PUBLIC VERSION

UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

In the Matter of **CERTAIN BOILER PROTECTION FOR ABSORPTION REFRIGERATION SYSTEMS AND COMPONENTS THEREOF**	**Inv. No. 337-TA-1453**

INITIAL DETERMINATION GRANTING COMPLAINANTS' MOTION FOR SUMMARY DETERMINATION OF VIOLATION OF SECTION 337 AND RECOMMENDED DETERMINATION ON REMEDY AND BOND

Chief Administrative Law Judge Clark S. Cheney

(May 21, 2026)

Appearances:

Complainants ARPC LLC and Paul N. Unmack

For the Office of Unfair Import Investigations:

Vu Bui, Esq., David O. Lloyd, and Paul A. Gennari, Esq.

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Chief Administrative Law Judge Clark S. Cheney

(May 21, 2026)

Pursuant to the Notice of Investigation, 90 Fed. Reg. 26066 (June 18, 2025), this is the final initial determination in the matter of *Certain Boiler Protection for Absorption Refrigeration Systems and Components Thereof*, Investigation No. 337-TA-1453.

For the reasons stated herein, I have determined that a violation of section 337 of the Tariff Act of 1930, as amended, has occurred in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain boiler protection for absorption refrigeration systems and components thereof that infringe certain claims of U.S. Patent No. 8,056,360.

I. INTRODUCTION

A. Procedural History

On May 14, 2025, complainants ARPC LLC ("ARPC" or "ARP") and Paul N. Unmack (collectively, "Complainants") filed a complaint alleging violations of section 337 based on the importation into the United States, the sale for importation, and the sale within the United States after importation of certain boiler protection for absorption refrigeration systems and components thereof. 90 Fed. Reg. 21508 (May 20, 2025); *see* EDIS Doc. IDs 851167, 851169, 851171 (public filings, confidential filings, and appendices). Complainants filed a supplement to the complaint on May 23, 2025. *See* EDIS Doc. ID 851917. Complainants also filed a corrected version of exhibit CX-0014 to the complaint on January 16, 2026, and a second corrected version of exhibit CX-0014 to the complaint on January 23, 2026. *See* EDIS Doc. IDs 869196, 869910.[1]

On June 18, 2025, the Commission instituted Investigation No. 337-TA-1453 to determine:

> [W]hether there is a violation of subsection (a)(1)(B) of section 337 in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain products identified in paragraph (2) by reason of infringement of one or more of claims 1, 4, 6, and 10 of the '360 patent [U.S. Patent No. 8,056,360], and whether an industry in the United States exists as required by subsection (a)(2) of section 337.

90 Fed. Reg. 26066 (June 18, 2025) ("Notice of Investigation").

The plain language description of the accused products in the complaint defines the scope of the investigation. 19 C.F.R. § 210.10(b)(1). The products are described as "RV refrigerator boiler protection and their components and accessories." Notice of Investigation.

The Notice of Investigation named the following respondents:

[1] All versions of CX-0014, an exhibit attached to the complainant, were filed as confidential. This initial determination will refer to the second corrected version of this exhibit, EDIS Doc. ID 869910, as "Domestic Industry Decl." in the discussions below.

- Kuofanghenanmaoyiyouxiangongsi of Henan, China
- Wuhujiaoxiangdianzishangwuyouxiangongsi of Anhui, China
- Wang Hai Ping of Guangdong, China
- Shenzhenshi Xiangfan Xinxizixun Youxiangongsi of Guangdong, China
- Ruianshichensumaoyiyouxiangongsi of Zhejiang, China
- Qingyuannuozedianzishangwuyouxianzerengongsi of Guangdong, China
- Wuhu Tianhao e-commerce Co., Ltd of Anhui, China
- shen zhen shi hong kang da ke ji you xian gong si of Guangdong, China
- guangzhou yingpeng dianzi shangwu youxiangongsi of Guangdong, China
- shen zhen shi xing han xing dian zi shang wu you xian gong si of Guangdong, China

Notice of Investigation.

The Office of Unfair Import Investigations ("Staff" or "OUII") is also a party to this investigation. *Id.*

I set a 15-month target date of September 21, 2026, for this investigation, thereby making the final initial determination on violation of section 337 due no later than May 21, 2026. Order No. 5 (July 28, 2025).

On December 19, 2025, I issued an initial determination terminating this investigation in part based on the withdrawal of the complaint with respect to all allegations against the following three respondents: Wang Hai Ping, ruianshichensumaoyiyouxiangongsi, and shen zhen shi xing han xing dian zi shang wu you xian gong si. Order No. 10 (Dec. 19, 2025), *unreviewed by* Comm'n Notice (Jan. 8, 2025).

On January 8, 2025, I issued an order to show cause why the respondents remaining in this investigation should not be found in default. Order No. 12 (Jan. 8, 2025); *see also* Order No. 8

(Dec. 8, 2025); Order No. 9 (Dec. 19, 2025). In that order, I granted Complainants leave to serve the show cause order on the respondents and directed Complainants to file proof of service or else file an update describing attempts at service and the status of each request for relief against each respondent. Order No. 12 at 2.

On February 25, 2026, I issued an initial determination finding the following four respondents in default for failure to respond to the order to show cause:

- Kuofanghenanmaoyiyouxiangongsi
- Shenzhenshi Xiangfan Xinxizixun Youxiangongsi
- guangzhou yingpeng dianzi shangwu youxiangongsi
- Qingyuannuozedianzishangwuyouxianzerengongsi

Order No. 16 at 4-5 (Feb. 25, 2026), *unreviewed by* Comm'n Notice (Mar. 20, 2026). These four respondents will be referred to collectively as "Defaulting Respondents."

On March 11, 2026, I issued an initial determination terminating respondents Wuhujiaoxiangdianzishangwuyouxiangongsi and Wuhu Tianhao e-commerce Co., Ltd. (collectively, "Wuhu Respondents") from this investigation based on a consent order. Order No. 17 (Mar. 11, 2026), *unreviewed by* Comm'n Notice (Mar. 30, 2026).

On March 24, 2026, I issued an initial determination terminating this investigation in part based on the withdrawal of the complaint with respect to all allegations against respondent shen zhen shi hong kang da ke ji you xian gong si. Order No. 19 (Mar. 24, 2026), *unreviewed by* Comm'n Notice (Apr. 15, 2026).

B. The Pending Motion for Summary Determination and Related Briefing on Remedy

On January 8, 2026, in response to a request I made during a case management conference held on December 3, 2025, Staff submitted a brief on the appropriateness of cease and desist orders

as a remedy in this investigation in the event a violation of section 337 is found. *See* EDIS Doc. ID 868360 ("Staff CDO Br."). Complainants submitted their brief addressing the appropriateness of cease and desist orders on January 14, 2026. *See* EDIS Doc. ID 868953.

On January 11, 2026, Complainants filed a motion seeking (1) findings on summary determination that the Defaulting Respondents were in violation of section 337, (2) findings on summary determination that there is a domestic industry with respect to the '360 patent, and (3) a recommendation of entry of a general exclusion order, cease and desist orders, and a bond pending Presidential review. Motion Docket No. 1453-012; *see* EDIS Doc. ID 868588. Complainants filed a corrected memorandum ("Mem.") in support of their motion on January 12, 2026. *See* EDIS Doc. ID 868699. On January 23, 2026, Complainants filed a Declaration of Paul N Unmack Regarding U.S. Patent No. 8,056,360 ("CX-0015" or "Unmack Decl.") in further support of their motion. *See* EDIS Doc. ID 869912.

On February 9, 2026, Staff filed a brief ("Staff Br.") in support of Complainants' motion for summary determination. *See* EDIS Doc. ID 872009. Staff takes the position that Complainants have shown a violation of section 337 by the Defaulting Respondents and that an appropriate remedy would be a general exclusion order, cease and desist orders, and a bond during the Presidential review period. Staff Br. at 2-3.

C. The Private Parties

1. Complainants

Complainant ARPC is a limited liability company organized under the laws of Montana with its corporate headquarters and principal place of business located in Butte, Montana. Compl. ¶ 9. In its facility in Montana, ARPC designs and manufactures refrigerator boiler protection for recreational vehicles. Compl. ¶¶ 9, 10.

Complainant Paul N. Unmack of Butte, Montana is the inventor and owner of the '360 patent, and he licenses the '360 patent to ARPC. *See* Compl. App. A ('360 patent) at cover page; Compl. ¶¶ 51, 74; Compl. Ex. 15 (license). Mr. Unmack is a partner in ARPC. Unmack Decl. ¶ 1.

Complainants ARPC and Mr. Unmack are not represented by counsel in this investigation.

2. Defaulting Respondents

The four named respondents discussed below have been found in default. Order No. 16. Accordingly, the allegations in the complaint as to these respondents are presumed to be true. 19 C.F.R. § 210.16(c)(1) ("The facts alleged in the complaint will be presumed to be true with respect to the defaulting respondent."); s*ee also* *Certain Crafting Machines and Components Thereof*, Inv. No. 337-TA-1426, Final Initial Determination and Recommended Determination at 21 (Jan. 21, 2026), *unreviewed in relevant part by* Comm'n Notice (Apr. 14, 2026).

a) Koofang

Respondent Kuofanghenanmaoyiyouxiangongsi ("Koofang") is a Chinese corporation with a principal place of business at:

English	Chinese
Bulding #2, Long Run Zhuang Wang Jia Yuan #2 2603 Unit #2 (2 DanYuan) ZhengZhou City High Tech Development County HeNan Province 450000 China	龙润庄王嘉苑二号院 2 号楼 2 单元 2603 郑州市 高新技术开发区 河南省 450000

Compl. ¶ 16.

