PRAXAIR, INC. 39 Old Ridgebury Road Danbury, CT 06810-5113	§	STATE OF ALABAMA DEPARTMENT OF REVENUE ADMINISTRATIVE LAW DIVISION
Taxpayer,	§	DOCKET NO. S. 02-467
v.	§	
STATE OF ALABAMA DEPARTMENT OF REVENUE.	§	

FINAL ORDER

Praxair, Inc. ("Taxpayer") and Alabama Power Company, Inc. jointly petitioned the Department for a refund of utility gross receipts tax for July 1996 through July 1999. The Department denied the petition. The Taxpayer appealed to the Administrative Law Division pursuant to Code of Ala. 1975, §40-2A-7(c)(5)a. A hearing was conducted on September 10, 2002. Neal Acker and Courtney Williams represented the Taxpayer. Assistant Counsel Wade Hope represented the Department.

ISSUES

The Taxpayer manufactures and sells various industrial gases. This case involves two issues:

(1) Is the Taxpayer engaged in an electrothermal manufacturing process? If so, the electricity purchased and used by the Taxpayer in the process is exempt from Alabama's utility gross receipts tax pursuant to Code of Ala. 1975, §40-21-83(5); and,

(2) If the electricity in issue was exempt, was the Taxpayer required to separately meter the exempt usage pursuant to Dept. Reg. 810-6-5-.26(6)(c)?

FACTS

The relevant facts, as accurately stated in the Taxpayer's well-written brief, are set out below; provided, the Taxpayer's factual conclusion that the removal of heat is a thermal process has been deleted.

> General. Praxair manufactures and sells industrial gases (oxygen, nitrogen, argon, and others) for the metal-fabrication, chemicals, refining, food and beverage, semiconductor, and health care industries. Industrial gasses are produced from both the atmosphere, by air separation and liquefaction, and from other sources such as hydrogen, by purification and liquefaction.
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> Atmospheric gases are extracted from the air we breathe by modern air separation plants. These plants are clean, non-polluting facilities and are highly instrumented and computerized. The plants and their operation are both technology and energy intensive. There are approximately 200 large Praxair air separation plants in the United States, plus a number of smaller plants at customers' sites. These atmospheric gases (oxygen, nitrogen, and argon), once separated from the air, are sold either as a gas or liquid. Gas in large volumes is sold to customers through a pipeline from the on-site air separation facility to the customer's use point. Gas in smaller quantities is liquefied and sold either as liquid or in high pressure cylinders by pumping liquid to high pressure.
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> Separation of Air into its Gaseous Components. Praxair has three air separation plants located in Alabama. The facilities at Gadsden, Theodore, and McIntosh consist of air separation and liquefaction processes. At McIntosh the facilities also include the purification and liquefaction of hydrogen and nitrogen.
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> The predominant method for air separation, and that used at Gadsden, Theodore, and McIntosh, is cryogenic distillation. Using large electrically powered compressors, these plants clean, compress, and separate the incoming atmospheric air into constituent gases by removing heat. The first step is the intake phase. Atmospheric air is taken into the plant through the electrically driven air compressor.
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> The electrically driven air compressor adds pressure to the gas which is expanded across the expansion valves and turbines. Expansion takes the pressure energy produced in the electrically driven compressor and uses it to remove heat from the gas. Heat is removed by increasing the pressure and expanding the air. It is this . . . process, the removal of heat, that enables the separation.

This processing is done in a series of heat exchangers where more and more heat is removed from the air until its temperature is reduced close to its liquefaction point. At this point, the air is sent to the distillation column where a process called fractional distillation is put to work. Here air can be separated into nitrogen, argon, and oxygen by taking advantage of their different boiling points. Each constituent gas of air has its own individual boiling point and these individual points vary with pressure. It is this variation of boiling points with pressure that enables the separation process to produce both pure nitrogen and pure oxygen continuously. At atmospheric pressure, liquid nitrogen boils at minus 320 degrees Fahrenheit, argon at minus 302 degrees Fahrenheit, and oxygen at minus 297 degrees Fahrenheit. To separate air into its components cryogenically, as done at Gadsden, Theodore, and McIntosh, heat is removed from the air through electrically driven compression, heat exchange, and expansion, producing liquid and gas streams of air and pure products through continuous distillation.

Production of Liquid Atmospheric Products. Once the air is separated into its gaseous components, nitrogen must then be liquefied for use by Praxair's customers. Liquid products are produced by the . . . process of removing heat from the gaseous products. This heat removal is accomplished by a combination of electrically driven compressors, heat exchangers, and expansion turbines.

In a typical nitrogen liquefier, like those at Gadsden, Theodore, and McIntosh, nitrogen is first compressed by a large electrically driven feed compressor and is then compressed by a recycle compressor. This compressed stream then enters a heat exchanger where heat is removed through returning low pressure nitrogen. After some heat removal, part of the nitrogen is expanded through a turbine to lower pressure, removing heat from the stream. This process is repeated until there is a high pressure liquid nitrogen stream in the heat exchanger which is then expanded for additional heat removal and sent to a storage tank. From the storage tank, it is pumped into trucks to be delivered to customers.

