

ALABAMA TAX TRIBUNAL

UNITED LAUNCH ALLIANCE, LLC,	§	
Taxpayer,	§	DOCKET NO. S. 18-1033-JP
v.	§	
STATE OF ALABAMA	§	
DEPARTMENT OF REVENUE.		

OPINION AND PRELIMINARY ORDER

United Launch Alliance, LLC (the Taxpayer), manufactures rockets for the U.S. government at the Taxpayer’s facility in Decatur, Alabama. During the months of May 2014 through December 2016, the Taxpayer purchased helium and nitrogen from Air Products & Chemicals, Inc., for use at that facility. The Taxpayer paid state sales tax on those gas purchases at the general rate of 4 percent. Air Products & Chemicals remitted the sales tax to the Alabama Department of Revenue.

In 2017, the Taxpayer and Air Products & Chemicals jointly petitioned the Revenue Department for a sales-tax refund of \$197,103.75 for the periods mentioned previously. The Taxpayer claimed that the helium and nitrogen it purchased qualified as machines that were used in the manufacture of tangible personal property and thus should have been taxed at the reduced machine rate of 1.5 percent. Therefore, the companies requested a refund of the difference between the two rates. (A small portion of the refund request involved argon gas, which the Taxpayer concedes should not be refunded because it was used for welding.)

In 2018, the Revenue Department granted the Taxpayer a partial refund of \$2,708.90 and denied the remainder of the amount requested, claiming that certain

purchases did not qualify for the machine rate. The Taxpayer appealed the partial denial to the Alabama Tax Tribunal and a hearing was conducted in 2020.

Following the hearing, the parties were directed to file briefs, but the briefing schedule was suspended while the parties addressed an evidentiary issue that was raised by the Revenue Department. Once briefing was completed, the Tax Tribunal conducted oral argument in June 2021 on the substantive legal issue.

Question Presented

The Alabama legislature has imposed a 4-percent privilege or license tax upon those who are engaged in the business of selling tangible personal property at retail. However, the retail sale of “machines used in mining, quarrying, compounding, processing, and manufacturing of tangible personal property” is taxed at only 1.5 percent. Here, the question is whether helium and nitrogen gases constituted machines that were used by the Taxpayer in the manufacturing of tangible personal property.

Law

The relevant sales tax statute concerning Alabama’s reduced “machine rate” states:

There is levied, in addition to all other taxes of every kind now imposed by law, and shall be collected as herein provided, a privilege or license tax against the person on account of the business activities and in the amount to be determined by the application of rates against gross sales, or gross receipts, as the case may be, as follows:

...

(3) Upon every person, firm, or corporation engaged or continuing within this state in the business of selling at retail machines used in mining, quarrying, compounding, processing, and manufacturing of tangible personal property an amount equal to one and one-half percent of the gross proceeds of the

sale of the machines. The term "machine," as herein used, shall include machinery which is used for mining, quarrying, compounding, processing, or manufacturing tangible personal property, and the parts of the machines, attachments, and replacements therefor, which are made or manufactured for use on or in the operation of the machines and which are necessary to the operation of the machines and are customarily so used.

...

Ala. Code § 40-23-2.

A virtually identical provision appears in Ala. Code § 40-23-61(b) concerning Alabama's use tax levy. Other than these two references, there is no definition or description of the terms "machine" or "manufacturing" in Alabama's Revenue Code (Title 40).

Facts

Prior to the hearing, the parties stipulated to the following:

1. Unless otherwise stated, the facts in this Stipulation concern the period May 1, 2014 through December 31, 2016.
2. United Launch Alliance, LLC ("ULA") manufactures a number of rocket vehicles capable of orbiting spacecraft. ULA is headquartered in Centennial, Colorado but its largest factory is 1.6 million square feet and located in Decatur, Alabama. A factory in Harlingen, Texas, fabricates and assembles components for the Atlas V rocket and ULA has an engineering and propulsion test center in Pueblo, Colorado.
3. ULA contracts with the United States Government to provide launch services primarily for the Department of Defense and NASA.
4. ULA manufactures rocket stage assemblies at its facility in Decatur, Alabama.
5. The rockets manufactured by ULA are known as "multi-stage" rockets, because they feature an "upper" stage, mated with one or more "lower" stages. In general, each stage has its own engine and propellant.
6. ULA primarily manufactures the ULA Delta IV Heavy ("Delta") and Atlas V (Atlas") launch vehicle stage assemblies. The Delta and Atlas

launch vehicle stage assemblies provide the propellant delivery, pressurization and engine systems necessary to launch payloads into orbit. The launch vehicle stage assemblies include the Centaur upper stage, Atlas first stage booster as well as the Delta booster and upper stage. The Atlas booster uses a kerosene propellant while the Delta booster uses a hydrogen propellant.

