



**July 1, 2003 (Reissued July 2, 2008)**  
**Pennsylvania Sales and Use Tax**  
**No. SUT-03-032**  
**Property Used in Manufacturing of Electricity**

ISSUES

1. Does Taxpayer qualify as a manufacturer for Pennsylvania Sales and Use Tax purposes?
2. Does an electricity plant's water treatment system equipment, including the treated water transmission equipment, (e.g., tanks, pipes, pumps, etc.) used in conjunction with the system, qualify as equipment excluded from Pennsylvania Sales and Use Tax because the equipment is directly used in the manufacturing operation?
3. Does an enclosure that surrounds electricity generating equipment for the primary purpose of controlling or abating noise pollution qualify as equipment excluded from Pennsylvania Sales and Use Tax as equipment used in the manufacturing operation?
4. Do the cooling units and the cool water cycle equipment of the steam turbine in an electricity manufacturing plant qualify as equipment excluded from Pennsylvania Sales and Use Tax as equipment directly used in the manufacturing operation?
5. Does the purchase of machinery, equipment, parts, and supplies by Taxpayer (through its third party contractors), including the installation thereof, which are to be used in the electricity generation operation, qualify as property excluded from Pennsylvania Sales and Use Tax as equipment used in the manufacturing operation?

CONCLUSIONS

1. Taxpayer qualifies as a manufacturer for Pennsylvania Sales and Use Tax purposes.
2. An electricity manufacturing plant's water treatment system equipment, including the treated water transmission equipment, (e.g., tanks, pipes, pumps, etc.) used in conjunction with the system, qualifies as equipment excluded from Pennsylvania Sales and Use Tax as equipment directly used in the manufacturing operation.
3. An enclosure that surrounds electricity generating equipment for the primary purpose of controlling or abating noise pollution qualifies as equipment excluded from Pennsylvania Sales and Use Tax as equipment used in the manufacturing operation.
4. The cooling units and the cool water cycle equipment of the steam turbine in an electricity manufacturing plant qualify as equipment excluded from Pennsylvania Sales and Use Tax as equipment directly used in the manufacturing operation.
5. The purchase of machinery, equipment, parts, and supplies by Taxpayer (through its third party contractors), including the installation thereof, which are to be used in the electricity generation operation, qualify as property excluded from Pennsylvania Sales and Use Tax as equipment used in the manufacturing operation.

## FACTS

Taxpayer's plant will employ "combined cycle technology". "Combined cycle" refers to the power sources used to drive the generators. The first source is the fuel-fired combustion turbine ("CT"). The CT draws air in from the inlet and passes the air through a compressor. This pressurized air (nominally 160 pounds per square inch) is mixed with fuel (natural gas or low sulfur distillate) and ignited. Depending on the mode of operation and the fuel source, demineralized water is often injected into the ignition process to control the combustion temperature and to minimize environmental emissions. The energy source that results from the compressed air and fired fuel is passed through a turbine. This process converts this energy source to mechanical energy that is used to drive the compressor and the generator.

The exhaust gas from each CT contains a significant amount of energy. This energy is captured and passed through a Heat Recovery Steam Generator ("HRSG"). This steam generator converts demineralized water, using the exhaust gas energy, to steam that is utilized to drive a steam turbine. The steam turbine drives a generator that produces power.

The CT and steam turbine generators produce electrical energy (power). The power is subsequently conditioned via unit transformers which converts the voltage levels from 13.8 KV and 18.0 KV for the CT and steam turbines, respectively, to 500 KV. This power is subsequently passed through a Gas Insulated Bus System (GIS) and a series of breakers and disconnect switches until the final point where the power is metered for delivery. Through the entire process, the electricity changes intensity and form until it is in a state usable by ultimate consumers.

## DISCUSSION

The Pennsylvania Tax Reform Code ("Code") excludes from the definition of a taxable sale at retail the transfer of tangible personal property including but not limited to machinery, equipment, parts and supplies used or consumed by the purchaser directly in the operations of the manufacture of tangible personal property. 72 P.S. § 7201(k)(8)(A). Section 201(m) of the Code defines "tangible personal property" to include "electricity for non-residential use." As taxpayer will manufacture electricity for non-residential use, it may claim the manufacturing exemption on the machinery, equipment and supplies it predominantly and directly uses in its manufacturing, i.e. its generation of electricity. The Code defines "manufacture" to include every operation commencing with the first production stage and ending with the completion of personal property having the physical qualities that it has when the manufacturer transfers it to customers. 72 P.S. § 7201(c)(1). The exclusion also applies to pollution control devices that are deemed to be directly used in manufacturing operations. 61 Pa. Code § 32.32(a)(3)(J). Therefore, as taxpayer will be purchasing machinery, equipment, parts and supplies to create a plant for its manufacture of electricity, taxpayer is eligible for the manufacturing exemption from sales tax.

Accordingly, taxpayer may purchase exempt from sales tax all machinery, equipment, parts and supplies starting with that used in the initial stage of the water treatment system, and ending at the final production state, just prior to the breaker system. Exempt equipment includes the noise pollution abatement system surrounding the generators, and the steam

turbine unit cooling equipment. As we discussed, the breaker equipment is used in a post production activity, and the fuel holding tank is pre-production; therefore, the machinery, equipment, parts and supplies comprising those items are not exempt.