Complainants allege that Koofang "sells for importation into the United States, imports, and/or sells within the United States after importation 'Upgraded 637360 Temp Monitor Control Kit, Replace 634677 634678, Compatible with Norcold 2118, 1200, 1201, 1210, 1211 Series,

637360 RV Refrigerator Cooling Unit Temperature Monitor Control Kit' that infringe one or more [of the asserted] claims of the '360 Patent." Compl. ¶ 17.

b) RVGIVE

Respondent Shenzhenshi Xiangfan Xinxizixun Youxiangongsi ("RVGIVE") is a Chinese corporation with a principal place of business at:

English	Chinese
MinZhi XinNiu District GangShen International Center D11-14 Long Hua District Shen Zhen Guang Dong 518000 China	民治街道新牛社区港深国际中心 D11-14 深圳市 龙华区 广东 518000 CN

Compl. ¶ 25.

Complainants allege that RVGIVE "sells for importation into the United States, imports, and/or sells within the United States after importation '637360 Temp Monitor Control Kit - Compatible with Norcold 2118, 1200, 1201, 1210, 1211 Series RV Refrigerator | Replaces 634677, 634678 Cooling Units | Includes Waterproof Cover' that infringes one or more [of the asserted] claims of the '360 Patent." Compl. ¶ 26.

c) Little Bear Pocket

Respondent Qingyuannuozedianzishangwuyouxianzerengongsi ("Little Bear Pocket") is a Chinese corporation with a principal place of business at:

English	Chinese
BiGuiYuan Yunjing Building #3, Room #1702 YingCheng Jie Dao. BiGuiYuan Yunjing Building #3, Room #1702 YingDe City QinYuan City YingDe City GuangDong Province 513000 China	英城街道碧桂园云璟 3 号楼 1702 房 碧桂园云璟 3 号楼 1702 房 英德市 清远市英德市 广东省 513000 CN

Compl. ¶ 31.

Complainants allege that Little Bear Pocket "sells for importation into the United States, imports, and/or sells within the United States after importation 'Genuine Norcold 637360 Temp Monitor Control Compatible with Norcold 2118 1200 1201 1210 1211 Series RV Refrigerator Cooling Unit Direct Replacement Factory Certified 634677*634678 RV Fridge Parts' that infringe one or more [of the asserted] claims of the '360 Patent." Compl. ¶ 32.

d) VISVIC

Respondent guangzhou yingpeng dianzi shangwu youxiangongsi ("VISVIC" or "GT'AUTO") is a Chinese corporation with a principal place of business at:

Cleaned Up English	Chinese
guangzhou yingpeng dianzi shangwu youxiangongsi (Chineese Business Name) Guangzhou (City) Tian He Qu (District) Huang Cun Bei Lu 26 Hao (Street Address) D Qu, 2 Lou 60397 Shi (Floor and Room) GD 510000 (Province and zip) China Telephone: (+86) 18297525073	广州英鹏电子商务有限公司 广东省 广州市 天河区 黄村北路 26 号 D 区，二楼 60397 室 广东 510000 中国 电话: (+86) 18297525073

Compl. ¶ 40.

Complainants allege that VISVIC "sells for importation into the United States, imports, and/or sells within the United States after importation 'For Norcold Refrigerator Cooling Unit Temp Monitor Control Kit 637360' that infringe one or more [of the asserted] claims of the '360 Patent." Compl. ¶ 41.

D. The Asserted '360 Patent

The '360 patent, titled "Absorption Refrigeration Protective Controller," issued on November 15, 2011, and names Paul Neilson Unmack as the sole inventor. '360 patent at cover

page. The '360 patent issued from U.S. Patent Application No. 11/824,923, which was filed on July 3, 2007, and claims priority to Provisional Application No. 60,860,980, which was filed on November 22, 2006. *Id.* The '360 patent expires on October 12, 2028. Compl. ¶ 53.

Mr. Unmack owns the '360 patent, and he licenses the '360 patent to ARPC. Compl. ¶¶ 51, 74; Compl. Ex. 15 (license agreement).

The '360 patent is directed to the control of the single pressure absorption refrigeration ("SPAR") process, and more specifically to controlling the cooling unit heat source when circulation of the refrigerant ceases. '360 patent at 1:20-25. Figure 1A of the patent, reproduced below, depicts a "typical SPAR unit with an adaptation of the present invention":

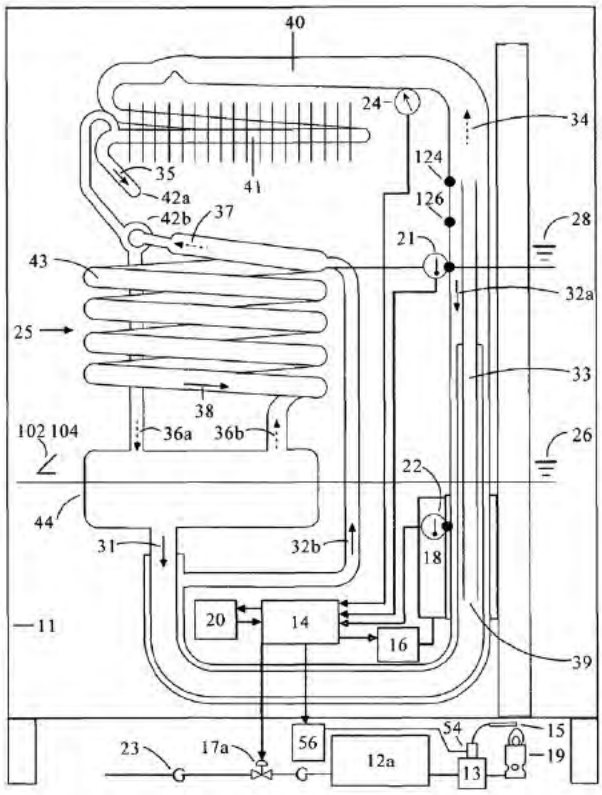


Fig. 1A

'360 patent at 2:65-67, Figure 1A. In reference to Figures 3-5, reproduced below, the patent discloses:

As a result of the inventor's research and development, and the desire to lower the cost of the invention for the end user, the inventor recognized that if the signal from the STC (**15**) could be interrupted before it reached the MGSCV (**13**); the gas heat source may be actuated by the APR controller. Such a method of control would eliminate the need for SOV **17** *a* entirely. The inventor designed and reduced to practice a novel method to manipulate the MGSCV (**13**) input signal. For the SPAR system under consideration, the novel thermocouple interrupt (TCI) adaptor (**54**) was implemented. With reference to FIGS. 3, **4**, and **5**, the TCI adaptor taps into the center wire of the STC (**15**) at electrical contacts **66** and **70**. In order to interrupt the signal between the STC (**15**) and the VLS (**58**), contacts **74** and **76** are connected to a normally closed interrupt relay (**56**) which completes the connection for normal SPAR operation. When the ARP controller detects a potentially destructive condition for the cooling unit a signal is sent to the interrupt relay (**56**) actuating a shut down of the gas heat source. Finally, to complete the circuit, electrical contacts **68** and **72** establish an electrical connection between the outer conductor of the STC (**15**) and the VLS housing (**58**). The body of the interrupt adaptor (**78**) is made of a non-conductive material.

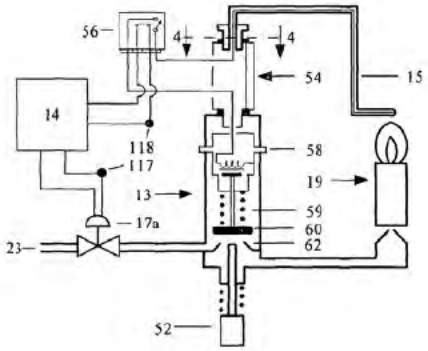


Fig. 3

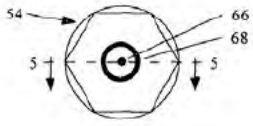


Fig. 4

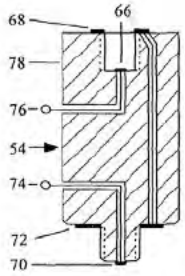


Fig. 5

'360 patent at 9:30-52, Figures 3-5.

Complainants assert claims 1, 4, 6, and 10 of the '360 patent against the Defaulting Respondents. Mem. at 14. Complainants also rely on claims 1, 4, 6, and 10 of the '360 patent to

prove satisfaction of the technical prong of the domestic industry requirement. Mem. at 145. Claims 1 and 6 are independent apparatus claims, and claims 4 and 10 are independent method claims.