7. ULA used compressed Helium and liquid Nitrogen for leak testing, functional testing, and dew point testing at its factory in Decatur, Alabama.
8. ULA purchased compressed Helium and liquid Nitrogen from Air Products and Chemicals, Inc. (Air Products).
9. Nitrogen was purchased from an Air Products affiliate in Alabama and the Helium was purchased from Air Products affiliate outside of Alabama.
10. Air Products collected sales or use tax from ULA on its purchases of the helium and nitrogen at the general 4.0% rate.
11. The amount of tax ULA paid Air Products on the helium and the nitrogen was \$188,340.86 and \$5,183.57 respectively.
12. On June 20, 2017, ULA and Air Products filed a Joint Petition for Refund of sales tax with Air Products. The amount of the claim was \$197,103.75.
13. The principal basis for ULA's claim was that the helium and nitrogen should have been taxed at the reduced 1.5% machine rate under Ala. Code § 40-23-2(3).
14. In a letter dated September 12, 2018, the Alabama Department of Revenue approved \$2,466.79 of the claim related to the purchase at retail of a gas filtration machine used in leak testing but disallowed the balance of \$194,636.96. The basis for the denial was that the helium and nitrogen were not entitled to the reduced tax rate.
15. \$1,112.59 of the claim related to taxes paid on argon gas. It was determined that argon is used in welding by ULA, and thus, was properly taxed at the general 4% tax rate. ULA no longer is pursuing this portion of the refund.
16. On October 15, 2018, ULA timely filed its notice of appeal.

17. The parties stipulate to the admissibility, but not the relevance, of the statements herein.

During the hearing, Terry Carroll, who was the Taxpayer's Systems Test Engineering Leader at the Decatur facility during the audit period, testified that a group of 16 persons under his direction tested "various parts and assemblies of the Atlas and Delta vehicles throughout the factory." Mr. Carroll explained that a "vehicle" is a Delta or Atlas launch vehicle (*i.e.*, rocket), each consisting of a booster stage and an upper stage, both of which are manufactured in the Taxpayer's Decatur facility. Once built, they are shipped to Florida to launch. A "payload" is an item such as a satellite that is provided by a customer and that sits atop the rocket. After launch, the rocket delivers the payload into orbit.

Concerning the manufacture of a rocket, Mr. Carroll testified that the Taxpayer receives raw aluminum in one end of its factory, which aluminum is then machined and formed into curved sections that are welded together to form large tanks that comprise the Atlas V booster. The Centaur tank is manufactured the same way, except it is made of stainless steel. In essence, the Atlas V and Centaur rockets are large tanks that hold propellant which is supplied to the engines. This section of the factory is called the tank center. Then the tanks are moved to a final assembly area where the Taxpayer attaches pneumatic systems, engines, and avionics, before primary testing begins.

All rockets manufactured by the Taxpayer are 2-stage rockets, meaning that the booster, or lower stage, takes the launch vehicle to a certain altitude before dropping off, and then the upper stage takes the payload to its final altitude to be placed into orbit. A rocket's "stage" is composed of a fuel tank, an oxidizer tank, an engine, and items such as pneumatics, avionics, and valves that cause the engine to operate. And each stage carries

fuel and oxidizer for the engine.

Mr. Carroll testified that, at certain points in the process, his group performs functional, leak-detection, and dew-point testing on the components of launch vehicles. Then, as vehicles near completion, the group performs systems-level testing.

Functional testing determines whether valves and instruments operate properly to supply propellant to an engine or to perform other tasks. For example, some of the valves used in launch vehicles are large pneumatic valves, thus requiring gas to operate. And Mr. Carroll testified that, by necessity, the Taxpayer uses helium or nitrogen to actuate those valves and to verify that gases properly flow through the opened valves. Most of the time, the use of these specific gases is required by the engineering department in the Taxpayer's main office in Denver, Colorado, pursuant to Test Requirement Documents which outline checks that must be performed on vehicles before they can be shipped to the launch site. Mr. Carroll described functional testing as "an end-to-end function of the entire vehicle ... it could be as small as making sure one valve works. A functional test can also mean you make sure you can send a signal from the control room. The avionics box will work and send a signal to the right valve and it opens the right thing." He also stated that almost all of the helium or nitrogen that is used in functional testing comes into contact with the rocket.