For the production of liquid oxygen and argon, liquid nitrogen is sent back to the distillation column and liquid oxygen and argon are withdrawn to storage tanks for later delivery to customers.

Production of Liquid Hydrogen. Liquid hydrogen is produced in much the same way as liquid nitrogen. However, since liquid hydrogen has a much lower boiling point (minus 423 degrees Fahrenheit) than liquid nitrogen (minus 320 degrees Fahrenheit), it is necessary to remove even more heat through the . . . processing of electrically driven compression and subsequent

> expansion. Where liquid nitrogen typically employs two or three stages of expansion for the removal of heat, liquid hydrogen production generally employs removing heat from a pressurized hydrogen stream followed by as many as seven stages of expansion to remove enough heat to produce a liquid stream. As with a nitrogen liquefier, a hydrogen liquefier recycles the majority of the hydrogen gas back to the recycle compressor where electrical energy is converted to pressure energy in the hydrogen for the expansion that removes heat and allows the production of the liquid product.
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> Summary. In its basic form Praxair separates atmospheric air into its constituent gases and liquefies them by the removal of heat through expansion, heat exchange, and distillation. The electrically driven compressors power the entire process.

Taxpayer's Brief at 2-5.

ANALYSIS

Issue (1) - The Electrothermal Manufacturing Process Exclusion.

Section 40-21-83(5) excludes from the utility gross receipts tax all electricity used by a manufacturer in an electrothermal manufacturing process. The Taxpayer is engaged in a manufacturing process when it processes air into its various component parts. *State v. Grayson Lumber Co.*, 122 So.2d 126, 130 (Ala. 1960) ("Manufacturing" broadly defined as "the production of articles for use from raw or prepared materials by giving these materials new forms, qualities, properties, or combinations, whether by hand labor or by machinery," citing *Beggs v. Edison Electric Illuminating Co.*, 11 So. 381. See also, the other cases cited in the Taxpayer's brief at 7, 8.). This case thus turns on whether the Taxpayer's manufacturing process is an electrothermal manufacturing process.

"Electrothermal" is not defined by the Alabama Revenue Code, Title 40, Code of Alabama 1975. Consequently, the word must be given its customary, generally accepted meaning. *State v. American Brass*, 628 So.2d 920 (Ala.Civ.App. 1993). The American Heritage Dictionary, Second College Edition, at p. 444, defines the term as follows: "1. Of,

pertaining to, or involving both electricity and heat. 2. Of or pertaining to the production of heat by electricity." The Instrumentation, Systems, and Automation Society Dictionary defines the electrothermal process as: "[A]ny process that produces heat by means of an electric current--using an electric arc, induction or resistance method--especially when temperatures higher than those obtained by burning a fuel are required." The 1911 Edition Encyclopedia defines the process as: "(when) electric current is used solely to generate heat, either to induce chemical reactions between admixed substances, or to produce a physical modification of a given substance." Webster's Third New International Dictionary defines the term in part as "relating to the generation of heat by electricity." Finally, Dept. Reg. 810-6-5-.26(5)(j) defines "electrothermal" as "heat produced by electricity."

A cardinal rule of statutory construction is that a statute granting a tax exclusion or deduction must be strictly construed against the taxpayer and for the government. *Fleming Foods of Alabama, Inc. v. Dept. of Revenue*, 648 So.2d 580, cert. denied 115 S.Ct. 1690 (1995).[1] The Taxpayer uses electrical compressors, heat exchangers, and expansion turbines to cool air to extremely low temperatures, which causes the air to separate into its component parts. The components are thus manufactured by the removal or absence of heat, not by the application or use of heat. Strictly construing §40-21-83(5) against the exclusion, the term "electrothermal manufacturing" should be narrowly defined as the manufacture of a product by the application or direct use of electrically-produced heat. Electric furnaces used to manufacture steel is a good example. See, Reg. 810-6-5-

[1]The Taxpayer asserts in its brief, at p. 6, that a tax statute must be construed for the taxpayer and against the State. However, that rule of statutory construction does not apply to tax exclusions or deductions. Rather, as indicated above, a tax exclusion or deduction statute must be strictly construed against the taxpayer and for the State.

.26(5)(j). Otherwise, any manufacturing or compounding process that involves electrically produced cooling or refrigeration, such as the manufacture of ice or ice cream, would qualify for the exclusion. That was not intended by the Legislature.

Because the Taxpayer's products are not manufactured by an electrothermal process, the §40-21-83(5) exclusion does not apply. The Department thus correctly denied the Taxpayer's refund petition.[2]

Issue (2) - Separate Metering.