The claims currently at issue in this investigation are provided below:

> 1. An automatic protective controller circuit for a single pressure absorption refrigeration cooling unit, comprising:
>
> (a) one or more temperature sensors in thermal contact with a portable single pressure absorption cooling unit containing an absorption cycle using a pump tube with a percolator effect for transport of refrigerant fluids, wherein the pump tube is surrounded by a weak solution of refrigerant, wherein the weak solution comprises water and an inhibitor depleted of ammonia, wherein each temperature sensor is located at a point along the weak solution flow, wherein the weak solution has a temperature, and wherein each temperature sensor measures the temperature of the weak solution along the weak solution flow at the point on the cooling unit at which the sensor is located;
>
> (b) electrical circuitry that compares the measured temperature of the weak solution at each point to a predetermined value for that point; and
>
> (c) one or more actuators that reduce heat input to the single pressure absorption refrigeration cooling unit;
>
> wherein the electrical circuitry activates the one or more actuators based on the comparison between the measured temperatures and the predetermined values, and if the measured temperature at any point along the weak solution flow is greater than the predetermined value for that point, then the one or more actuators is activated;
>
> wherein heat input to the cooling unit is adjusted based on measured temperature increase of the weak solution due to off-level tilting condition resulting cessation of refrigerant flow, to protect the cooling unit from excessive thermal stress caused by off-level tilting.
>
> 4. A method for automatically controlling a heat input of a single pressure absorption refrigeration cooling unit thereby providing protection of the cooling unit, comprising the steps of:
>
> (a) measuring temperature of a weak solution using one or more temperature sensors in thermal contact with the portable single pressure absorption cooling unit containing an absorption cycle using a pump tube with a percolator effect for transport of refrigerant fluids, wherein

the pump tube is surrounded by the weak solution of refrigerant, wherein the weak solution comprises water and chromate depleted of ammonia, wherein each of the temperature sensors is located and at a point along the weak solution flow wherein the weak solution has a temperature, and wherein each of the temperature sensors measures the temperature of the weak solution along the weak solution flow at the point on the cooling unit at which the sensor is located;

(b) comparing the measured temperature of the weak solution at each point to a predetermined value for that point, using electrical circuitry; and

(c) adjusting the heat input to the single pressure absorption refrigeration cooling unit using one or more actuators;

wherein the electrical circuitry activates the one or more actuators based on the comparison between the measured temperatures and the predetermined values, and if the measured temperature at any point along the weak solution flow is greater than the predetermined value for that point, then the one or more actuators is activated resulting in heat input reduction; and

wherein heat input to the cooling unit is adjusted based on measured temperature increase of the weak solution due to off-level tilting condition resulting cessation of refrigerant flow, to protect the cooling unit from excessive thermal stress caused by off-level tilting.

6. An automatic protective controller circuit for protecting a single pressure absorption refrigeration cooling unit, the automatic protective controller circuit responding before undue thermal stress is placed on the single pressure absorption refrigeration cooling unit, including thermal stress due to off-level tilting, comprising:

(a) one or more temperature sensors in thermal contact with a portable single pressure absorption cooling unit containing an absorption cycle using a pump tube with a percolator effect for transport of refrigerant fluids, wherein the pump tube is surrounded by a weak solution of refrigerant, wherein the weak solution comprises water and an inhibitor, wherein each temperature sensor is located outside of a refrigerated space and at a point along the weak solution flow, wherein the weak solution has a temperature, and wherein each temperature sensor measures the temperature of the weak solution along the weak solution flow at the point on the cooling unit at which the sensor is located;

(b) electrical circuitry that compares the measured temperature of the weak solution at each point to a predetermined value for that point; and

(c) the absorption cycle of the single pressure absorption refrigeration cooling unit having a working agent, and where the predetermined value is greater than the continuous phase change temperature of the working agent when the single pressure absorption refrigeration cooling unit is functioning as a continuous cycle; and

(d) one or more actuators that reduce heat input to the single pressure absorption refrigeration cooling unit;

wherein the electrical circuitry activates the one or more actuators based on the comparison between the measured temperatures and the predetermined values, and if the measured temperature at any point along the weak solution flow is greater than the predetermined value, then the one or more actuators that reduce heat input is activated; and,

wherein heat input to the cooling unit is thus adjusted based on measured temperature increase of the weak solution caused by off-level tilting, whereby preventing fire hazard resulting from cooling unit tubing rupture.

10. A method of automatically controlling a heat input of a single pressure absorption refrigeration cooling unit using off-level and tilting condition thereby providing protection of the cooling unit, comprising the steps of:

(a) measuring temperature of a weak solution using one or more temperature sensors in thermal contact with the portable single pressure absorption cooling unit containing an absorption cycle using a pump tube with a percolator effect for transport of refrigerant fluids, wherein the pump tube is surrounded by the weak solution of refrigerant, wherein the weak solution comprises water and an inhibitor, wherein each of the temperature sensors is located outside of a refrigerated space and at a point along the weak solution flow wherein the weak solution has a temperature, and wherein each of the temperature sensors measures the temperature of the weak solution along the weak solution flow at the point on the cooling unit at which the sensor is located;

(b) comparing the measured temperature of the weak solution at each point to a predetermined value, using electrical circuitry; and

(c) adjusting the heat input to the single pressure absorption refrigeration cooling unit using one or more actuators;

wherein the electrical circuitry activates the one or more actuators based on the comparison between the measured temperatures and the predetermined values, and if the measured temperature at any point along the weak solution flow is greater than the predetermined value,

then the one or more actuators is activated resulting in heat input reduction; and

wherein heat input to the cooling unit is adjusted based on measured temperature increase of the weak solution due to a discontinuity of the single pressure absorption cooling unit absorption cycle caused by off-level tilting.

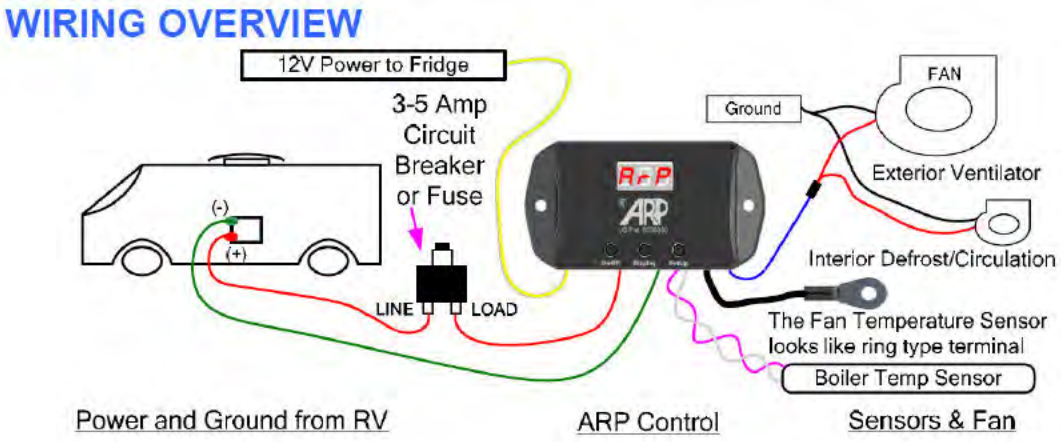
'360 patent at claims 1, 4, 6, and 10.

E. Products at Issue

The products at issue in this investigation are refrigerator boiler protection for recreational vehicles and their components and accessories.

1. Domestic Industry Product

To prove satisfaction of the domestic industry requirement, Complainants rely on ARP's "Fridge Defend" product ("Domestic Industry Product"), which is a monitoring device for recreational vehicle ("RV") refrigerators. Mem. at 130, 142; Compl. ¶ 10. The Fridge Defend product was previously named "ARP Control." Mem. at 14. The figure below shows a wiring overview and schematic of the Fridge Defend product installed in an RV:



Compl. Ex. 18 (Fridge Defend General Install Guide) at 6.[2]

ARP's installation instructions describe the product as follows:

> The ARP [Control] is a monitoring device for RV refrigerators. The ARP turns off your cooling unit heat source by turning off the 12VDC power to your refrigerator if the boiler overheats. The ARP Control will automatically attempt to restart your refrigerator five times. RV absorption refrigerators work by boiling a fluid mixture that includes water and ammonia. The ammonia turns into a gas that rises and separates from the water mixture. The ammonia then condenses into a liquid that flows through the cooling unit tubing. During this cycle the ammonia absorbs heat thereby cooling the refrigerator. RV refrigerators are notoriously unsafe when operated off-level or in a variety of temperature and pressure conditions.
>
> If the boiler in your RV refrigerator overheats, the cooling tubes are stressed which may lead to early failure or even a rupture that could cause a fire. The ARP monitors the actual boiler temperature of your RV refrigerator to detect conditions that can be unsafe, and in turn, shut off the boiler heat source to prevent overheating. Please note that the ARP Control setup and adjustment including the Auto Tune function depend on proper function of your cooling unit at the time of the setup. The ARP Control cannot change the parameters of your cooling unit. If you have a failing, damaged, or poorly constructed cooling unit, the ARP Control cannot change this situation nor alter the physical properties within your cooling unit.

Id. at 5.

As will be shown to be relevant later, the part number 637360 is used to identify the Domestic Industry Product. *See* Compl. Ex. 6 (internet search for "arp fridge defend" results in "Upgraded 637360 Temp Monitor Control Kit").

2. Defaulting Respondents' Accused Products

The table below identifies each Defaulting Respondent's accused product (collectively, the "Accused Products") and provides references to Complainants' infringement charts and evidence of importation for that product:

[2] The exhibits submitted with Complainants' motion for summary determination largely mirror the exhibits submitted with the complaint. For consistency and ease of reference, this initial determination will preferentially cite to the exhibits to the complaint.