Also, Mr. Carroll testified that the vehicles, including engines, contain numerous pneumatic lines and tubing which are connected by fittings and that those fittings must be checked for leaks. Specifically, engines contain large connection joints that are bolted together with seals in them which must be leak tight. If they are not, the Taxpayer risks "mission failure," meaning that the engine may not start or that the rocket may explode or

that the vehicle may not get its payload to the proper altitude to place into orbit. Likewise, tank sections are welded together, and the weld seams must be tested for leaks. This is done by using nitrogen to pressurize the tanks to make sure they are structurally sound and then lowering the pressure and placing helium in the tanks. A mass spectrometer is then used to trace the weld seams to detect leaks of helium. That gas is used because it consists of very small molecules which can escape through small holes. And helium is an inert gas that can be used safely in a manufacturing facility. Nitrogen can be used for leak testing on other systems, depending on the tank involved and the requirements set by the Taxpayer's Denver office. Also, the Taxpayer uses helium and nitrogen in a "bubble-soap" test by pouring bubble fluid over V-neck joints such as those on pneumatic tubes to detect a leak of helium or nitrogen. (Mr. Carroll stated that he is not aware of argon being used in leak testing.)

According to Mr. Carroll, multiple leak-detection tests are performed on each vehicle during each stage of building a rocket, including on valves and other parts that are purchased from suppliers. If a rocket fails a leak test or functional test, the Taxpayer must troubleshoot the problem and change parts, if necessary. It also must document its steps to solve the problem.

Concerning dew-point testing, Mr. Carroll stated that one goal in building a rocket is to remove moisture from its tanks, especially stainless-steel tanks. One reason for removing moisture is corrosion resistance and another is to prevent air or nitrogen from condensing in the tanks and introducing unwanted liquids, gases, or even solids into the engine. Therefore, to dry the tanks, the Taxpayer lowers the dew point as much as possible

and then checks the level of humidity remaining in the tanks. This is done by filling the tanks with helium and purging the tanks multiple times and then checking the moisture using a dew-point meter.

As to the importance of the described testing, Mr. Carroll testified that, “if we don’t validate these systems and do functional testing and leak checks, then that could result in mission failure of some sort. It’s part of our requirements to validate the integrity of the vehicle before it leaves the factory and goes to the launch site. So that when they stack it and launch it, they’ve got a vehicle that they can rely on to launch the payload. So that’s really the big picture of why we do that.” In fact, he stated that the Taxpayer cannot ship rockets to the launch site in Florida without having performed these tests. More specifically, he stated that the primary purpose of their work is to ensure that propellant is supplied appropriately to the rocket’s engines during flight. “So, everything is about feeding the engine. And all of the systems that we test and set up on this vehicle are all about making sure that when we put propellant in there, we can feed the engine appropriately. ... So it’s all about validating or making sure that all of that stuff that we’ve put together, all those fittings we’ve connected, and all those helium bottles we’ve put in place to pressurize the tanks, and all the feed lines that go to the engine are leak tight and will actually be able to supply propellant to that engine back there. ...”

Also, helium and nitrogen are used for structural stabilization of the Centaur rocket because of the thinness of its walls. If the walls are not held in a stretched position or supported by rings, the tank must be pressurized or else it would collapse. The Taxpayer primarily uses helium to pressurize the tank to a certain reading and the gas keeps the tank

pressurized and structurally stable.

Mr. Carroll considers the described testing to be a part of the process of building rockets. “When you look at it from the point of view of getting a completed, fully functional vehicle out the door, yes, it is part of the build process.” He reiterated on cross-examination that testing is “part of the manufacturing process to me.” He also stated that the Taxpayer has had 136 consecutive successful launches since its inception.

The Revenue Department’s auditor, Mr. Albert McDonald, testified that he disallowed the vast majority of the Taxpayer’s refund request because he considered the gases in issue to not qualify as machines. “Because they’re gases. They were not machines. They were not attached to a machine used in the manufacturing process. And everything was stating that they were under the quality control testing. ... Basically, it’s a gas. It is not a machine. It has no machine properties or anything. It’s an inert gas. ... it would need to be – to actually do something in the process of manufacturing the equipment either to make a change to the product, add something to it, something of that nature.” (He stated, however, that he approved a small refund for items such as a spectrometer that he agreed qualified as a machine.)

Mr. McDonald also stated that there had been a prior refund claim by the Taxpayer a few years ago that was based on the same grounds, and that the Revenue Department had denied that claim for the same reasons relied upon here by Mr. McDonald. To his knowledge, the Revenue Department’s denial of the Taxpayer’s previous refund request was not appealed.

