

**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF OHIO
EASTERN DIVISION**

Mirion Technologies (Canberra), Inc.,

Case No. 2:17-cv-669

Plaintiff,

v.

Judge Graham

Sunpower, Inc.,

Defendant.

Opinion and Order

This contract dispute is before the court on the motion of plaintiff Mirion Technologies (Canberra), Inc. for a preliminary injunction. Mirion alleges that it entered into a supply agreement with defendant Sunpower, Inc., whereby Sunpower would produce and supply cryocoolers, a device used in nuclear radiation detectors. Mirion asserts that it placed a valid purchase order for 250 cryocoolers but Sunpower breached the agreement by refusing to fill the purchase order.

Mirion seeks a preliminary injunction requiring specific performance of the supply agreement, such that Sunpower would be ordered to manufacture 250 cryocoolers and supply them to Mirion. The court conducted an evidentiary hearing on September 25, 2017. For the reasons that follow, the motion for a preliminary injunction is denied.

I. Background

A. The Parties and their Products

Mirion is a Delaware corporation based in Connecticut which offers products and support services for the nuclear energy industry. Among other things, Mirion manufactures radiation detection instruments and offers radiation monitoring systems. The president of Mirion's Spectroscopy Division is Sheila Webb, who formerly served as vice president of engineering at Canberra Industries, Inc.

Mirion acquired Canberra in July 2016. Canberra manufactures high-purity germanium detectors, an instrument described by Webb as the most sensitive type of sensor available for detecting radioisotopes. Canberra also manufactures cryostats, which is a device that can be used on radiation detectors in order to maintain extremely low temperatures.

Webb testified that a germanium crystal inside a high-purity germanium detector needs to be kept at a temperature of about negative 296 degrees Fahrenheit. This is accomplished in one of three ways: (1) a dewar, or open-mouth container, filled with liquid nitrogen and having a lead shield at the mouth; (2) an electrically-cooled system; or (3) a hybrid cooler having a closed system with a container of liquid nitrogen, which, as it evaporates, is condensed by a cryocooler. The drawback of the dewar method is that the liquid nitrogen supply needs to be replenished. The drawback of the electrically-cooled method is the need for a constant power supply. Webb testified that the hybrid method is viewed as the best solution because it recirculates liquid nitrogen and can operate without a power supply for a period of several days.

Mirion and Canberra produce and sell a hybrid cooler called the Canberra Cryo-Cycle II. The Cryo-Cycle II is a cryostat and is comprised three basic parts: a cryocooler, a container holding about 22 liters of liquid nitrogen and electrical components which connect the cryostat to a germanium detector. The Cryo-Cycle II keeps the detector at the temperature required for it to operate. According to Webb, there are several other manufactures of hybrid coolers, but Sunpower is not one of them.

Sunpower is an Ohio corporation based in Athens, Ohio. It manufactures CryoTel GT cryocoolers. A cryocooler is a small electrical device that performs a cooling function in certain kinds of radiation detectors, including in high-purity germanium detectors. Sunpower is owned by AMETEK, Inc., which is a global manufacturer of electronic instruments and electromechanical devices.

Webb testified that there are only a handful of manufacturers in the world who produce high-purity germanium detectors. One of those entities is ORTEC, Inc., which is owned by AMETEK. Germanium detectors are sold to various interests associated with the nuclear energy industry, including nuclear power plants and laboratories, research facilities and other entities in the governmental, military, energy and educational sectors. Webb testified that Mirion/Canberra and AMETEK/ORTEC each have nearly a 50% share of the market for high-purity germanium detectors that use hybrid coolers.

B. Prior Relationship Between the Parties

The relationship between Canberra and Sunpower began in 2004, when the companies worked together to develop a hybrid cryostat with a cryocooler for a military customer.

Canberra and Sunpower entered into a formal supply agreement in 2011, pursuant to which Sunpower agreed to supply CryoTel GT cryocoolers to Canberra for two years. Canberra used the cryocoolers in its Cryo-Cycle II cryostats.

In November 2012, at Sunpower's request, the parties agreed to terminate the supply agreement effective April 2013. In January 2013, it was announced that AMETEK had acquired Sunpower. Negotiations to reach another supply agreement in 2013 failed.

C. Canberra's Attempts to Obtain Alternative Cryocoolers from 2013 to 2017

In late 2012 or early 2013, Canberra identified other suppliers from which it could obtain cryocoolers. Canberra narrowed its search to Honeywell Hymatic, Thales Cryogenics and Twinbird Corporation. None of these suppliers made a cryocooler that could be taken "off the shelf" and "dropped into" Canberra's Cryo-Cycle II. Thus, Canberra would have to engage in a process of working with the supplier to make engineering and design changes to the cryostat and cryocooler.

Canberra chose to work with Twinbird to develop a cryocooler, largely because Twinbird was the least expensive option. Together the companies worked on research and development for about 18 months. However, Twinbird never produced a cryocooler which met all of Canberra's technical requirements. These requirements related to physical size, cooling capacity, efficiency, noise level, vibration level, reliability and price.

When it entered into its dealings with Twinbird, Canberra still had an inventory of Sunpower cryocoolers remaining from the 2011-2013 supply agreement. This inventory lasted for a period of several months, during which Canberra was able to sell the Cryo-Cycle II. Once Canberra ran out of its inventory of Sunpower cryocoolers in mid-2013, it was unable to sell the Cryo-Cycle II.

After the efforts with Twinbird failed, Canberra considered Thales again. But Canberra determined that Thales had too high of an engineering cost for development and too high of a per-unit price for its cryocooler.

