Paul Hydukovich, P.E.
  - Mechanical Engineer
  - Manager
  - Federal Tax Strategies



# Realize Sales and Use Tax Exemptions With a Utility Study

#### Introduction

- Every day, we use utilities to heat, cool, light and operate our homes, offices, health care buildings, and manufacturing facilities.
- In many states, utility companies must charge sales and use tax on these utilities unless a valid exemption is claimed.
- Expenditures on utilities are significant.
   In 2017, the U.S. industrial sector, which includes manufacturing, spent just under \$68 billion dollars on electricity alone.



#### Sales Tax Exemption for Utilities Used in Manufacturing

- An exemption or partial exemption from sales tax paid on utilities such as electricity, gas, steam, or water used or consumed in manufacturing or agricultural production.
- The exemption may apply to both state and local sales tax.
- The utility study calculates the percentage of utilities used for tax exempt qualifying production purposes.
- The utility study is performed per each state's requirements.



#### **Sales Tax Exemption for Manufacturing**

Manufacturing relates to producing a product that will be sold ultimately at retail

Utilities used in manufacturing

• Electricity, Gas, Water

Capital equipment, machinery

Items used and consumed in production

**Packaging** 

QA

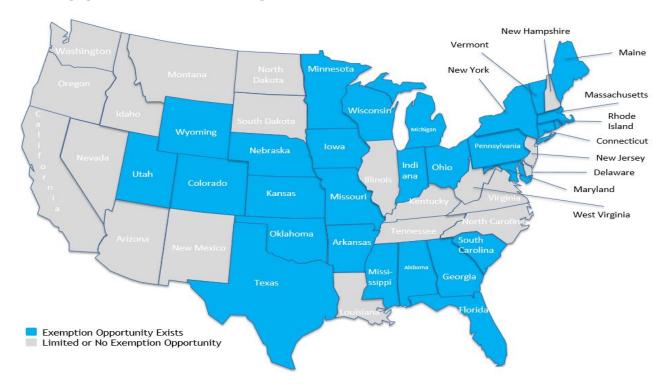
#### **Sales Tax Exemption for Manufacturing**



- What is considered manufacturing?
- Manufacturing process
  - Starts where raw materials removed from Beginning Inventory
  - Ends when finished product placed in Finished Goods
- Other related functions which may qualify as manufacturing
  - R&D
  - Testing/Quality Control
  - Changing Finished Goods (Deep Freezer)

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#### **Exemption Opportunities by State**



#### **Exemptions Vary by State**

#### Calculated Usage

 Many states require the exemption to be taken at the percentage determined by the utility study.

#### Predominant Usage

- A full 100% exemption is provided if the study determines that over 50% of the utility is used for production.
- On the flip side, no exemption is available if the 50% threshold is not met, there is no prorated exemption.

#### Certification

• Texas, for example, requires an engineer to certify the utility study.



#### **Exempt Energy Use**

Though
exemptions
vary by state,
examples may
include energy
consumed by:

- Equipment used directly in the manufacturing process
- Air compressors used to provide compressed air to the manufacturing process
- Motors and cranes used to convey product through the manufacturing line
- Mechanical heating/cooling equipment dedicated directly in production (i.e. not exclusively for occupant comfort)

#### **Non-Exempt Energy Use**

Though
exemptions
vary by state,
examples may
include energy
consumed by:

- Items used for facility maintenance
- General interior space lighting
- Equipment such as computers, printers, etc. used in office and administrative areas, storage areas and shipping/receiving
- Mechanical heating/cooling equipment used for occupant comfort

#### **Benefits of a Utility Study**

- ✓ Claim exemption going forward based on the percentage of utilities used in production as calculated in the utility study
  - Provide exemption certificate with exempt percentage to utility provider
- ✓ Potentially claim sales tax refunds for past periods
  - If the exemption was not being claimed for prior periods
- ✓ Many states allow you to claim a refund for any overpaid sales tax on utilities going back 3 to 4 years depending on the statute of limitations
- ✓ Refund claims can be prepared and submitted with utility provider or directly with the State
- ✓ Can incorporate refund claims for utilities with refunds related to other qualifying purchases