In its Post-Trial Brief, the Revenue Department states that the Taxpayer actually

paid use tax on its purchases in question but petitioned for a refund of sales tax. However, the Revenue Department does not assert this distinction as a ground for upholding its partial denial of the Taxpayer's petition. The factual distinction noted by the Revenue Department does not affect the Tax Tribunal's analysis of the substantive issue because of the virtually identical wording of the sales tax and use tax provisions.

Analysis

As stated, the sales tax rate of 1.5% applies to the retail sale of "machines used in mining, quarrying, compounding, processing, and manufacturing of tangible personal property ..." Ala. Code § 40-23-2(3). The Taxpayer argues that it is this rate, and not the general rate of 4%, which applied to its purchases of helium and nitrogen that were used for the four specified purposes. Specifically, the Taxpayer contends that "helium and nitrogen perform an 'integral function' in [the Taxpayer's] rocket manufacturing process" and that the gases "are an 'integral, essential, and functional part of the machinery and procedure' for manufacturing rockets." The Taxpayer then states that "[t]he process of testing is not separate from the process of manufacturing," but that "testing **is a part of** the manufacturing process."

The Revenue Department contends that the gases "will not ever bind with or attach to any part of the property being tested. Even after the testing is completed, there is no scientifically recognizable physical change in the property or the properties of the property being tested from introduction of the gas into the test. For these reasons, the testing is not being 'used in the manufacturing and processing of tangible personal property within the meaning of the statute' and the machine rate is due to be denied."

However, in its brief, the Revenue Department agrees that the gases used for dew-point testing and structural stabilization qualify for the machine rate. (The Revenue Department contends, though, that the Taxpayer has failed to prove the amounts of such purchases.) Therefore, the Tax Tribunal's analysis will focus on the use of the gases for functional testing and leak testing.

For several decades, Alabama's courts have been called upon to decide cases involving the sales tax rate applicable to machines. To a large degree, those decisions have been necessitated by the lack of statutory and regulatory definitions and guidance concerning the term "machines" and the phrase "used in ... manufacturing."

For example, in 1954, the Alabama Supreme Court considered whether wooden flasks were exempt from sales tax as "machines used in ... manufacturing of tangible personal property ..." At that time, the Code of Alabama 1940, § 51-20-755, exempted such machines from sales tax. The Code was later amended to subject such machines to sales tax at a rate of 1.5%, effective October 1, 1959. (See Act 1959-99.) These wooden flasks were made by companies that manufactured stoves and furnaces. The materials used to make the flasks were sold to the stove and furnace manufacturers by a lumber company. The flasks held sand so that an impression could be made in the sand by a pattern. The sand was then tamped into the flasks, the pattern was removed, and molten pig iron was poured into the flasks to make a reproduction of the pattern. These patterns were used in the making of stove and furnace castings. *State v. G.T. Taylor*, 80 So.2d 618 (Ala. 1954).

The court stated that "[t]here is no question about the flasks being used for 'manufacturing tangible personal property.' The problem is to ascertain whether they are

'machines' or 'machinery' being so used ..." *Id.* at 621. In making this determination, the court stated:

The terms "machine" and "machinery" are defined by Webster as follows:

"Machine. A contrivance, device, or structure by means of which a force or forces may be advantageously applied, ***."

"Machinery. The component parts of a complex machine; machines in general. The mechanism of a machine; the working parts; any combination of appliances resulting in successful operation; ***. Any combination, the harmonious workings of which terminate in a specific object; ***."

Webster's New Twentieth Century Dictionary, p. 1017.

Ballentine's Law Dictionary, 2d Ed., p. 779, contains the following definitions:

"Machine. The term includes every mechanical device, or combination of mechanical powers and devices, to perform some function and produce a certain effect and result. ***"

"Machinery. *** The Century Dictionary defines it as the parts of a machine considered collectively; any combination of mechanical means designed to work together so as to effect a given end; ***."

In Black's Law Dictionary, 4th Ed., p. 1101, are the following definitions:

"Machine. *** Device or combination of devices by means of which energy can be utilized for useful operation to be performed. *** ; mechanical device, or combination of mechanical powers and devices, to perform some function and produce a certain effect or result. *** ."

"Machinery. Complex combination of mechanical parts, ***. A more comprehensive term than 'machine'; including the appurtenances necessary to the working of a machine ***. Parts of a machine considered collectively; also the combination of mechanical means to a given end. ***. A part of a machine designed to work with other parts, ***. Machines in general, or collectively; also, the working parts of a machine, engine or instrument; ***."

As so aptly stated in *City of Louisville v. Howard* ...:

"The definition of machinery itself is broad enough to cover anything from a peanut-roasting outfit on Main Street to a blast furnace in Pittsburgh."