Canberra then turned to Lihan, a company in China which produced a cryocooler that was close to the size and technical specifications needed by Canberra. After a short development period, Lihan was able to produce a cryocooler that met Canberra's requirements in all regards except for its failure rate. Canberra began selling the Cryo-Cycle II with the Lihan cryocooler in December 2014.

From early on, Canberra believed that the Lihan cryocooler had a high failure rate. Canberra and Lihan engaged in extensive engineering and quality control efforts to address the failure rate. Despite those efforts, Canberra continued to find that the Lihan cryocooler was less reliable than the

Sunpower cryocooler.¹ Canberra offered a five-year prorated warranty (the longest warranty in the industry) for the Cryo-Cycle II cryostats it sold with Lihan cryocoolers.

Mirion/Canberra continues to this day to sell the Cryo-Cycle II with Lihan cryocoolers in them. Webb testified that whenever a customer reports a failure or a claim under the warranty, Mirion/Canberra sends a service team to the site to replace the cryocooler with another Lihan cryocooler.

D. Renewed Efforts to Negotiate with Sunpower

With changes occurring at both Canberra and AMETEK/Sunpower (Canberra was acquired by Mirion in mid-2016 and there were management changes at AMETEK) Webb decided in February 2017 that it would be a good time to reach out to Sunpower to see if it would be willing to enter into a supply agreement.

Sunpower was receptive to Mirion's interest in reestablishing a contractual relationship. On May 22, 2017 Mirion submitted a purchase order for one demonstration model of the CryoTel GT cryocooler. Mirion's tests of the demo model confirmed that the Sunpower cryocooler could be dropped into the Cryo-Cycle II and that it met all of Mirion's specifications.

E. Collateral Talks with Thales

Mirion reached out to Thales in early 2017 as well. According to Webb, she knew there would be "some risk" to dealing with Sunpower, which was owned by a competitor. And in any event, Mirion wanted to avoid having to rely upon a single source for cryocoolers.

In February 2017, Thales did not have a cryocooler that could be dropped into the Cryo-Cycle II, so any further dealings with Thales would require research and development efforts on both sides. While negotiations with Sunpower progressed, Mirion was "still talking to Thales." Even so, Mirion viewed Sunpower as the best option because of the research and development costs associated with Thales.

F. The Supply Agreement and Ensuing Purchase Order

On June 16, 2017, Mirion and Sunpower entered into a Supply Agreement, under which Sunpower agreed to supply CryoTel GT cryocoolers to Mirion for a three-year period whenever Mirion submitted a purchase order. The parties agreed that the per-unit cost of the cryocoolers

¹ During the preliminary injunction hearing, the court sustained Sunpower's objections to the testimony of two Mirion witnesses as to the percentage failure rate of Lihan cryocoolers. Though Sunpower had requested discovery relating to the failure rate claimed by the witnesses, Mirion did not provide it, and the witnesses testified that they had not reviewed specific data or documents which would have provided a basis for the failure rate they claimed.

would be \$9,835. For orders of 1 to 10 cryocoolers, Sunpower agreed to make delivery in 6 weeks. For quantities greater than 10 cryocoolers, the parties would determine a mutually agreeable delivery schedule. The cryocoolers came with a two-year warranty.

Alec Bounds, Mirion's chief procurement officer, negotiated the Supply Agreement on behalf of Mirion. Bounds testified that he and Jim Wade, his point of contact at Sunpower, discussed and agreed to a "ramp-up schedule" on June 7, 2017, prior to the signing of the Supply Agreement. The ramp-up schedule provided a forecast of the number of cryocoolers that Mirion would want supplied each month. The schedule accommodated Mirion's transition away from Lihan and provided Sunpower with time to increase production in order to meet Mirion's supply demand. Under this schedule, Sunpower would supply a smaller number of units in the first few months of the Agreement and then increase production, such that Sunpower would supply 110 units in the first six months of the Agreement and 20 units per month for several additional months.

On or about June 23, 2017, Wade called Bounds and communicated that Mirion should place a "large" purchase order soon. On that same day, individuals at AMETEK/Sunpower emailed the ramp-up schedule amongst themselves. (Hearing Ex. 18).

On June 29, 2017, Mirion submitted a purchase order for 250 CryoTel GT units. (Hearing Ex. 7). When combined with miscellaneous costs, the total purchase order was for \$2.65 million. The purchase order was based upon Canberra's forecast that it would need 250 units over the next 18 months.

On June 29, the President of Sunpower, who was not involved in negotiating or signing the Supply Agreement, emailed a letter to Mirion in which he purported to "elect[] not to enter into the proposed Supply Agreement." (Hearing Ex. 6). On June 30, a Sunpower representative sent Mirion an email purporting to reject the Agreement and the June 29 purchase order.² (Hearing Ex. 8).

After legal counsel for Mirion objected to the purported rejection, legal counsel for Sunpower responded with a July 7, 2017 letter in which it withdrew the purported notice of rejection. (Hearing Ex. 32). In the same letter, Sunpower exercised its contractual right to terminate the Supply Agreement with six months' notice. Under the Agreement, Sunpower was obligated to fill purchase orders placed prior to the effective date of termination, January 7, 2018.

² The record presently does not contain reliable evidence concerning whether Sunpower received the June 29 purchase order before Mirion received Sunpower's June 29 letter purporting to elect not to enter into the Supply Agreement.

On July 10, 2017, Mirion delivered a revised purchase order for 250 cryocoolers. Sunpower refused to fill the order and this litigation followed.