Respondent Name	Accused Product	Infringement Chart	Importation Evidence
Koofang	Koofang upgraded 637360 Temp Monitor Control Kit	Compl. Ex. 9A	Compl. Exs. 11A, 12A
RVGIVE	RVGIVE 637360 Temp Monitor Control Kit	Compl. Ex. 9D	Compl. Exs. 11D, 10D, 12D
Little Bear Pocket	Little Bear Pocket Genuine Norcold 637360 Temp Monitor Control	Compl. Ex. 9F	Compl. Exs. 10F, 11F
VISVIC	GT'AUTO For Norcold Refrigerator Cooling Unit Temp Monitor Control Kit 637360	Compl. Ex. 9I	Compl. Exs. 10I, 11I

See Mem. at 12-13; Mot. Ex. CX-0015 (Unmack Decl.) ¶ 14; Staff CDO Brief at 6-7.

The Accused Products of the Defaulting Respondents, along with products of other respondents named in the complaint, often refer to part number "637360," which is the part number Complainants use to identify their authorized Domestic Industry Product. *See* Compl. Exs. 9A-9J (infringement charts).

II. LEGAL STANDARDS

A. Summary Determination

Under Commission Rule 210.18(b), summary determination "shall be rendered if pleadings and any depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a summary determination as a matter of law." 19 C.F.R. § 210.18(b).

When a motion for summary determination is made, "a party opposing the motion may not rest upon the mere allegations or denials of the opposing party's pleading, but the opposing party's response, by affidavits, answers to interrogatories, or as otherwise provided in this section, must set forth specific facts showing that there is a genuine issue of fact for the evidentiary hearing

under § 210.36(a)(1) or (2)." 19 C.F.R. § 210.18(c). "If the opposing party does not so respond, a summary determination, if appropriate, shall be rendered against the opposing party." *Id.*

A genuine issue of fact exists "if the evidence is such that a reasonable [fact finder] could return a verdict for the nonmoving party." *Crown Operations Int'l, Ltd. v. Solutia Inc.*, 289 F.3d 1367, 1375 (Fed. Cir. 2002) (quoting *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986)). The evidence "must be viewed in the light most favorable to the party opposing the motion . . . with doubts resolved in favor of the nonmovant." *Id.*

B. Claim Construction

"An infringement analysis entails two steps. The first step is determining the meaning and scope of the patent claims asserted to be infringed. The second step is comparing the properly construed claims to the device accused of infringing." *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc) (cleaned up), *aff'd*, 517 U.S. 370 (1996). Claim construction resolves legal disputes between the parties regarding claim scope. *See Eon Corp. IP Holdings v. Silver Spring Networks*, 815 F.3d 1314, 1319 (Fed. Cir. 2016).

Evidence intrinsic to the application, prosecution, and issuance of a patent is the most significant source of the legally operative meaning of disputed claim language. *See Bell Atl. Network Servs., Inc. v. Covad Commc'ns Grp., Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the patent claims, the specification, and the prosecution history. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc); *see also Markman*, 52 F.3d at 979.

"[T]he claims themselves provide substantial guidance as to the meaning of particular claim terms." *Phillips*, 415 F.3d at 1314; *see Interactive Gift Express, Inc. v. CompuServe Inc.*, 256 F.3d 1323, 1331 (Fed. Cir. 2001) ("In construing claims, the analytical focus must begin and

remain centered on the language of the claims themselves, for it is that language that the patentee chose to use to particularly point out and distinctly claim the subject matter which the patentee regards as his invention." (cleaned up)). The context in which a term is used in an asserted claim can be "highly instructive." *Phillips*, 415 F.3d at 1314. Additionally, other claims in the same patent, asserted or unasserted, may also provide guidance as to the meaning of a claim term. *Id.*

The specification "is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." *Phillips*, 415 F.3d at 1315 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). "[T]he specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor's lexicography governs." *Phillips*, 415 F.3d at 1316. "In other cases, the specification may reveal an intentional disclaimer, or disavowal, of claim scope by the inventor." *Id.* As a general rule, however, the particular examples or embodiments discussed in the specification are not to be read into the claims as limitations. *Id.* at 1323. In the end, "[t]he construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be . . . the correct construction." *Id.* at 1316 (quoting *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998)).

C. Infringement

In a section 337 investigation, the complainant bears the burden of proving infringement of the asserted patent claims by a preponderance of the evidence. *See Spansion, Inc. v. Int'l Trade Comm'n*, 629 F.3d 1331, 1349 (Fed. Cir. 2010). This standard "requires proving that infringement was more likely than not to have occurred." *Warner-Lambert Co. v. Teva Pharm. USA, Inc.*, 418 F.3d 1326, 1341 n.15 (Fed. Cir. 2005).

"[W]hoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent." 35 U.S.C. § 271(a). "Literal infringement requires the patentee to prove that the accused device contains each limitation of the asserted claim(s). If any claim limitation is absent, there is no literal infringement as a matter of law." *Bayer AG v. Elan Pharm. Research Corp.*, 212 F.3d 1241, 1247 (Fed. Cir. 2000). Literal infringement is a question of fact. *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1332 (Fed. Cir. 2008).

D. Validity

A patent is presumed valid. 35 U.S.C. § 282; *Microsoft Corp. v. i4i Ltd. P'ship*, 564 U.S. 91, 95 (2010); *see also Certain Devices for Connecting Computers Via Telephone Lines*, Inv. No. 337-TA-360, USITC Pub. 2843 (Dec. 1994) (explaining that a U.S. patent is presumed to be valid).

E. Domestic Industry Requirement

For a patent-based complaint, a violation of section 337 can be found "only if an industry in the United States, relating to the articles protected by the patent . . . concerned, exists or is in the process of being established." 19 U.S.C. § 1337(a)(2). The complainant bears the burden of establishing that the domestic industry requirement is satisfied. *John Mezzalingua Assocs., Inc. v. Int'l Trade Comm'n*, 660 F.3d 1322, 1331 (Fed. Cir. 2011). The domestic industry requirement of section 337 is often described as having an economic prong and a technical prong. *Lashify, Inc. v. Int'l Trade Comm'n*, 130 F.4th 948, 954 (Fed. Cir. 2025); *Certain Stringed Musical Instruments and Components Thereof*, Inv. No. 337-TA-586, Comm'n Op. at 12-14, USITC Pub. No. 4120 (Dec. 2009).

1. Technical Prong

The technical prong of the domestic industry requirement is satisfied when the complainant in a patent-based section 337 investigation establishes that it is practicing or exploiting the patents at issue. *See* 19 U.S.C. § 1337(a)(2) and (3); *Certain Microsphere Adhesives, Process for Making Same and Prods. Containing Same, Including Self-Stick Repositionable Notes*, Inv. No. 337-TA-366, Comm'n Op. at 8, USITC Pub. No. 2949 (Jan. 1996). "The test for satisfying the 'technical prong' of the industry requirement is essentially [the] same as that for infringement, *i.e.*, a comparison of domestic products to the asserted claims." *Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1375 (Fed. Cir. 2003). The technical prong may be satisfied either literally or under the doctrine of equivalents. *See Certain Ground Fault Circuit Interrupters and Prods. Containing Same*, Inv. No. 337-TA-739, Comm'n Op., 2012 WL 2394435, at *46 (June 8, 2012); *Certain Soft-Edged Trampolines and Components Thereof*, Inv. No. 337-TA-908, Initial Determination at 12 (Dec. 5, 2014). To prevail, the complainant must establish by a preponderance of the evidence that the domestic product practices one or more valid claims of the patent. *See Spansion*, 629 F.3d at 1349; *Certain Vision-Based Driver Assistance Sys. Cameras and Components Thereof*, Inv. No. 337-TA-907, Comm'n Op. at 36, USITC Pub. No. 4866 (Feb. 2019). It is sufficient to show that the products practice any claim of an asserted patent, not necessarily an asserted claim of that patent. *See Certain Male Prophylactic Devices*, Inv. No. 337-TA-546, Comm'n Op. at 38, USITC Pub. No. 4005 (May 2008). In other words, there may be a violation of section 337 where the Domestic Industry Products practice one claim of an asserted patent but the Accused Products infringe a different claim of that same patent.

2. Economic Prong

Section 337(a)(3) sets forth the following economic criteria for determining the existence of a domestic industry in such investigations:

> (3) For purposes of paragraph (2), an industry in the United States shall be considered to exist if there is in the United States, with respect to the articles protected by the patent, copyright, trademark, mask work, or design concerned –
>
> (A) significant investment in plant and equipment;
>
> (B) significant employment of labor or capital; or
>
> (C) substantial investment in its exploitation, including engineering, research and development, or licensing.

19 U.S.C. § 1337(a)(3). Because the statutory criteria are listed in the disjunctive, satisfaction of any one of them will be sufficient to meet the economic prong of the domestic industry requirement. *See InterDigital Commc'ns*, 707 F.3d at 1303 n.4; *Certain Variable Speed Wind Turbines and Components Thereof*, Inv. No. 337-TA-376, Comm'n Op. at 15, USITC Pub. No. 3003 (Nov. 1996).

III. STATUTORY AUTHORITY

The Commission has statutory authority to investigate an alleged violation of section 337(a)(1)(B) based on the importation into the United States, sale for importation, or sale after importation of articles that infringe a valid and enforceable United States patent. 19 U.S.C. § 1337(a)(1)(B)(i). Here, the complaint states that the Defaulting Respondents violated section 337 through the importation into the United States, the sale for importation, or the sale within the United States after importation of certain articles that infringe the '360 patent. *See* Notice of Investigation. The Commission thus has statutory authority to conduct this investigation.