- Electricity, gas, steam or water used or consumed in agricultural or industrial production is exempt from sales and use tax if:
  - It is necessary to produce a particular product; and
  - It is in excess of the average climate control or lighting for the production area
- This exemption does not apply to utilities used for space heating and lighting of the production area or for any nonproduction areas such as office or administrative areas. Water used or consumed in nonproduction areas is also taxable.
- Utility sales tax refund claim period: 3 ½ years



- Fuel and electricity consumed in manufacturing tangible personal property is exempt from Wisconsin sales and use tax.
- Only fuel and electricity consumed by machines and equipment used directly in the manufacturing process qualify for the exemption. Utilities used in heating or cooling the plant, lighting, or in an office are not exempt.
- Utility sales tax refund claim period: 48 months



- Electricity and gas used in the continuing business activity of manufacturing or producing tangible personal property or services is considered exempt or partially exempt from sales and use tax.
- Electricity and gas used in non-production spaces and solely for the comfort of employees or prior to or subsequent to the actual exempt activity performed is considered non-exempt.
- If the meter is more than 75% exempt, the entire meter is entitled to a full exemption.
- Utility sales tax refund claim period: 3 years



- The sale of gas, steam or electricity may be exempt if the 75% or more of the gas, steam or electricity is used in the actual manufacturing process or in heating an industrial plant in which a manufacturing process takes place of tangible personal property to be sold.
- If the 75% rule is met, the entire meter is entitled to a full exemption.
- A utility study is required (using a reasonable method) to determine if the gas, steam or electricity metered in the building is used in 75% or more of actual manufacturing activities.
- Utility sales tax refund claim period: 3 years



- Equipment, machinery, parts and foundations therefore and supplies used directly in manufacturing or processing are exempt.
- A separate utility survey must be completed for each meter a company is seeking an exemption on and it must be explained how each piece of machinery/equipment has a direct causal relationship on the manufactured product.
- Utility sales tax refund claim period: 3 years



- Natural gas and electricity is exempt from tax if used in agricultural production or used in manufacturing including "lighting, cooling, and heating" the manufacturing area during the manufacturing or processing of tangible personal property.
- Texas requires a utility study to be conducted and certified by a registered engineer or a person with an engineering degree from an accredited engineering college to determine that more than 50% of the electricity the meter measures is used in a tax-exempt manner.
- Utility sales tax refund claim period: 4 years



- Anything that is a fuel or a source of power for machinery used in the manufacturing operation, or that provides energy for the manufacturing process itself is not taxable in Ohio
- A utility study provides a reasonable methodology of establishing an exemption percentage for the tax exemption certificate
- Utility sales tax refund claim period: 4 years

#### **Example 1**

- Using a theoretical manufacturing facility in Minnesota as an example, the following shows the tax-related impact of performing a utility study:
  - The manufacturing facility spends \$8,000 per month on electricity bills.
  - At a 6.8% sales tax rate, approximately \$550 sales tax is paid per month (\$6,600 per year).
  - If the utility study determines the meter qualifies for an 80% exemption, the company will save \$440 per month (\$5,300 per year) on state sales tax moving forward.
  - In addition, using MN's 3 1/2 year look back period, the company may be able to file a refund claim of \$19,000.

## **Example 2**

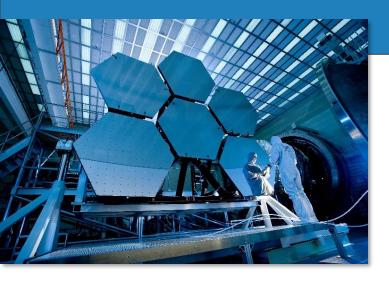
- Using a theoretical manufacturing facility in Texas as an example, the following shows the tax-related impact of performing a utility study:
  - The manufacturing facility spends \$10,000 per month on electricity bills.
  - At a 6.25% rate, approximately \$625 per month (\$7,500 per year) is spent on state sales tax.
  - If the utility study determines the meter is 70% exempt. Therefore, a 100% exemption is allowed and the company will save all \$625 per month (\$7,500 per year) on state sales tax moving forward.
  - In addition, using TX's 48 month look back period, the company may be able to file a refund claim of \$30,000.