It seems clear to us that a flask comes within the foregoing definitions of "machine" and "machinery" and is exempt from the sales tax. Being so, the "flask material", used in making the flasks is also exempt. Then, too, there seems no question, aside from their independent qualities as "machines" or "machinery", that flasks are essential in the manufacture of stoves and furnaces by these companies and, therefore, constitute integral and indispensable parts of the over-all manufacturing machinery used by them. They are also exempt for this reason.

Taylor, supra, at 621-22.

The *Taylor* court continued by quoting from a decision by the Pennsylvania Supreme Court that held that tanks constituted "machinery."

The question was whether certain tanks constituted "machinery". The trial court held that they were not, giving as a reason that the tanks " 'are not intended to apply force or involve the quality of motion; they are static and have the same characteristics as the walls of a mill or of a silo.' "The Supreme Court of Pennsylvania held otherwise, saying:

"*** The fallacy that tanks or containers in which processing takes place cannot be either machines or machinery proceeds from the erroneous premise that nothing is machinery that does not 'apply (physical) force or involve the quality of motion.' Before and at the very dawning of the 'machine age' when the machinery best known to the public were saw mills and grist mills and later cotton gins and steam engines, it was natural to entertain the concept that all machinery involved motion and anything which did not move was not machinery. The modern 'machine age' has outgrown that concept. Much of the machinery today has only passive or motion-less functions to perform in manufacturing."

Taylor, 80 So.2d at 623 (quoting *Gulf Oil Corp. v. City of Philadelphia*, 53 A.2d 250, 253-54 (Pa. 1947).

Three years later, the Alabama Supreme Court considered whether sand and steel shot were "exempt as 'parts of such machines, attachments and replacements therefor ...'"

State v. Newbury Mfg Co., 93 So.2d 400, 401 (Ala. 1957).

The court first stated that “[t]he term ‘machines, attachments and replacements’ in this connection have been given a broad meaning,” citing several Alabama Supreme Court opinions including *State v. Taylor, supra. Newbury* at 402. The Court then stated:

Their status is not controlled by the material of which they are composed, but by the office they serve in the process. If the article in question performs an integral function in the procedure by which the tangible personal property is produced, we think it is a part and parcel of the machinery used in its production. It is not controlled by the fact that in its use it wears out its valuable properties in that connection. Many parts of machinery wear out and have to be replaced.

On the other hand, if a product, such as grease or fuel is useful only as an aid, though vital in enabling the machine or some part of it to operate, but not itself performing a distinct function in the operation, it does not come within the exception.

Newbury at 402.

The court described the use of the sand and steel shot as follows:

The sand is put "into a core blowing machine operated with compressed air" and blown into a metallic core box, taking the shape of the core which forms the inside contour or cavity of the casting, and is then withdrawn from the core machine, when packed to proper hardness and placed on a tray, then it is put into a rack which is heated to 450~ for thirty-five or forty minutes. During the drying process it has developed a strength sufficient to withstand the action of molten iron hitting it. The core of sand is then put into a mold, and the molten iron is poured down with the core forming the inside contour of the casting. As the molten iron casts and sets up, it becomes solid. The sand cores are by then broken down and have lost their strength. The "shakedown" vibrates and causes the sand to drop into the filter and it goes back into storage. It is reused as molding sand after it is stored in the hopper of fifty ton capacity. It is poured from the hopper through a gate into the mullers to prepare for molding. To it there is added certain chemicals and wood flour. That mixture is the molding sand, and this is dumped through a gate into the molding machine and is ready for use. The witness exhibited appliances used and explained how they are used and exactly the use of sand in producing the molding form. Sand is the only material that comes in contact with the molten iron.

The cast iron fittings, after they are made, have to be cleaned of excess sand. This is done by a cleaning system in which a wheelabrator is used. The

steel shot are placed in it, and it is then turned three or four thousand revolutions per minute. Thereby the shot are thrown against the fittings thus cleaning them. The machine would be useless as a cleaning process without the "steel shot". All the sand in the castings has to be completely removed. There is some waste or loss of sand in the process. When it is used as core sand it cannot be again used for that purpose but may be, and is, used as molding sand. No estimate is made as to how long it may be used for molding purposes. The steel shot may be used over and over until by friction they are worn out. They are therefore said to be "expendable".

Id. at 401.