G. Mirion's Ability to Obtain an Alternative Supply of Cryocoolers

Following Sunpower's refusal to fill the purchase order, Mirion continues to obtain cryocoolers from Lihan. James Colaresi, Mirion's director of detector engineering and manufacturing, testified that Mirion is able to obtain an adequate supply of cryocoolers from Lihan to produce the Cryo-Cycle II and to replace defective cryocoolers returned under warranty. According to Webb and Colaresi, Lihan's cryocoolers still suffer from a reliability problem, and Mirion and Lihan continue to work together to address that problem. Bounds testified that Mirion has increased its efforts with Lihan and meets with Lihan on a weekly basis and has implemented a quality improvement plan.

Mirion also has continued to have discussions with Thales.³ However, it will take at least 18 months to have a product ready from Thales because of the research and development that must be done. Bounds testified that cost and the per-unit price point continues to be an obstacle with Thales.

H. Alleged Harm to Mirion

Webb testified that Mirion has suffered harm as a result of Sunpower's refusal to fill the purchase order. Mirion lacks a supply of reliable cryocoolers to place into its Cryo-Cycle II units. Product reliability is crucial to protecting the people and facilities that depend upon high-purity germanium detectors. Webb believes that the Mirion/Canberra brand has suffered and lost some of the trust it had built with its customers because of the reliability problems it has experienced with the Lihan cryocoolers.

Mirion's witnesses testified that there is considerable cost and effort involved in working with other manufactures to develop cryocoolers that satisfy Mirion's specifications.

I. Causes of Action and Relief Sought

In this diversity action, Mirion asserts three claims, all based on Sunpower's refusal to fill the purchase order: (1) breach of the Supply Agreement, (2) anticipatory repudiation of the Agreement, and (3) breach of the duty of good faith and fair dealing.

³ At the hearing, the court sustained Sunpower's objection to testimony about Mirion's prospects of obtaining cryocoolers from Thales. The basis for the objection was that Sunpower requested such information during discovery but Mirion refused to answer.

In its complaint and its motion for a preliminary injunction, Mirion seeks the remedy of specific performance.

II. Preliminary Injunction Standard

Preliminary injunctions are available under Rule 65 of the Federal Rules of Civil Procedure. They are extraordinary remedies and their issuance is governed by the following considerations: “(1) whether the movant has a strong likelihood of success on the merits, (2) whether the movant would suffer irreparable injury absent a stay, (3) whether granting the stay would cause substantial harm to others, and (4) whether the public interest would be served by granting the stay.” Ohio Republican Party v. Brunner, 543 F.3d 357, 361 (6th Cir. 2008); see also Winter v. Natural Resources Defense Council, Inc., 555 U.S. 7, 20 (2008).

“Although no one factor is controlling, a finding that there is simply no likelihood of success on the merits is usually fatal.” Gonzales v. Nat’l Bd. of Med. Examiners, 225 F.3d 620, 625 (6th Cir. 2000); accord Jolivette v. Husted, 694 F.3d 760, 765 (6th Cir. 2012). “The party seeking the preliminary injunction bears the burden of justifying such relief, including showing irreparable harm and likelihood of success.” McNeilly v. Land, 684 F.3d 611, 615 (6th Cir. 2012).

III. Likelihood of Success on the Merits

A. Summary of the Parties’ Arguments

Mirion asserts that the Supply Agreement is a binding and enforceable contract and that Sunpower’s refusal to fill the purchase order constitutes a breach of contract. Mirion alleges that it is entitled to relief under Ohio Revised Code § 1302.90(A), which provides, “Specific performance may be decreed where the goods are unique or in other proper circumstances.” See also Uniform Commercial Code § 2-716(1). Mirion contends that Sunpower is “uniquely capable of supplying Mirion with cryocoolers having the specifications Mirion needs in the manufacture of the Cryo-Cooler II.” (Doc. 2 at 11). According to Mirion, the Lihan cryocooler is not an adequate alternative because of its unreliability.

Sunpower argues that the Supply Agreement is not enforceable because it lacks a quantity term. It further argues that the Agreement does not fit the definition of a requirements contract (for which the missing quantity term is measured by the requirements of the buyer, see U.C.C. § 2-306) because Mirion did not promise to obtain cryocoolers exclusively from Sunpower. See Orchard Grp., Inc. v. Konica Med. Corp., 135 F.3d 421, 428-29 (6th Cir. 1998). Sunpower argues that even if an enforceable agreement exists, the remedy of specific performance is not warranted because

Mirion cannot establish a likelihood of success on the question of whether the Sunpower cryocooler is unique. Sunpower emphasizes that there are numerous manufacturers of cryocoolers and that Mirion has been able to effectively deal with any reliability issues regarding the Lihan device through its warranty.

B. The Existence of an Enforceable Agreement

In order to prove a claim for breach of contract, the plaintiff must show: (1) the existence of a contract; (2) performance by the plaintiff; (3) breach by the defendant; and (4) damage or loss to the plaintiff. See Textron Fin. Corp. v. Nationwide Mut. Ins. Co., 115 Ohio App.3d 137, 144, 684 N.E.2d 1261, 1266 (Ohio Ct. App. 1996); Doner v. Snapp, 98 Ohio App.3d 597, 600, 649 N.E.2d 42, 44 (Ohio Ct. App. 1994).