IV. IMPORTATION

To prove a violation of section 337 based on patent infringement, the complainant must show that a respondent engaged in "[t]he importation into the United States, the sale for importation, or the sale within the United States after importation" of "articles that . . . infringe" the asserted patent. 19 U.S.C. §§ 1337(a)(1)(B).

Here, the record evidence demonstrates that the Defaulting Respondents have imported the Accused Products. Specifically, Complainants provided evidence showing importation of the Accused Products from China in the complaint and supporting exhibits, which are summarized above in section I.E.2. *See* Compl. ¶¶ 61, 64, 66, 69. This evidence is unrebutted. *See* Staff Br. at 24.

I therefore find that Complainants have shown with substantial, reliable, and probative evidence that the importation requirement of section 337 has been satisfied with respect to the Accused Products. *See* 19 U.S.C. § 1337(a)(1)(B)(i).

V. AUTHORITY OVER IMPORTED GOODS

As noted, the Accused Products have been imported into the United States.

No party disputes the Commission's statutory authority to issue a remedy against imported accused products in accordance with 19 U.S.C. § 1337 if there is a violation of that statute. *See* Staff Br. at 23-24.

I therefore find that the Commission has statutory authority over the imported accused products in accordance with 19 U.S.C. § 1337. *See Sealed Air Corp. v. Int'l Trade Comm'n*, 645 F.2d 976, 985-86 (C.C.P.A. 1981); 19 U.S.C. § 1337.

VI. AUTHORITY OVER THE PARTIES

No party has contested the Commission's statutory authority over the private parties. *See* Staff Br. at 23-24. The Defaulting Respondents have made intentional and systemic contacts with the United States at least through the importation of articles at issue in this investigation. *See supra* section IV. I therefore find that the Commission has statutory authority over the private parties in accordance with the Commission's governing statutes. *See, e.g.*, 19 U.S.C. §§ 1333, 1337(e)-(f); *Certain Pocket Lighters*, 337-TA-1142, Initial Determination at 12-13 (Feb. 12, 2020), *unreviewed in relevant part*, Comm'n Notice (Apr. 22, 2020).

VII. PERSON OF ORDINARY SKILL IN THE ART

The ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention. *Phillips*, 415 F.3d at 1313.

A person of ordinary skill in the art is a hypothetical person who is presumed to be aware of all pertinent prior art. *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1992). Determining the appropriate level of skill for this hypothetical person can involve consideration of the types of problems encountered in the art, prior art solutions to those problems, rapidity with which innovations are made, sophistication of the technology at issue, the educational level of active workers in the field, and the level of education of the inventors themselves. *Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007).

Complainants contend that a person of ordinary skill in the art at the time of the claimed inventions would have had "a Bachelor[']s of Science in Engineering with emphasis on Thermodynamics, Materials Science & Corrosion, [and] Controls Systems, in addition [to] Mobile

Refrigeration Experience." Mot. Ex. CX-0015 (Unmack Decl.) ¶ 12. Staff does not object to Complainants' proposal regarding the level of ordinary skill in the art. Staff Br. at 30.

In view of the undisputed record, I adopt Complainants' proposed definition of a person of ordinary skill in the art.

VIII. CLAIM CONSTRUCTION

Neither Complainants nor Staff identified any claim terms of the '360 patent that need construction. *See* Mot. Ex. CX-0015 (Unmack Decl.) ¶ 13; Staff Br. at 31. Complainants and Staff agree that all claim terms should be accorded their plain and ordinary meaning. *Id.*

In view of the parties' positions, I will use the plain and ordinary meaning of all claim terms in my analyses below.

IX. INFRINGEMENT

To show that the Defaulting Respondents infringe claims 1, 4, 6, and 10 of the '360 patent, Complainants submitted the declaration of Paul N. Unmack. Mot. Ex. CX-0015 (Unmack Decl.). Mr. Unmack has been a practicing engineer for over 20 years, and his experience includes:

- B.S. in General Engineering from Montana Tech University awarded in 2004;
- 4 years of training as an engineer in the fields of imbedded system design, mechanical and fluidic design, instrumentation, and documentation;
- receipt of the Montana Professional Engineering (PE) license 17861 in 2008; and
- publication of many articles on RV refrigeration design and safety.

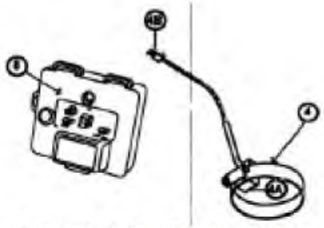
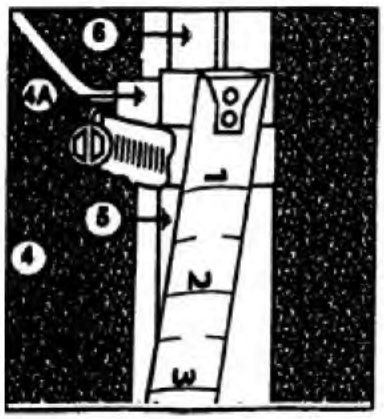
Id. ¶¶ 1-7. In view of this experience, I find that Mr. Unmack's declaration is probative of how a person of ordinary skill in the art would understand the claimed invention. *See supra* section VII.

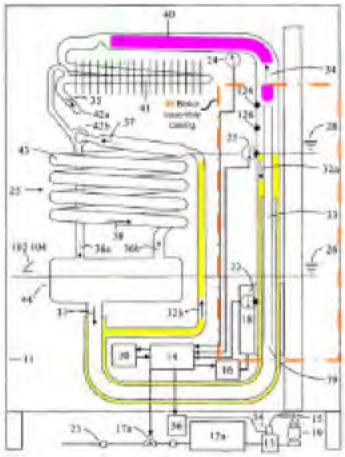
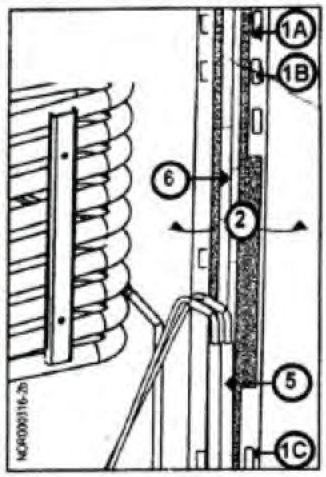
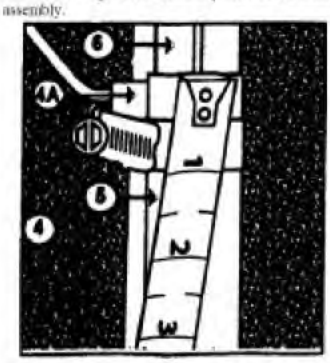
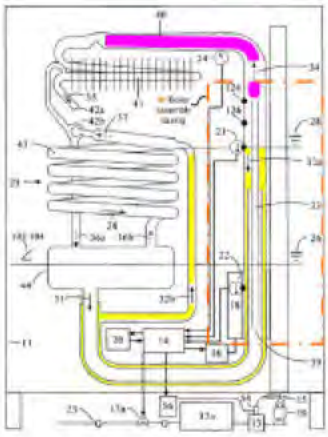
In his declaration, Mr. Unmack stated that he personally examined each of the Defaulting Respondents' accused product samples and installation manuals. Mot. Ex. CX-0015 (Unmack

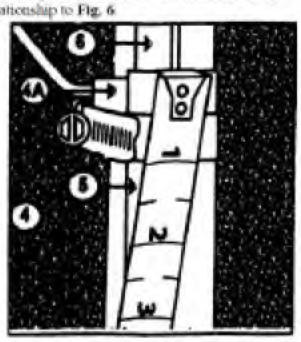
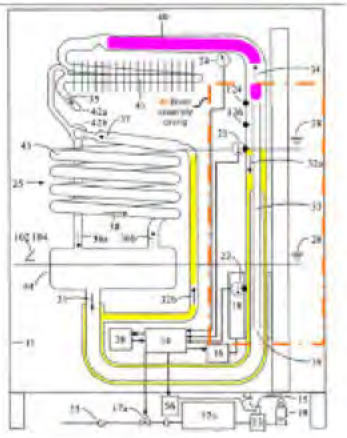
Decl.) ¶ 14. Based on his examination, Mr. Unmack prepared claim charts for each of the Accused Products that show how claims 1, 4, 6, and 10 of the '360 patent read on the Accused Products. *Id.* These claim charts were attached as Exhibits 9A (Koofang), 9D (RVGIVE), 9F (Little Bear Pocket), and 9I (VISVIC) to the complaint.