The *Newbury* court then declared that "[t]he 'sand' and 'steel shot' here in question have an independent function in the operation. That is not simply as an aid to some other part in the performance of its service. The question is not controlled by whether it is necessary to the operation of a machine – grease and fuel are that, but they perform no specific function in the operation. It is sometimes said to depend upon whether the article has a direct part in the processing program. *Tri-state Asphalt Co. v. Glander*, 152 Ohio St. 497, 90 N.E.2d 366; *Anderson & Sons v. Glander*, 154 Ohio St. 561, 97 N.E.2d 29." Therefore, the court affirmed the lower court's exemption of the sand and steel shot. *Id.* at 402.

In 1978, our state Supreme Court held that gravel used as a roadbed from a coal mining site to a preparation plant was not a machine or an attachment used in a mining operation. *Robertson & Associates (Alabama), Inc. v. Boswell*, 361 So.2d 1070 (Ala. 1978). Quoting *Newbury*, the court acknowledged that the term "machines, attachments and replacements" has a broad meaning. But the court reasoned that "the gravel purchased by Robertson does not perform an integral, distinct function in Robertson's operation of extracting and processing coal." *Robertson & Associates, supra*, at 1074. Instead, the evidence showed that the "coal is transported from the mining site to the plant by heavy

coal carriers. A special type and size gravel is purchased by Robertson in order to form safe, usable roadbeds for the coal carriers. Thus, the gravel serves merely as an aid, albeit vital, to the coal carriers, enabling these machines to operate.” *Id.*

On the Revenue Commissioner’s cross-appeal in *Robertson*, the Supreme Court upheld the trial court’s ruling that fertilizer and diesel fuel qualified as a machine. “At first blush, it hardly seems likely that the legislature could have contemplated a sack of fertilizer and a drum of diesel fuel as a ‘machine’ for purposes of qualifying for the reduced rate of taxes. But, as we have seen in *Newbury Manufacturing Co.*, our inquiry cannot be as superficial as our ‘first blush’ reaction. The office they serve, and not the material of which they are made, controls their status.” *Robertson* at 1075.

And in *State v. Nelson Bros, Inc.*, 406 So.2d 425 (Ala. Civ. App. 1981), the court held that bins used in loading the industrial explosive ANFO (ammonium nitrate and fuel oil) onto a specialized truck for use in the strip mining of coal qualified as machines subject to the reduced sales tax rate. “In order to use the bulk anfo, the bins are necessary to such use and are customarily so used. ... Since one of the primary functions of the bins is to load the specialized trucks used in filling the blasting holes, the learned trial court correctly decided that the anfo bins should be taxed at” the reduced machine rate. *Id.* at 427. “However, a different result is reached with regard to the magazines. ‘If the article in question performs an integral function in the procedure by which the tangible personal property is produced, we think it is a part and parcel of the machinery used in its production.’ *State v. Newbury Manufacturing Co.* ...; *Robertson & Associates (Alabama), Inc. v. Boswell* We have summarized all of the evidence regarding the magazines. The

only functions of the magazines that we harvest from the testimony are convenience to the mining company and the safe storage of the boosters and detonators. Those uses do not constitute a part of the actual mining process. The magazines are vital aids to safety, but there is no evidence that they perform an integral, distinct function in the process itself used in the strip mining of coal.” *Nelson Bros, supra*, at 427.

If an item qualifies as a “machine,” it also must be “used in mining, quarrying, compounding, processing, and manufacturing of tangible personal property” to be subject to the 1.5% levy. The Tax Tribunal is unaware of any cases that specifically interpret the phrase “used in” in the context of Ala. Code § 40-23-2(3). *But see White v. Campbell & Associates, Inc.*, 473 So.2d 1071, 1075 (Ala. Civ. App. 1985) (concluding that sand used to clean pipes by sandblasting prior to lining the pipes with a protective layer of rubber was “used [by the taxpayer] to manufacture tangible personal property” when the taxpayer manufactured the product for sale). *Webster’s Ninth New Collegiate Dictionary*, at 1299, defines the verb “use” as “to put into action or service: avail oneself of: employ ... USE, EMPLOY, UTILIZE mean to put into service esp. to attain an end. USE implies availing oneself of something as a means or instrument to an end ...” Likewise, *Black’s Law Dictionary*, Fifth Edition, at 1381, defines the verb “use” as “[t]o make use of, to convert to one’s service, to avail one’s self of, to employ.” *See Ex parte City of Millbrook*, 304 So.3d 202, 206 (Ala. 2020), stating that, in interpreting a statute, the commonly-accepted definition of a term should be applied when the statute does not define the term.