“A contract is generally defined as a promise, or a set of promises, actionable upon breach.” Williams v. Ormsby, 131 Ohio St.3d 427, 429, 966 N.E.2d 255, 258 (Ohio 2012) (internal quotation marks omitted). The essential elements of a contract are: “offer, acceptance, contractual capacity, consideration (the bargained for legal benefit and/or detriment), a manifestation of mutual assent and legality of object and of consideration.” Id., 131 Ohio St.3d at 429-30, 966 N.E.2d at 258 (internal quotation marks omitted). “A meeting of the minds as to the essential terms of the contract is a requirement to enforcing the contract.” Kostelnik v. Helper, 96 Ohio St.3d 1, 3-4, 770 N.E.2d 58, 61 (Ohio 2002).

1. Whether the Supply Agreement is a Requirements Contract

The parties agree on two points: (1) the Supply Agreement was signed on behalf of both parties by individuals who had the capacity to bind the parties and (2) the Supply Agreement did not have a quantity term. A quantity term is typically an essential term of a contract for goods. See Alligood v. Procter & Gamble Co., 72 Ohio App.3d 309, 311, 594 N.E.2d 668, 669 (Ohio Ct. App. 1991); O.R.C. § 1302.04(A). The parties disagree on the next issue: whether the Supply Agreement is a requirements contract.

The Sixth Circuit has described requirements contracts under Ohio law as “a contract which calls for one party to furnish materials or goods to another party to the extent of the latter’s requirements in business.” Cyril Bath Co. v. Winters Industries, 892 F.2d 465, 467 (6th Cir. 1989). In the absence of a definite quantity term, the parties are obligated to deal in good faith regarding quantity requests: “A term which measures the quantity by the output of the seller or the requirements of the buyer means such actual output or requirements as may occur in good faith, except that no quantity unreasonably disproportionate to any stated estimate or in the absence of a

stated estimate to any normal or otherwise comparable prior output or requirements may be tendered or demanded.” O.R.C. § 1302.19(A); U.C.C. § 2-306(1).

Some jurisdictions recognize the validity of a nonexclusive requirements contracts – one in which the buyer is not required to purchase the goods solely from the seller to the contract. *See, e.g., Advent Sys. Ltd. v. Unisys Corp.*, 925 F.2d 670, 678-79 (3d Cir. 1991) (applying Pennsylvania law); *Hoover’s Hatchery, Inc. v. Utgaard*, 447 N.W.2d 684, 688 (Iowa Ct. App. 1989). *But see BRC Rubber & Plastics, Inc. v. Cont’l Carbon Co.*, 804 F.3d 1229, 1231 (7th Cir. 2015) (“An agreement is not a requirements contract unless it: (1) obligates the buyer to buy goods, (2) obligates the buyer to buy goods exclusively from the seller, and (3) obligates the buyer to buy all of its requirements for goods of a particular kind from the seller.”) (internal quotation marks omitted).

The Sixth Circuit in *Orchard Grp., Inc. v. Konica Med. Corp.*, 135 F.3d 421 (6th Cir. 1998) (applying Ohio law), did not directly address the issue of whether Ohio law would recognize nonexclusive requirements contracts. Nonetheless, its legal analysis and discussion of the parties’ arguments appears to have contemplated that possibility. *See id.* at 428-29 (discussing, as an alternative to exclusivity, the possibility of a requirements contract stating a quantity estimate). *But see H&C Ag Servs., LLC v. Ohio Fresh Eggs, LLC*, 2015-Ohio-3714, ¶ 40, 41 N.E.3d 915, 924 (Ohio Ct. App. 2015) (“Ohio courts have held that, under Ohio’s UCC, exclusivity is a necessary component of a requirements contract.”) (citing cases).

Even if recognized as viable, a nonexclusive requirements contract must provide a basis for determining a reasonable quantity term, such as a stated estimate in the contract of the amount of goods required. *See Orchard Grp.*, 135 F.3d at 428-29; *Hoover’s Hatchery*, 447 N.W.2d at 688. Mirion has submitted evidence that its procurement officer discussed a purchase forecast (the ramp-up schedule) with a counterpart at Sunpower before the Supply Agreement was executed. But the schedule was not incorporated into or referenced in the Supply Agreement, and the Agreement does not otherwise state an estimate of Mirion’s requirements. Sixth Circuit case law is clear that if nonexclusive requirements contracts are to be recognized at all, the contract itself must provide a sufficient basis for determining a reasonable quantity term. *See Orchard Grp.*, 135 F.3d at 428-29 (finding no basis where purported agreement indicated a range between 0 and 1 million units of film); *Cyril Bath*, 892 F.2d at 466-67 (applying Ohio law and finding that contract which listed annual production estimates was sufficient); *City of Louisville v. Rockwell Mfg. Co.*, 482 F.2d 159, 164-65 (6th Cir. 1973) (applying Kentucky law and finding that a quantity estimate of “approximately 7650 parking meters” in the contract was sufficient). *See also Hoover’s Hatchery*,

447 N.W.2d at 688 (“[T]his court finds that the inclusion of defendant’s expected requirements set forth in the correspondence which constitutes the agreement, is a sufficient standard by which the good faith of the parties may be measured.”).

The Supply Agreement does not contain a quantity estimate; thus, the court finds that Mirion has not demonstrated a likelihood of success in showing that the Agreement is a nonexclusive requirements contract.