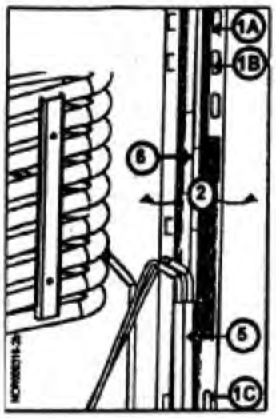
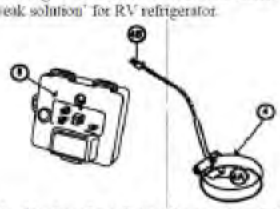
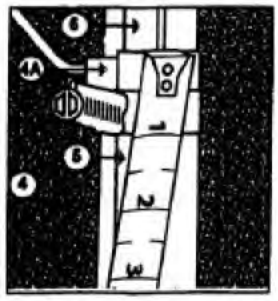
An exemplary claim chart comparing Koofang's product to claim 1 of the '360 patent is reproduced below:

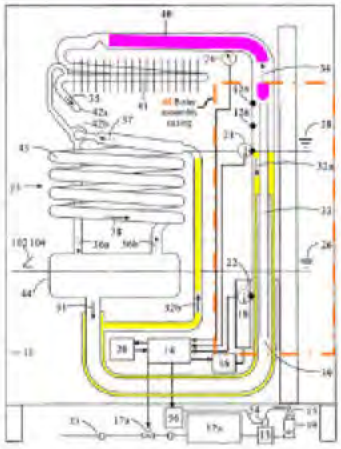
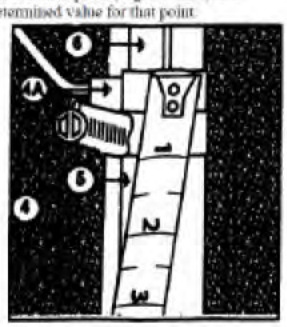
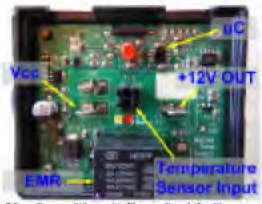
'360 Patent Claim	[Koofang] Accused Product
Claim 1	
1. An automatic protective controller circuit for a single pressure absorption refrigeration cooling unit, comprising:	Exhibit 12A is the sales page where the Koofang product was purchased. Under the about this item heading: 3rd bullet states "It disables all heat source outputs once an abnormality in heat is detected". Where "detecting" is an automatic control function because user is not needed for the protective response identified as "abnormality in heat". In addition, no operator controls are viewed on Koofang product. Fig. 1 that allows human intervention for manual control purposes.

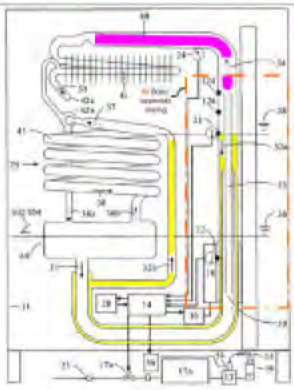
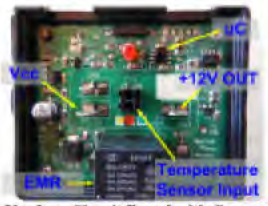
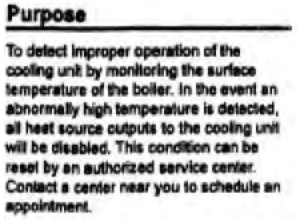
'360 Patent Claim	[Koofang] Accused Product
	 Fig. 1 - Koofang 637360 Temperature Monitoring Controller
(a) one or more temperature sensors in thermal contact with a portable single pressure absorption cooling unit containing an absorption cycle using a pump tube with a percolator effect for transport of refrigerant fluids,	Exhibit 12A sales page describes the product as: "Norcold 2118, 1200, 1201, 1210, 1211 Series, 637360 RV Refrigerator Cooling Unit Temperature Monitor Control Kit". Where all Norcold models listed are single pressure absorption cooling unit containing an absorption cycle using a pump tube with a percolator effect for transport of refrigerant fluids. Please see Exhibit 6 for definition of RV absorption refrigerator including boiler, pump tube, and other elements of the cooling unit. Koofang sells in its kit **Fig. 2** temperature sensor (4). Koofang instructs in **Fig. 3** to attach each temperature sensor (4) at a point along the weak solution flow on the boiler (6) to be in thermal contact. Please see **Fig. 2, 3, 6,** and **7** which identifies elements of claim and absorption cycle working elements.  **Fig. 2 – Koofang Kit Installation Instructions Exhibit 11A** References Section: 4. Thermocouple (a thermocouple is a type of temperature sensor, same as 22 **Fig. 6**) 8. Temp Monitor Control  **Fig. 3 - Koofang Install Instructions.** Where parts are identified in Reference Section: 4. Temperature Sensor (same as 22 **Fig. 6**) 5. Heater Tube (same as 18 **Fig. 6**) 6. Boiler (same as 39 **Fig. 6**) CONTINUED ON NEXT PAGE

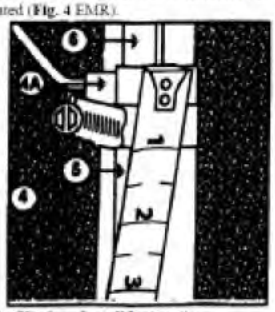
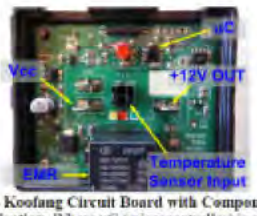
'360 Patent Claim	[Koofang] Accused Product
	 Fig. 1A **Fig. 6 – '360 Patent Fig. 1A.** Where yellow 32a & 32b is 'weak solution'. 39 is boiler. 21 & 22 temperature sensors. 18 is electric heating element/tube. Also see Exhibit 6 for Typical RV Refrigerator Cooling Unit Absorption Cycle Assembly Cross Section  **Fig. 7 - Koofang Install Instructions.** Install Instructions Reference Section: 1A, B and C are Casing (same as 45 **Fig. 6**). 2. Insulation within casing to retain heat in boiler 5. Heater Tubes (same as 18 **Fig. 6**) 6. Boiler (same as 39 **Fig. 6**)
wherein the pump tube is surrounded by a weak solution of refrigerant,	Please see Exhibit 6 for definition of RV absorption refrigerator. Where weak solution is contained in the Boiler (6) in **Fig. 3** and Boiler (39) in **Fig 6**. The boiler also contains the pump tube (33) **Fig. 6** which is not shown in **Fig 3** because Koofang installation instruction image is not a cutaway view of the boiler assembly.  **Fig. 3 - Koofang Install Instructions.** Where parts are identified in Reference Section: 4. Temperature Sensor (same as 22 **Fig. 6**) 5. Heater Tube (same as 18 **Fig. 6**) 6. Boiler, where "weak solution" is contained within boiler tube (6) **Fig. 3** or **Fig. 6** boiler (39).  Fig. 1A **Fig. 6 – '360 Patent Fig. 1A.** Where yellow 32a & 32b is 'weak solution' within boiler 39. 21 & 22 temperature sensors. 18 is electric heating element/tube. Also see Exhibit 6 for Typical RV Refrigerator Cooling Unit Absorption Cycle Assembly Cross Section.

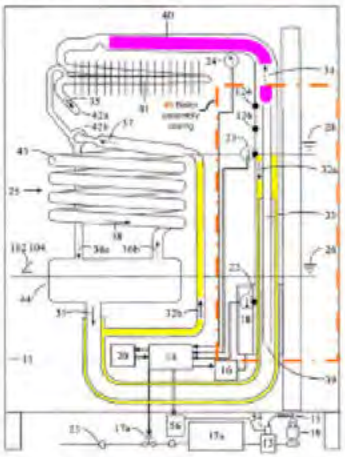
'360 Patent Claim	[Koofang] Accused Product
wherein the weak solution comprises water and an inhibitor depleted of ammonia,	Please see Exhibit 6 where conventional RV refrigerator boiler assemblies are described in detail and relate to **Fig. 3**. Please note that all patents and **Fig. 3** & **Fig 7** koofang installation instructions reference RV refrigerator boiler assemblies that are known in the art, and are conventional in construction and purpose including the ammonia, water, and weak solution function in the refrigeration cycle. Please see **Fig 6** and '360 Patent specification for more definition and purpose of the weak solution. **Fig. 3** & 7 koofang installation instructions have a direct relationship to **Fig. 6**  **Fig. 3 - Koofang Install Instructions.** Where parts are identified in Reference Section: 4. Temperature Sensor (same as 22 **Fig. 6**) 5. Heater Tube (same as 18 **Fig. 6**) 6. Boiler (same as 39 **Fig. 6**)  Fig. 1A **Fig. 6 – '360 Patent Fig. 1A.** Where yellow 32a & 32b is 'weak solution' within boiler 39. 21, 22 temperature sensors. 18 is electric heating element. Also see Exhibit 6 for Typical RV Refrigerator Cooling Unit Absorption Cycle Assembly Cross Section. CONTINUED ON NEXT PAGE

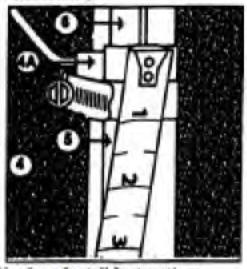
'360 Patent Claim	[Koofang] Accused Product
	 **Fig. 7 – Koofang Install Instructions** Install Instructions Reference Section: 1A, B and C are Casing (same as 45 **Fig. 6**) 2. Insulation within casing to retain heat in boiler 5. Heater Tubes (same as 18 **Fig. 6**) 6. Boiler (same as 39 **Fig. 6**)
wherein each temperature sensor is located at a point along the weak solution flow, wherein the weak solution has a temperature, and wherein each temperature sensor measures the temperature of the weak solution along the weak solution flow at the point on the cooling unit at which the sensor is located;	**Fig. 2 & 3** Koofang installation instructions shows each temperature sensor (4) is located at a point along the weak solution flow (within Boiler 6), wherein the weak solution has a temperature, and wherein each temperature sensor (4) measures the temperature of the weak solution along the weak solution flow at the point on the cooling unit at which the sensor is located, where temperature sensor (4) is located next to heater (5) and on boiler tube (6). Koofang sells and instructs in **Fig. 3** to attach temperature sensor (4) at a point along the weak solution flow on the boiler (6). Also see **Fig. 6** and Exhibit 6 for further clarification of 'weak solution' for RV refrigerator.  **Fig. 2 – Koofang Installation Instructions Exhibit 11A** References Section: 4. Thermocouple (a thermocouple is a type of temperature sensor) 8. Temp Monitor Control  **Fig. 3 – Koofang Install Instructions** Reference Section: 4. Temperature Sensor (same as 22 **Fig. 6**) 5. Heater Tube (same as 18 **Fig. 6**) 6. Boiler (same as 39 **Fig. 6**) CONTINUED ON NEXT PAGE