As to “manufacturing,” Alabama’s appellate courts have defined that term (or the base word “manufacture”) on several occasions. In *Curry v. Alabama Power Co.*, 8 So.2d

521 (Ala. 1942), our Supreme Court considered whether generators and transformers and related items were exempt from use tax pursuant to the predecessor of the statute that is at issue here. The court stated the following:

“The word ‘manufacture’ means the making of anything by hand or artifice. Mr. Worcester’s Dictionary defines ‘manufacture’ as ‘the process of making anything by art, or of reducing materials into a form fit for use by hand or by machinery.’ The definition that the word is given by the Century Dictionary is as follows: ‘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.’ According to the above definitions of the word ‘manufacture,’ we are constrained to consider [8 So.2d 524] and declare an electric light company a manufacturing corporation to all intents and purposes.”

Id. at 523-24 (quoting *Beggs v. Edison Electric Light & Illuminating Co.*, 11 So. 381, 383 (Ala. 1892)) (case citation omitted).

Ten years later, in *State v. Try-Me Bottling Co.*, 57 So.2d 537 (Ala. 1952), the court acknowledged the definition of “manufacturing” in *Alabama Power* and stated the following:

The words manufacturing, processing and compounding are used disjunctively in the statute and are evidently intended to have a broad and all inclusive meaning. There is no attempt in the statute to limit or qualify their meaning. In other words, the three words so used are intended to cover all the operations or processes by which the finished or ultimate product has been integrated from elements originally diverse in their forms.

Try-Me Bottling, supra, at 539. The court then held that the taxpayer’s bottle-washing machine, which washed and sterilized bottles and delivered the bottles for filling and capping, was exempt from use tax as a machine used in compounding, processing, and manufacturing bottled soft drinks. “We consider, however, that it is not the soft drink which is the finished product but the bottled soft drink which is the finished product of the operations of the appellees. There is no doubt that the preparation of the bottle for the liquid is an essential part of the preparation without which the drink cannot be processed for

sale. The bottled drink is the aggregate result of all the single purpose machines in the plant which adds up to the finished product.” *Id.*

The final element in the language of the 1.5 percent levy is undisputed here. It is clear that the rockets being manufactured by the Taxpayer constitute “tangible personal property.”

Here, the Revenue Department argues that the gases used in functional and leak testing do not qualify for the machine rate because the gases were “not used ‘directly’ in the manufacturing process;” *i.e.*, they were not “used ‘directly’ in converting the raw materials into a finished product.” In support of its position, the Revenue Department relies upon the previously-quoted language from *Newbury* and its reference to two Ohio cases.

The ‘sand’ and ‘steel shot’ here in question have an independent function in the operation. That is not simply as an aid to some other part in the performance of its service. The question is not controlled by whether it is necessary to the operation of a machine – grease and fuel are that, but they perform no specific function in the operation. It is sometimes said to depend upon whether the article has a direct part in the processing program. *Tri-state Asphalt Co. v. Glander*, 152 Ohio St. 497, 90 N.E.2d 366; *Anderson & Sons v. Glander*, 154 Ohio St. 561, 97 N.E.2d 29.

Revenue Department Brief, p. 10 (emphasis omitted) (citing *Newbury*, 93 So.2d at 402).

Thus, the Revenue Department asserts that “[t]he underlying bedrock of *Newbury* is the citation to and adoption of the **Ohio line of cases** for the legal qualification standard[,]” and that *Newbury* rejected Missouri’s “integrated plant doctrine.” (emphasis in original) Further, the Revenue Department states that the two Ohio cases cited in *Newbury* were based on the Ohio case of *Fyr-Fyter Co. v. Glander*, 80 N.E.2d 776 (Ohio 1948).

The Revenue Department’s reliance on the Ohio cases is misplaced for at least four reasons. First, there is no indication in *Newbury* that the Alabama Supreme Court “adopted

the more limited Ohio line of cases ...” On the contrary, the Alabama Supreme Court’s reference to the two Ohio cases consisted of a mere one sentence: “It is sometimes said to depend upon whether the article has a direct part in the processing program.” *Newbury* at 402. One sentence at the end of an opinion that uses the phrase “[i]t is sometimes said” does not constitute the adoption of another state’s doctrine. And the one sentence came only after the citation of four Alabama Supreme Court cases that immediately preceded the court’s discussion of the integral-function standard.

Second, the Revenue Department’s quote of a passage from *Fyr-Fighter Co., supra*, highlights an important distinction between Ohio law and Alabama law. “The [Ohio] Court stated it this way: ‘In our opinion, the crucial words in the statutes determining exemption are **’directly** in the production of tangible personal property for sale by *** mining,’ and the sales and use of only those items of tangible personal property which are used or consumed **directly** in the production of coal are excepted from taxes.’” Revenue Department Brief, p. 14 (citing *Fyr-Fyter Co.*, 80 N.E.2d at 779) (emphasis added). However, the Alabama statute does not contain the word “directly.” Instead, it levies the machine rate on the retail sales of “machines used in ... manufacturing of tangible personal property ...”