Nor has Mirion demonstrated a likelihood of success of showing that the Supply Agreement is an exclusive requirements contract. The Ohio Supreme Court has defined a requirements contract as a “contract in writing whereby one agrees to buy, for sufficient consideration, all the merchandise of a designated type which the buyer may require for use in his own established business.” Fuchs v. United Motor Stage Co., 135 Ohio St. 509, 509, 21 N.E.2d 669, 670 (Ohio 1939); see also H&C Ag Servs., 41 N.E.3d at 923-24. In other words, a requirements contract exists when “one party promises to buy exclusively, and the other party agrees to deliver specific goods or services which the buyer may need[,] for a certain period of time.” H&C Ag Servs., 41 N.E.3d at 924 (internal quotation marks omitted).

Mirion does not dispute that the Supply Agreement contains no language requiring it to buy all of its cryocooler requirements for the Cryo-Cycle II from Sunpower. The Agreement does not require Mirion to buy any cryocoolers at all from Sunpower, nor does it prohibit Mirion from purchasing cryocoolers from another supplier.

Mirion correctly notes that a “promise to purchase exclusively from one supplier may be either implicit or explicit.” Cyril Bath, 892 F.2d at 467 (6th Cir. 1989); see also In re Modern Dairy of Champaign, Inc., 171 F.3d 1106, 1108 (7th Cir. 1999) (“The contracts do not expressly obligate the dairy to supply the districts with their requirements for milk. But such an obligation can be implicit as well as express.”) (citing cases). Mirion contends that the parties implicitly understood that Sunpower would be supplying Mirion’s entire need for cryocoolers. According to Mirion, the ramp-up schedule supports this implicit understanding, as does the testimony of Jeffrey Hatfield, former site manager for Sunpower.

The court finds that Sunpower has failed to demonstrate a likelihood of success of showing an implicit obligation that Mirion would obtain cryocoolers exclusively from Sunpower. The ramp-up schedule itself does not indicate any promise or agreement that Mirion would buy exclusively from Sunpower. The chain of emails sent among individuals at AMETEK/Sunpower regarding the ramp-up schedule likewise does not reflect any such understanding.

Turning to the testimony of Hatfield, the court finds that at best it lends some support to Mirion's position, but falls well short of establishing a strong likelihood of success on the issue. Hatfield had knowledge of discussions between the parties about volume pricing. He sent an internal email on May 3, 2017 to others at AMETEK/Sunpower stating that Mirion was interested in proceeding with pricing on an annual estimate of 120 units. (Hearing Ex. 16). Hatfield testified that he considered 120 units per year to be a "fairly substantial order" in relation to other orders received by Sunpower. On May 9, 2017, Hatfield sent another internal email stating that Mirion was interested in volume pricing quotes for annual quantities of 120, 200 and 300 units. (Id.). He testified that he came to the understanding that Mirion had a "need" of 15 to 20 units per month.

One could interpret Hatfield's testimony about Mirion's "need" in Mirion's favor – as being evidence that Hatfield believed Sunpower would be providing all of Mirion's requirements once the ramp-up schedule reached the point when Sunpower would be delivering 20 units per month to Mirion. But the testimony does not compel that inference. At the hearing, Mirion's counsel did not elicit testimony from Hatfield that he understood Mirion to be promising to buy only from Sunpower. And Mirion's counsel did not elicit testimony about whether Hatfield meant "entire need" when he referenced Mirion's "need."

Even construing Hatfield's testimony favorably for Mirion, it does not establish that Mirion implicitly promised to buy exclusively from Sunpower during the first four to six months of the Supply Agreement. Both the ramp-up schedule and Hatfield's emails reflect the understanding that there would be a transition period because of Mirion's existing supply relationship with Lihan. Hatfield sent an internal email on May 22, 2017 stating that he did not expect Mirion to be ready for volume purchasing until early 2018. (Hearing Ex. 17). Sunpower thus did not believe that it would be supplying Mirion with all of its requirements for the full duration of the Supply Agreement.

Testimony from Mirion's Alec Bounds also supports a finding that Mirion did not promise to purchase exclusively from Sunpower for the duration of the Agreement. He testified that both parties understood there would be a transition period. Moreover, Bounds testified that he never told Sunpower's Jim Wade that Mirion intended for Sunpower to be its sole supplier: "I don't remember or recall explicitly telling him that I was going to switch all of my business, because at that time I wasn't sure . . . how things might work out with Lihan." Bounds confirmed that during negotiations with Sunpower, Mirion continued to order cryocoolers from Lihan and that Mirion took delivery of Lihan cryocoolers even after the Supply Agreement was signed. And Bounds met

with Thales in June 2017, even as he dealt with Sunpower, as part of Mirion's continuing efforts to, as Webb put it, "move away from having a single source" for cryocoolers.

Accordingly, the court finds that Mirion has not demonstrated a strong likelihood of success of showing that the Supply Agreement was a requirements contract.

2. Whether the Purchase Order Accepted the Supply Agreement's Offer

In the alternative, Mirion argues that the Supply Agreement was an offer by Sunpower that Mirion accepted when it submitted the purchase order for 250 units. Sunpower responds that the Supply Agreement should be disregarded as unenforceable (for lack of a quantity term) and that, starting anew, the purchase order was an offer that Sunpower did not accept.

The court finds that Mirion has shown a strong likelihood of success on this issue. An offer is "the manifestation of willingness to enter into a bargain, so made as to justify another person in understanding that his assent to that bargain is invited and will conclude it." Reedy v. The Cincinnati Bengals, Inc., 143 Ohio App.3d 516, 521, 758 N.E.2d 678, 682 (Ohio Ct. App. 2001) (internal quotation marks omitted). The Supply Agreement sets forth the price, delivery, warranty and other terms (except quantity) that were agreeable to Sunpower. The Agreement invited Mirion to respond with a purchase order, which would complete the bargain. The Agreement stated that "Mirion may place orders for products" and that the Agreement "applies to all MIRON purchase orders issued to Supplier." The Agreement further provided that "[a]cceptance by MIRION of any offer from Supplier is expressly limited to the terms and conditions of this Agreement and the applicable [purchase] Order."