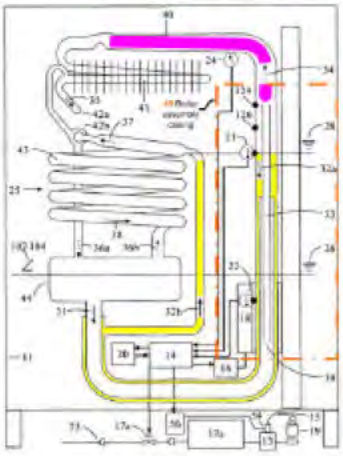
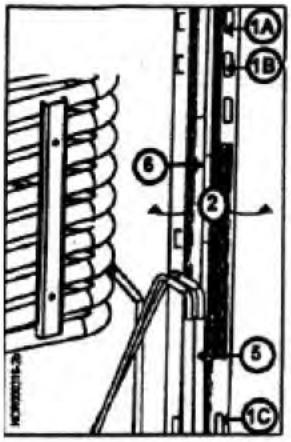
'360 Patent Claim	[Koofang] Accused Product
	 Fig. 1A **Fig. 6 – '360 Patent Fig. 1A.** Where yellow 32a & 32b is "weak solution flow", 39 is boiler, where "weak solution flow" is within boiler. 21 temperature sensor is located and measuring in same location as temperature sensor (4) in **Fig. 3**. 18 is electric heating element. Also see Exhibit 6 for Typical RV Refrigerator Cooling Unit Absorption Cycle Assembly Cross Section.
(b) electrical circuitry that compares the measured temperature of the weak solution at each point to a predetermined value for that point; and	**Fig. 4** shows Koofang electrical circuitry that compares (uC is microcontroller) the measured temperature (from temp sensor input) of the weak solution at each point (**Fig. 3** item 4) to a predetermined value for that point.  **Fig. 3 – Koofang Install Instructions.** Where parts are identified in Reference Section: 4. Temperature Sensor (same as 22 **Fig. 6**) 5. Heater Tube (same as 18 **Fig. 6**) 6. Boiler (same as 39 **Fig. 6**)  **Fig. 4 – Koofang Circuit Board with Component Identification.** Where uC (microcontroller) is an integrated circuit that compares values such as temperature sensor input to programmed predetermined values. CONTINUED ON NEXT PAGE

'360 Patent Claim	[Koofang] Accused Product
	 Fig. 1A **Fig. 6 – '360 Patent Fig. 1A.** Where yellow 32a & 32b is 'weak solution'. 39 is boiler, where 'weak solution' is within boiler. 21 temperature sensor is located and measuring in same location as temperature sensor (4) in **Fig. 3**. 18 is electric heating element. Also see Exhibit 6 for Typical RV Refrigerator Cooling Unit Absorption Cycle Assembly Cross Section.
(c) one or more actuators that reduce heat input to the single pressure absorption refrigeration cooling unit;	**Fig. 4** shows Koofang electrical circuitry with one or more actuators (EMR is Electromagnetic Relay) that reduce heat input to the single pressure absorption refrigeration cooling unit. Where Koofang electrical circuitry EMR turns off heat input to single pressure absorption refrigeration cooling unit by removing power to heater as described in **Fig. 5**. Also see Exhibit 6 for Typical RV Refrigerator Cooling Unit Absorption Cycle.  **Fig. 4 - Koofang Circuit Board with Component Identification**  **Purpose** **To detect improper operation of the cooling unit by monitoring the surface temperature of the boiler. In the event an abnormally high temperature is detected, all heat source outputs to the cooling unit will be disabled. This condition can be reset by an authorized service center. Contact a center near you to schedule an appointment.** **Fig. 5 - Koofang Install Instructions Purpose:** To detect and disable heat inputs to cooling unit.

'360 Patent Claim	[Koofang] Accused Product
wherein the electrical circuitry activates the one or more actuators based on the comparison between the measured temperatures and the predetermined values, and if the measured temperature at any point along the weak solution flow is greater than the predetermined value for that point, then the one or more actuators is activated;	**Fig. 5** shows install instructions "Purpose": Electrical circuitry (**Fig. 4**) activates the one or more actuators (**Fig. 4** EMR) based on the comparison (**Fig. 4** uC) between the measured temperatures (**Fig. 3**, temperature sensor 4) and the predetermined values (**Fig. 4** uC), and if the measured temperature at any point along the weak solution flow (**Fig. 3** boiler 6) is greater than the predetermined value (Exhibit 11A Fig. 5 also **Fig. 5** in this document, "In the event an abnormally high temperature is detected") for that point, then the one or more actuators (Exhibit 11A Fig. 5 and **Fig. 5** in this document "all heat source outputs to the cooling unit will be disabled") is activated (**Fig. 4** EMR).  **Fig. 3 - Koofang Install Instructions.** Where parts are identified in Reference Section: 4. Temperature Sensor (same as 22 **Fig. 6**) 5. Heater Tube (same as 18 **Fig. 6**) 6. Boiler (same as 39 **Fig. 6**)  **Fig. 4 - Koofang Circuit Board with Component Identification.** Where uC (microcontroller) is an integrated circuit that compares values such as temperature sensor input to programmed predetermined values. EMR (Electromechanical Relay) is an actuator that is activated by uC when conditions are met. **Purpose** **To detect improper operation of the cooling unit by monitoring the surface temperature of the boiler. In the event an abnormally high temperature is detected, all heat source outputs to the cooling unit will be disabled. This condition can be reset by an authorized service center. Contact a center near you to schedule an appointment.** **Fig. 5 - Koofang Install Instructions Purpose:** To detect and disable heat inputs to cooling unit when temperature increase is abnormally high. CONTINUED ON NEXT PAGE

'360 Patent Claim	[Koofang] Accused Product
	 Fig. 1A **Fig. 6 – '360 Patent Fig. 1A Cooling Unit Cross Section.** Where yellow 32a & 32b is "weak solution". 39 is boiler. 21, 22 temperature sensors measure temperature increase (See **Fig. 5**). 18 is electric heating element. Also see Exhibit 6 for Typical RV Refrigerator Cooling Unit Absorption Cycle Assembly Cross Section

'360 Patent Claim	[Koofang] Accused Product
wherein heat input to the cooling unit is adjusted based on measured temperature increase of the weak solution due to off-level tilting conditions resulting cessation of refrigerant flow, to protect the cooling unit from excessive thermal stress caused by off-level tilting.	Koofang product heat input (**Fig. 3** part 5) to the cooling unit (**Fig. 3** part 6) is adjusted based on measured temperature increase of the weak solution (**Fig. 3, 5, 7** location 6 boiler. **Fig. 5** "monitoring the surface temperature of the boiler". Exhibit 6 - RV Absorption Refrigerator Conventional Boiler Assembly) due to off-level tilting conditions resulting cessation of refrigerant flow (**Fig. 5**, where "an abnormally high temperature is detected" due to off-level tilting and/or other cessation of refrigerant issues related to vehicle application), to protect the cooling unit from excessive thermal stress (where **Fig. 5** describes protection of the cooling unit) caused by off-level tilting (Koofang product description states "RV Refrigerator Cooling Unit Temperature Monitor Control Kit").  **Fig. 3 - Koofang Install Instructions.** Where parts are identified in Reference Section: 4. Temperature Sensor (same as 22 **Fig. 6**) 5. Heater Tube (same as 18 **Fig. 6**) 6. Boiler (same as 39 **Fig. 6**) **RV Off-Level Tilting Condition & Protect Cooling Unit Logic:** • All proposed Respondent's Products are for Norcold refrigerators. • All Norcold refrigerators are designed for Recreational Vehicles. • All vehicles encounter off-level and tilting condition due to the earth not being flat. • Therefore, any proposed Respondent product is subjected to off-level and tilting conditions that is for Recreational Vehicles refrigerators. **Purpose** **To detect improper operation of the cooling unit by monitoring the surface temperature of the boiler. In the event an abnormally high temperature is detected, all heat source outputs to the cooling unit will be disabled. This condition can be reset by an authorized service center. Contact a center near you to schedule an appointment.** **Fig. 5 - Koofang Install Instructions Purpose** To detect and disable heat inputs to cooling unit when temperature increase is abnormally high. Where 'abnormally high' temperature increase results in excessive thermal stress. CONTINUED ON NEXT PAGE

'360 Patent Claim	[Koofang] Accused Product
	 Fig. 1A **Fig. 6 – '360 Patent Fig. 1A Cooling Unit Cross Section.** Where yellow 32a & 32b is 'weak solution'. 39 is boiler. 21, 22 temperature sensors measure temperature increase. 18 is electric heating element. Also see Exhibit 6 for Typical RV Refrigerator Cooling Unit Absorption Cycle Assembly Cross Section  **Fig. 7 - Koofang Install Instructions** Install Instructions Reference Section: 1A, B and C are Casing (same as 45 **Fig. 6**) 2. Insulation within casing to retain heat in boiler 5. Heater Tubes (same as 18 **Fig. 6**) 6. Boiler (same as 39 **Fig. 6**)

Compl. Ex. 9A; Mem. at 15-27.