Third, Alabama’s appellate courts have upheld the statutory exemption or reduced rate for items that were not “used ‘directly’ in converting the raw materials into a finished product.” See, e.g., *State v. Try-Me Bottling Co.*, affirming the exemption of a bottle-washing machine; *State v. Nelson Bros, Inc.*, holding that bins used to load an explosive onto a truck qualified for the machine rate; and *State v. Calumet & Hecla Consolidated*

Copper Co., 66 So.2d 726 (Ala. 1953), affirming the exemption of an overhead crane that was used to move heavy items from one machine to another while those items were in the process of being manufactured.

Fourth, some of the Revenue Department's own rules acknowledge the application of the machine rate to items that do not directly convert raw materials into a finished product, one of which expressly includes machinery used for testing. See, e.g., Ala. Admin. Code r. 810-6-2-.108, stating that purchases of certain machines and their parts used by paper manufacturers are taxable at the machine rate. Paragraph (1)(iii)(c) lists "recording instruments attached directly to manufacturing machinery" as being subject to the machine rate, whereas paragraph (1)(iii)(p) applies the same rate to "machinery used during the manufacturing process to test or measure materials entering the product." See *also* Ala. Admin. Code r. 810-6-2-.54, which applies the machine rate to "[m]echanical equipment used in measuring, weighing, or packaging by manufacturers, compounders, or processors ... when such equipment is a part of the production line used to put the product in condition for sale." Ala. Admin. Code r. 810-6-2-.92(a)1, 3, and 5, list "bottle filling machines," "refrigeration equipment," and "bottle washers and soakers" as machines "used **directly** in manufacturing and compounding" (emphasis added) and thus subject to the machine rate. Also, "[s]teel pots or tubs used to contain small metal parts or fittings while being heat treated in an annealing furnace as a step in the manufacture thereof are taxed at the" machine rate. And Ala. Admin. Code r. 810-6-2-.10 states that "[c]oal loading machines used in mines are taxed at the special machine rate ..."

Here, the evidence proved that the helium and nitrogen used by the Taxpayer in

functional testing and leak testing qualified as machines used in manufacturing of tangible personal property. Mr. Carroll's testimony, as detailed in this opinion, explained that, for both purposes, the gases were essential in manufacturing rockets. See *State v. Taylor* at 622. More specifically, the gases performed integral, distinct, and independent functions in the manufacturing process. See *Newbury* at 402. Among other things, functional testing determined whether valves operated properly for purposes such as supplying fuel to engines during flight. These tests were required to be performed – and completed successfully – before a rocket could be shipped to the launch site. And connection joints in engines had to be checked for leaks to avoid “mission failure.” Thus, the gases were not useful merely as an aid as described in *Newbury*.

Likewise, the gases were “used in” the Taxpayer's manufacturing of rockets. As noted, the verb “use” means, among other things, “to put into action or service: avail oneself of: employ ... as a means or instrument to an end ...” *Webster's Ninth New Collegiate Dictionary*, p. 1299. Mr. Carroll's testimony clearly demonstrated that the Taxpayer put the gases “into action or service ... as a means or instrument” to the end result of having a rocket deliver a payload into orbit. The gases did not directly convert raw materials into rockets. But, as discussed, Alabama's statute does not require that. Instead, it requires that an item be a “machine[] used in ... manufacturing of tangible personal property” to qualify for the machine rate.

The remaining elements of the levy are undisputed. The parties stipulated that the Taxpayer manufactures rockets, and the Revenue Department has not disputed that rockets constitute tangible personal property.

Therefore, the sales to the Taxpayer during the audit period of helium and nitrogen gases that were used by the Taxpayer for functional testing, leak testing, dew-point testing, and structural stabilization were subject to Alabama's 1.5% machine rate. Judgment is entered accordingly.

The question of the amount of the Taxpayer's refund is remanded to the Revenue Department to allow the parties the opportunity to resolve that question without a hearing. If the parties are unable to do so, a hearing will be held for that purpose. Thus, the parties are directed to notify the Tax Tribunal no later than **February 28, 2022**, of the progress of their discussions concerning the amount to be refunded.

It is so ordered.

Entered December 21, 2021.

/s/ Jeff Patterson
JEFF PATTERSON
Chief Judge
Alabama Tax Tribunal

cc: Alan Decker, Esq.
Doug Sigel, Esq.
Josh Veith, Esq.
David E. Avery, III, Esq.