Mirion responded to the Supply Agreement with a purchase order that: (1) accepted the price, delivery and warranty terms of the Supply Agreement, and (2) supplied the quantity term missing from the Supply Agreement. The purchase order stated, "[T]his order is exclusively governed by the terms and conditions of the Supply Agreement effective June 14, 2017." Mirion's purchase order appears, at this stage of the litigation, to represent Mirion's acceptance of Sunpower's offer.⁴ See O.R.C. § 1302.07(A) ("A contract for sale of goods may be made in any manner sufficient to show agreement, including conduct by both parties which recognizes the existence of such a contract.").

Accordingly, the court finds that Mirion has shown a likelihood of success on its argument that an enforceable agreement existed between the parties. See Crown Battery Mfg. Co. v. Club Car,

⁴ For purposes of the motion for a preliminary injunction, Sunpower has not argued that the purchase order set forth an unreasonable quantity term or was otherwise materially defective.

Inc., No. 3:12CV2158, 2014 WL 587142, at *5 (N.D. Ohio Feb. 14, 2014) (“Though the [Supply Agreement] is not a requirements contract, it is still enforceable. . . . It establishes the terms for future purchase orders of batteries. . . . Thus, each purchase order forms a separate and distinct sales contract.”).

C. Entitlement to Specific Performance

Specific performance is a remedy that is available only when “there is no adequate remedy at law, *i.e.*, damages.” Sashti, Inc. v. Glunt Industries, Inc., 140 F.Supp.2d 813, 817 (N.D. Ohio 2001) (citing Gleason v. Gleason, 64 Ohio App.3d 667, 672, 582 N.E.2d 657, 661 (Ohio Ct. App. 1991)). This principle is reflected in the Uniform Commercial Code with the concept of the “commercial feasibility of replacement.” U.C.C. § 2-716, Off. Cmt. 2. Ohio Revised Code § 1302.90(A) states, “Specific performance may be decreed where the goods are unique or in other proper circumstances.” The Official Comment to the statute provides that the “inability to cover is strong evidence of ‘other proper circumstances.’” O.R.C. § 1302.90, Off. Cmt. 2. See also Triple-A Baseball Club Assocs. v. Northeastern Baseball, Inc., 832 F.2d 214, 224 (1st Cir. 1987) (noting in the case law an “emphasis on ability to ‘cover’ as a major criterion in deciding the appropriateness of specific performance”).

“[O]utput and requirements contracts involving a particular or peculiarly available source or market present today the typical commercial specific performance situation.” O.R.C. § 1302.90, Off. Cmt. 2. Although the statute does not exclude non-requirements contracts from its scope, practically speaking, a buyer to a non-requirements sales contract may well face difficulties of proof in seeking specific performance. As one court put it, “[o]utput and requirements contracts, explicitly cited as examples of situations in which specific performance may be appropriate, by their nature call for a series of continuing acts and an ongoing relationship.” Copylease Corp. of Am. v. Memorex Corp., 408 F. Supp. 758, 760 (S.D.N.Y. 1976). And it is “where a contract calls for continuing sale of unique or ‘noncoverable’ goods” that the Official Comment “contemplate[s] that at least in some circumstances specific performance will issue contrary to the historical reluctance to grant such relief in these situations.” Id.

Sunpower argues that because the Supply Agreement is not a requirements contract, Mirion can prevail only if the goods are unique. That is, Sunpower would remove the “other proper circumstances” prong of the statute as a way in which Mirion could show it is entitled to specific performance. If Mirion did not obligate itself to refrain from obtaining cryocoolers from another supplier, so the argument goes, then Mirion has the contractual ability to obtain cover. The court,

however, has not found any authority to support Sunpower's categorical proposition that a buyer to a non-requirements contract cannot avail itself of the "other proper circumstances" prong of the statute.⁵ A buyer might have the contractual freedom to obtain cover, but the statute and case law look to the commercial feasibility of finding cover and whether the buyer has the ability to go to the marketplace and actually obtain a replacement.

The focus of the court's inquiry, therefore, is twofold: whether Sunpower's cryocoolers are unique and, even if they are not unique, whether Mirion is able to obtain cover.

Courts have said that a good is unique if it is rare, "one of a kind," or nearly impossible to replace. *See, e.g., King Aircraft Sales, Inc. v. Lane*, 68 Wash. App. 706, 711, 717, 846 P.2d 550, 553, 556-57 (Wash. Ct. App. 1993). Other courts look to the "uncertainty of valuing" the good, in keeping with the precept that specific performance is available only when there is no adequate remedy at law. *Van Wagner Advert. Corp. v. S & M Enterprises*, 67 N.Y.2d 186, 193, 492 N.E.2d 756, 760 (N.Y. 1986). The U.C.C. provides that "test of uniqueness . . . must be made in terms of the total situation which characterizes the contract." O.R.C. § 1302.90, Off. Cmt. 2.