# **Opportunities for Utility Studies**

- Good candidates include facilities/operations that use electricity, gas, steam or water directly in their manufacturing process:
  - Pharmaceutical manufacturers
  - Food production facilities
  - Lumber sawmills
  - Agricultural production facilities
  - Equipment manufacturers



# **Opportunities for Utility Studies**



#### Key features of good opportunities:

- Large manufacturing equipment loads such as motors, compressors, machining centers, etc.
- Multiple-shift operations
- Significant natural gas usage directly in the manufacturing process
- Facilities are in states where interior lighting,
   HVAC, etc. can be taken into consideration in the exemption calculation

The first step in the utility study process is the gathering of information on the building and the manufacturing process. This includes:

- Building address
- Most recent 12 months of utility bills for each utility meter serving the building (i.e. electricity and/or natural gas)
- Floor plan drawings for the building with manufacturing and non-manufacturing areas identified
  - If available, architectural, mechanical, and electrical drawings
- Inventory of all equipment used in the manufacturing process
- Manufacturing operating hours



# **Utility Studies: Step 1 Key Information**

Utility invoice analysis provides important insight into the following aspects of the facility:

- Lists meter address and identification
- Details actual meter consumption and often times demand
- Includes the number of days in the billing period
- Allows establishment of an annual energy usage profile for the meter

# **Utility Studies: Step 1 Key Information**

# Floor plans and construction drawings:

- Establishes boundaries between manufacturing and nonmanufacturing areas
- Construction drawings (mechanical, electrical, etc.) provide detailed information on heating and cooling equipment, interior lighting, and electrical/gas distribution systems
- Assists team when performing site visit

#### **Utility Studies: Step 1 Key Information**

# The inventory of equipment used in the manufacturing process is critical to the analysis because:

- Though it varies by state, the manufacturing process typically begins where transformative work is performed on raw material and ends when the finish product is moved to storage
  - It provides detailed list of manufacturing-related equipment which is a requirement of many states.
  - For each piece of equipment, it establishes the energy loads (horsepower, voltage, amperage, wattage, etc.) as well as usage.
  - Aids team in field-verifying equipment during the site visit.

- The second step in the utility study process is a site visit by personnel to document the utility meter(s), the manufacturing equipment, its usage, and the respective energy loads.
- The site visit is also an opportunity to discuss with facility personnel any outstanding questions regarding the manufacturing process and equipment usages.





- The third step in the utility study process is the quantitative analysis of the energy consumed in the manufacturing process utilizing the information gathered in both the information request and the site visit.
- Energy loads are sorted into exempt and non-exempt categories.
- The energy use for each piece of equipment is calculated using voltages, amperage, wattage, horsepower, tonnage, BTU consumption, etc.
- Individual load and use factors, in conjunction with daily, weekly and monthly operating hours are applied to each item to calculate its annual energy consumption.

- Exempt energy loads for each meter are then summarized and compared to the annual utility consumption for that particular meter.
- Exemptions vary by state with some states allowing a full exemption if more than 50% of the meter is exempt.
- An example of an exemption calculation would be:

Energy Usage Summary					
Building	Meter	Total Annual kWh	Total Annual Exempt kWh	Exemption Ratio	Exemption Percentage
Manufacturing Facility	181259	537,280	384,979	0.7165	71.65%

# **Utility Studies: Final Step**



- The last step in the process is the preparation of all the necessary forms and statements to request the up-front sales tax exemption or refund.
- This often involves working with the State to answer any questions on the utility study until the exempt percentage is accepted and approved.

## **Common State Follow-up Questions**

- Example 1
  - How are certain pieces of equipment used in production,
     i.e. refrigeration units?
- Example 2
  - Show how each piece of equipment is tied to a specific meter.

## **How To Claim Exemptions?**

- Once the utility study is completed, the appropriate exemption certificate for that state needs to be completed.
- The exemption percentage calculated in the utility study is entered on the exemption certificate, which is provided to the utility provider.
- The utility provider will only charge sales tax going forward on the taxable percentage, i.e. 15% versus 100% if the utility study provided an exempt percentage of 85%.

#### **How To Claim Refunds?**

- A refund claim for any overpaid sales tax on utilities can be claimed going back 3 to 4 years depending on the statute of limitations.
- The refund claim is prepared and submitted based on the exempt percentage.
- The refund claim must be compiled based on the requirements for each state.
  - File refund claim with the utility provider
  - File refund claim directly with the State
- Opportunity exists for a reverse audit to include other refunds with the utilities, i.e. manufacturing equipment, repair parts, consumables.



#### **Utility Study Regional Contacts**

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