Even if the electricity used by the Taxpayer was exempt pursuant to §40-21-83(5), the Taxpayer would still not be entitled to a refund because the exempt and non-exempt electricity was not separately metered, as required by Reg. 810-6-5-.26(6)(c). That

[2]The Department cited *State v. Newbury Manufacturing Co., Inc.*, 93 So.2d 400 (Ala. 1957) as support for its position. That case is not relevant because it involved whether certain materials, i.e. sand and steel shot, qualified as machines used in manufacturing pursuant to Code of Alabama Title 51, '789(p) (Code of Ala. 1975, '40-23-2(3)). For the '40-21-83(5) exclusion to apply, it is not necessary for the subject electricity to serve a distinct, direct function in the manufacturing process, as necessary for the sales and use tax Amachine@ rate to apply. As indicated, however, the electricity used by the Taxpayer was still not exempt because it was not used in an electrothermal manufacturing process.

regulation reads as follows:

> Any person engaged or continuing in the business of furnishing taxable and nontaxable utility services to a customer shall pay the tax required on the taxable services furnished when his or her books are kept so as to show separately the taxable utility services furnished and the nontaxable utility services furnished. When the books are not so kept, the person furnishing the utility services shall pay tax on the total gross receipts of all utility services furnished. This would require separate meters for taxable and nontaxable services furnished; estimates will not be acceptable.

In *Ex parte James C. White*, 477 So.2d 422 (Ala. 1985), the Alabama Supreme Court held that the above regulation was reasonable, and that otherwise exempt utility services that are not separately metered are taxable, even if the nontaxable services can be reasonably estimated by other methods. The Court's opinion reads in pertinent part as follows:

> The Department simply argues that Rule 810-6-5-.26 is not a usurpation of legislative authority, but is a reasonable exercise by the Department of the authority delegated to it by the legislature. We agree.
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> In §40-23-31, the legislature specifically granted the Department authority to promulgate rules like Rule 810-6-5-.26 in order to provide for the orderly collection of taxes. Therefore, since it is undisputed that the Department promulgated Rule 810-6-5-.26 to achieve this purpose, and that Shellcast did not comply with the rule, the only question which faced the trial court and the Court of Civil Appeals, and which now faces this Court, is whether Rule 810-6-5-.26 is reasonable.
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> As far as the record before this Court indicates, the only evidence that Shellcast presented was that there are methods, other than separate metering of taxable and nontaxable uses, by which the amount of the exemption to which it claims to be entitled can be proved. It presented absolutely no evidence, not even a scintilla, indicating that this rule is in any way unreasonable. Without such evidence, there was no basis upon which the trial court could have denied the Department's motion and, consequently, no basis for the finding by the majority of the Court of Civil Appeals that the trial court was in error in granting summary judgment.
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> Judge Wright's dissenting opinion correctly expresses the law of the case; therefore, we adopt his reasoning as our own. As Judge Wright states:

> Surely, the Department under its enforcement powers -- nay must be able to adopt reasonable rules for enforcing the tax statutes. If its rules may be rejected by the contention, not of unreasonableness, but merely that the taxpayer may choose to follow another means of its own choosing of achieving the same end, each taxpayer may challenge every rule by showing that they have achieved the same result but by another means. It is obvious that chaos in enforcement would result. Rules would mean nothing.
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> The requirement of meters to measure taxable and exempt gas and electricity furnished to a manufacturer by a utility such as Shellcast is clearly reasonable. Its reasonableness was not challenged in response to motion for summary judgment. Shellcast has admitted failure to install meters in accord with a long established rule. It merely contends it has another method for measuring the exempt from the taxable and it should not be barred by the rules. I submit that the majority decision has the effect of negating the rule-making power of the Department of Revenue.

Ex parte White, 477 So.2d at 425.

The Taxpayer argues that *Ex parte White* can be distinguished because requiring separate metering of its nontaxable utility services is unreasonable. The Taxpayer cites two Administrative Law Division cases in support of its argument, *Bama Oil Supply, Inc. v. State of Alabama*, Misc. 91-206 (Admin. Law Div. O.P.O. 12/21/92) and *Wilbro Company, Inc. v. State of Alabama*, (Admin. Law Div. 10/14/87). The Administrative Law Division held in those cases that a Department regulation was unreasonable under the circumstances, and thus should not be followed.

However, the Alabama Supreme Court specifically held in *Ex parte White* that the separate metering requirement of Reg. 810-6-5-.26 was reasonable. "The requirement of meters to measure taxable and exempt gas and electricity furnished to a manufacturer by a utility such as Shellcast is clearly reasonable." *Ex parte White*, 477 So.2d at 425, quoting

Judge Wrights' dissent in *Shellcast Corporation v. White*, 477 So.2d 419, 421 (Ala.Civ.App. 1984). The fact that the nontaxable services could otherwise be reasonably estimated, as in this case, did not make the regulation unreasonable, even though the alternative method would be less costly to the taxpayer.

This Final Order may be appealed to circuit court within 30 days pursuant to Code of Ala. 1975, §40-2A-9(g).

Entered January 8, 2003.

BILL THOMPSON
Chief Administrative Law Judge