The court finds no support for Mirion's claim that Sunpower's CryoTel GT cryocooler is unique. It may be that high-purity germanium detectors are one of a kind, in comparison to other radiation detectors, in their sensitivity to radioactivity. It may be that hybrid cryostats are the best option available for cooling germanium crystals. And it may be that cryocoolers, which make the detectors and cryostats operational, are devices which reflect sophisticated design and technology. But within the nuclear energy industry in which the parties operate, cryocoolers are not unique or rare goods, nor are they incapable of being valued. Mirion's own witness, James Colaresi, testified that when Sunpower terminated the prior supply agreement with Canberra in 2013, Canberra "came up with a fairly long list of potential companies" with whom it could approach about supplying a cryocooler for Canberra's Cryo-Cycle II. Canberra "pared down that list to about five and then ultimately selected two [Twinbird and Thales] out of the five." He further testified that cost was the consideration that drove Canberra's selection of Twinbird. During the hearing, the court heard of no material changes in the marketplace from 2013 to present day. Sunpower remains one of many

⁵ Sunpower possibly drew its position from the following statement in *Key Safety v. Invista*, No. 08-cv-10558, 2008 WL 4279358, at *13 (E.D. Mich. Sept. 16, 2008): "Under the UCC, specific performance is appropriate where the unique nature of the goods makes cover impossible or where a requirements contract is involved." This court does not interpret *Key Safety* as making an either-or-type rule. That same decision also stated that "specific performance may be warranted where a requirements contract is involved or where the goods cannot be covered elsewhere." *Id.* at *12.

potential suppliers of cryocoolers. (Hearing Exs. 12, 13) (charts listing at least six more manufacturers beyond those named in this Opinion and Order). The value of these goods – as expressed by their cost – is ascertainable to Mirion. Indeed, the reason Mirion pursued Sunpower over Thales in early 2017 was not the uniqueness of Sunpower’s product but the higher costs associated with Thales.

Mirion argues that cryocoolers have a number of important features and that reliability is one of them. The court agrees that in evaluating uniqueness, it should view the totality of the situation and consider the characteristics or attributes of a good which are important to the parties and to others in the relevant marketplace or industry. See King Aircraft Sales, 68 Wash. App. at 711, 846 P.2d at 553 (examining the claim that two aircraft were “rare in terms of their exceptional condition”); Sedmak v. Charlie’s Chevrolet, Inc., 622 S.W.2d 694, 699-700 (Mo. Ct. App. 1981) (examining the “mileage, condition, ownership and appearance” of a collectible automobile). Sunpower does not dispute, and common sense dictates, that reliability is an important feature of a machine or a scientific instrument.

According to Mirion, Sunpower is uniquely able to produce a cryocooler that drops into the Cryo-Cycle II and performs reliably. This claim has slim factual support. Though Webb and Colaresi testified that Lihan’s product is generally less reliable than Sunpower’s, Mirion failed to produce documents or data regarding the respective reliability of Lihan’s and Sunpower’s cryocoolers. This leaves the court without specific information from which it could determine, for instance, the comparative failure rates of the two makes of cryocoolers, the average lifespan of a Lihan cryocooler before it fails⁶ and whether the failure rate or lifespan of Lihan devices has improved over time.

The court finds that Mirion has shown only that the Sunpower cryocooler perhaps is better than Lihan’s on the reliability front, not that the Sunpower device is unique. Lihan’s device is not so unreliable that Mirion is unable to sell its Cryo-Cycle II, as was the case when Canberra attempted to work with Twinbird. Mirion/Canberra has sold its product with the Lihan cryocooler since December 2014 and has addressed the reliability issues with Lihan’s product through a warranty return program. As Webb and Colaresi testified, Mirion has a “fairly large” service team that is equipped to “immediately” replace defective cryocoolers with new ones.

⁶ Webb testified that some portion of defective Lihan cryocoolers are caught by Mirion during a 30-day burn-in test period before they are shipped to customers, but Mirion presented no data on the percentage of units which fail during the burn-in period.

For the same reasons that Mirion has not shown that Sunpower's product is unique, Mirion has not established that it is unable to obtain cover. See Kaiser Trading Co. v. Associated Metals & Minerals Corp., 321 F. Supp. 923, 932 (N.D. Cal. 1970) (noting that cover can refer to the "scarcity of goods" or to "when the goods contracted for cannot be purchased on the open market"). Mirion's experience with Lihan proves that it is commercially feasible for Mirion to obtain an alternative supply of cryocoolers. Mirion has access to enough of a supply from Lihan to produce the Cryo-Cycle II and fill warranty returns.

Again, numerous potential suppliers exist for Mirion. Bounds testified that while Mirion negotiated with Sunpower in May 2017, Mirion looked at "multiple options," including staying with Lihan, switching to Thales, proceeding with Sunpower and various combinations thereof. Bounds emphasized that Mirion "wanted those options" and wanted the opt-out provision in the Supply Agreement – "knowing the history with Sunpower, I wanted to make sure that we would have the agility or the option to find another source if this agreement failed and . . . I would then be able to adjust and go find another supplier."

Webb similarly testified that Mirion "knew that there was some risk associated with the agreement with Sunpower" and that they were considering their options with Lihan and Thales because they wanted to avoid relying on a single source for cryocoolers. According to Webb, Mirion viewed Sunpower as "the best solution without a lot of engineering effort and design work." The court finds that Sunpower is simply Mirion's preferred supplier among many options and that any extra engineering and design costs associated with choosing another supplier are quantifiable and redressable by monetary damages.

Now that the relationship with Sunpower has indeed failed, Mirion remains able to obtain cryocoolers from Lihan, including during any interim period in which Mirion would seek to work with Thales or another potential supplier on research and development.

Accordingly, the court finds that Mirion has not established a strong likelihood of success on its claim for specific performance.

IV. Irreparable Injury

The court likewise finds that Mirion has failed to demonstrate that it will suffer irreparable injury absent injunctive relief. In its briefs, Mirion claimed the evidence would show that it would suffer lost sales, lost competitiveness and lost customer goodwill. At the hearing, Webb asserted that putting unreliable Lihan cryocoolers in Mirion's product erodes Mirion's brand reputation and

the relationship of trust that Mirion's sales representatives have built with customers. According to Mirion, customers do not know or care which brand of cryocooler is installed Mirion's Cryo-Cycle II, so when customers get an unreliable cryocooler in their Cryo-Cycle II, they associate the problem with Mirion.

When pressed to support the claim of reputational harm, Webb and Mirion retreated to the position that it is simply something that cannot be measured. But quantifying the harm is different from showing in the first instance that it exists or is likely to exist absent an injunction. See Crestmont Cadillac Corp. v. Gen. Motors Corp., No. 83000, 2004-Ohio-488, ¶ 40, 2004 WL 229127 (Ohio Ct. App. Feb. 10, 2004) ("Although we understand goodwill is hard to quantify, there has to be some basis alleged for how [plaintiff] will be damaged."). Mirion did not offer any testimony or evidence from a sales representative or customer regarding harm to its brand reputation. Webb instead stated that it could take many years to know the impact of the reliability issues: "power plants operate for 50 to 60 years . . . and there are buying cycles that go along with that, and so the reputational damage that you might experience [may] not be realized until 10 or 15 years later when the customer needs to purchase a lab upgrade." In the court's view, Mirion's claim of irreparable injury to its reputation must be rejected as speculative.

Moreover, the causal relationship between the alleged irreparable injury and harm for which Mirion has sued Sunpower is attenuated. The reliability problem with Lihan is not of Sunpower's doing and existed prior to the Supply Agreement. Even if Sunpower had not signed the Agreement, Mirion would still be confronted with the same harm to reputation it now says it needs a preliminary injunction to avoid. It is unclear to what extent an injunction would save Mirion from harm because some of the reputational damage (assuming it exists at all) has already been done. Mirion has been selling its product with the Lihan device for over two-and-a-half years. If, as Mirion says, Lihan's cryocoolers have been unreliable from the start in December 2014, then customers surely have noticed by now. Further, a preliminary injunction is not the only way to address the reliability problem. Mirion considered its various options for dealing with this problem in early 2017. Pursuing a supply relationship with Sunpower was Mirion's preferred solution, but not the only one. As such, other options remain besides the issuance of a preliminary injunction forcing Sunpower to manufacture and supply cryocoolers.

In Mirion's view, obtaining a preliminary injunction would at least stop the bleeding – it would give Mirion an immediate supply of reliable cryocoolers and bring a halt to whatever reputational damage has been done in the past two-and-a-half years. The court is not persuaded.

Colaresi testified that Mirion has sold about 400 of its Cryo-Cycle II units with the Lihan cryocooler installed. Given that the court has no information about the time horizon in which the Lihan device is likely to fail, it could be the case that some of the devices will fail in the upcoming months and years, and Mirion will suffer reputational harm in the future despite the issuance of an injunction. Additionally, a preliminary injunction would provide only a temporary patch to Mirion's larger problem. Sunpower has exercised its right to terminate the Supply Agreement with six months' notice. If the court were to grant injunctive relief, it would be inclined to order Sunpower to just supply the number of cryocoolers (110 units) that Mirion says the parties expected for Mirion to take delivery of in the first six months of the Agreement. Even if Mirion received a six month's supply, it would still be forced to reckon with the Lihan reliability problem in the very near future.

Accordingly, the court finds that Mirion has not established that it will suffer irreparable injury absent injunctive relief.⁷

V. Other Factors

Finally, the court must consider whether granting an injunction would cause substantial harm to others and whether the public interest would be served by granting an injunction. Mirion argues that granting an injunction would not harm Sunpower because Sunpower has the production capacity to manufacture and deliver the appropriate number of cryocoolers. Sunpower has not disputed that contention.

Mirion next argues that the prospect of having radiation detectors fail in "mission-critical" environments implicates a public safety concern. As an example, Mirion cites the Fukushima nuclear power plant accident in Japan and argues that having reliable detectors in such situations is necessary to protect cleanup workers and the public.

The court notes that Mirion has not presented evidence of harm to any of its customers who have had a Cryo-Cycle II with a defective Lihan cryocooler. There is no evidence of mission-critical failures and no indication that immediate replacement under warranty is not an adequate resolution for Mirion's customers.

⁷ Sunpower has argued that Mirion must be foreclosed from showing that it will suffer irreparable injury because the Supply Agreement provided that neither party would be liable to the other for consequential damages or "any other indirect damages of any kind." Supply Agr. § 23. Sunpower contends that the court should not consider Mirion's alleged reputational harm as a form of irreparable injury because Mirion contracted away its right to be protected from such harm. The court finds it unnecessary to reach this issue.

As for Mirion's example of a nuclear accident, the court finds that the evidence does not support Mirion's suggestion that public safety will be compromised unless Mirion can put Sunpower devices in its products. The witnesses testified that Mirion/Canberra is not the only manufacturer of hybrid cryostats, there are other ways besides hybrid cryostats to keep high-purity germanium detectors cooled to the required temperature, and there are other types of detectors available for detecting radioactivity.

VI. Conclusion

For the reasons stated above, Mirion's motion for a preliminary injunction (doc. 2) is denied.

s/ James L. Graham
JAMES L. GRAHAM
United States District Judge

DATE: November 5, 2017