Mr. Unmack prepared claim charts similar to that shown above demonstrating how the Accused Products for each Defaulting Respondent satisfy each asserted claim. *See* Mot. Ex. CX-0015 (Unmack Decl.) ¶ 14; Compl. Exs. 9A (Koofang), 9D (RVGIVE), 9F (Little Bear Pocket), 9I (VISVIC); *see also* Mem. at 15-130 (explaining how each Accused Product practices each asserted claim). This evidence is unrebutted. *See* Staff Br. at 42-43. I therefore find that Complainants have shown with substantial, reliable, and probative evidence that importation and sale of the Accused Products infringe at least asserted claims 1 and 6 of the '360 patent, which are apparatus claims.

With respect to asserted method claims 4 and 10 of the '360 patent, circumstantial evidence shows that users in the United States have used the Accused Products to practice the claimed methods. For example, Exhibit 12A to the complaint is a printout of the Koofang sales page for the accused 637360 Temp Monitor Control Kit at Amazon.com. This page contains buyer feedback regarding their experiences using this product in the United States. One review titled "Perfect" is dated October 13, 2024, and states: "Perfect fit, got my RV refrigerator up and running again!" Compl. Ex. 12A at 8. Another review titled "Great Product" is dated October 23, 2024, and states: "Work[s] great, should have bought sooner." *Id.* Both reviewers are located in the United States. *Id.*

Similarly, Exhibit 12F to the complaint is a printout of the Little Bear Pocket sales page for the accused Genuine Norcold 637360 Temp Monitor Control product at Amazon.com. This page also contains buyer feedback regarding their experiences using this product in the United States. One review titled "Works as described" is dated September 15, 2024, and states: "Product fitted as a direct replacement. Good quality and works as stated by the seller." Compl. Ex. 12F

at 4. Another review titled "Good quality" is dated June 3, 2024, and states: "This product was the exact replacement for what I needed. Worked fine." *Id.* at 5.

Exhibit 12D to the complaint is a printout of the Amazon.com sales page for the accused RVGIVE product, and Exhibit 12I to the complaint is a print out of the Walmart.com sales page for the accused VISVIC product. Neither contains user reviews of the accused products.

Having reviewed Exhibits 12A, 12D, 12F, and 12I to the complaint, I find that the preponderance of the evidence shows that users in the United States have used each of the Accused Products to practice each of the asserted method claims. I therefore find that Complainants have shown with substantial, reliable, and probative evidence that users of the Accused Products have infringed claims 4 and 10 of the '360 patent in the United States.

X. TECHNICAL PRONG

In his declaration, Mr. Unmack stated that he personally examined the Domestic Industry Product and prepared claim charts that show how use of the Domestic Industry Product practices claims 1, 4, 6, and 10 of the '360 patent. Mot. Ex. CX-0015 (Unmack Decl.) ¶ 15; Compl. Ex. 7. This evidence is unrebutted. *See* Staff Br. at 54. I therefore find that Complainants have shown with substantial, reliable, and probative evidence that the Domestic Industry Product practices at least asserted claims 1 and 6 of the '360 patent, which are apparatus claims.

With respect to asserted method claims 4 and 10 of the '360 patent, the record evidence shows that users in the United States have used the Domestic Industry Product to practice claims 4 and 10. Mr. Unmack has stated that research and development of the Domestic Industry Product takes place entirely in the United States. Domestic Industry Decl. ¶ 2. As part of this process, Complainants test the Domestic Industry Product to ensure it works as intended. *See, e.g.*, *id.* ¶¶ 2-5. I therefore find that Complainants have shown with substantial, reliable, and probative

evidence that users of the Domestic Industry Product have practiced claims 4 and 10 of the '360 patent in the United States.

XI. ECONOMIC PRONG

Complainants argue that they satisfy the domestic industry requirement under 19 U.S.C. §§ 1337(a)(3)(A) and (B) (respectively, "Prong A" and "Prong B"). Mem. at 130. Although Staff argues that Complainants have not shown satisfaction of Prong A of the domestic industry requirement, Staff avers that "there is no dispute as to any material fact that Complainants satisfy the economic prong of the domestic industry requirement under at least [Prong B]." Staff Br. at 50, 53; *but see* Staff. Br. at 45-46 ("In the Staff's view, there is no dispute as to any material fact concerning whether Complainants satisfy the economic prong of the domestic industry requirement under 19 U.S.C. § 1337(a)(3)(A) and (a)(3)(B) with respect to the '360 Patent through their investments related to Complainants' domestic industry products.").

A. Complainants' Domestic Activities

The record evidence shows that complainant ARPC LLC is an entity organized under the laws of Montana with its principal place of business in Butte, Montana. Domestic Industry Decl. ¶ 1. Complainant Paul N. Unmack is a 49% partner in ARPC LLC, and the other partner in ARPC LLC is also a professional engineer. *See id.* ¶¶ 1-37. Fridge Defend is Complainants' sole product, and thus Complainants' investments are 100% allocable to the Domestic Industry Product. Domestic Industry Decl. ¶ 5.

ARPC LLC engages in a variety of activities in the United States related to the Fridge Defend Domestic Industry Product such as: "inspection; quality control; parts manufacturing; final assembly; product servicing and repair; product prototyping and design; customer and technical support; marketing; advertising; online storefront construction and maintenance; printing of

packing list; algorithm development; serialization of product; packaging for shipping; shipping management; and sales of the D[omestic] I[ndustry] Product." *Id.*; *see* Mem. at 131.

The evidence shows that Complainants began engineering development of the Domestic Industry Product in 2006 with the purchase of computer and network equipment, software, computer instrumentation interfaces, electrical test instrumentation, circuit construction tooling, temperature sensors, integrated circuits, hardware required to document, test, and build electrical analog setpoint controllers, and RV absorption refrigeration systems. Domestic Industry Decl. ¶ 8. The engineering tasks begun by Complainants in 2006, which included circuit construction and static and dynamic road testing of these initial circuits, resulted in the patent application that matured into the '360 patent. *Id.* ¶ 9-11.

The evidence shows that, from 2007 to 2013, Complainants continuously invested in engineering and development of their Domestic Industry product. Domestic Industry Decl. ¶¶ 7-22. Complainants characterize the work during this period as including "research of Dometic and Norcold models, [research of] all RV absorption refrigeration recalls to date, failure modes of absorption refrigeration boilers, begin pressure tests of cooling units, setup test lab, test MOSFET driver & switching design, TC sensor design, bread board DIP package controller, refine lab computer and build Visual Basic control data collection and documentation methods, produce thermal curves for cooling units and conduct tilt tests to document cooling unit boiler overheating characteristics, testing cooling units using both AC, LP, and DC heat source, analog logic controller flip-flop and latching design, start feasibility testing for self install product." *Id.* ¶ 10.

In 2013, Complainants introduced their Domestic Industry Product to the public at an RV rally/consumer trade show in the United States. *Id.* ¶ 25. The evidence shows that Complainants continued research and development, testing, manufacturing, marketing and sales of their

Domestic Industry Product since 2013, and that the two partners in ARPC LLC have worked full-time on these endeavors in the United States since 2014. *Id.* ¶¶ 26-37.

The record evidence shows that the Domestic Industry Product is wholly manufactured in the United States, and that [redacted] of the parts incorporated into the Domestic Industry Product are also purchased in the United States. Specifically, Mr. Unmack stated that:

> Complainant designed and submitted design files to contract manufacture[r]s that provided the circuit board and then populated the boards with the parts that the Complainant purchased in the US from US owned resellers and manufactures. Once Complainant received the populated circuit boards Complainant made a test jig or fixture for programming, extensive software and electrical load testing is [performed] on the jig, serial number documentation, and securing the algorithm on the microcontroller. Then wire is cut and stripped to length to solder onto the programmed circuit boards that pass quality control in the last step. Housings that are made in the US are then machined by ARPC LLC, the wired circuit boards are inserted into the housing and the top is glued onto the housing. Each product is packaged into static safe packaging with documentation and serial number for end user. A full set of manuals is downloadable from Complainant website that is made with a Google website interface by Complainant. All aspects to manufacture, market, and sell the DI product are [performed] . . . by Complainant.

Domestic Industry Decl. ¶ 25; Mem. at 132-34. Mr. Unmack further stated that:

> [redacted] of the Fridge Defend final product manufacturing expense is contracted overseas for the circuit boards and population of components on the circuit board, where the circuit board components are purchased within the U.S. and shipped overseas to maintain the highest standards of quality control thereby avoiding inferior knockoff parts. None of the overseas components can perform the task of boiler protection without further modification and assembly in the United States at the Complainants' facilities.
>
> All production process steps are [performed] in the Complainants' Montana facility with the exception of the manufacture of the circuit boards and population of parts on the circuit board.

Mem. at 133-34 (citing Domestic Industry Decl. ¶¶ 1, 19, 21 (Manufacturing)).

B. Complainants' Investments in Plant and Equipment

The evidence shows that, from 2020 through 2024,[3] Complainants incurred approximately [redacted] in domestic investments directed at the Domestic Industry Product in vehicle expenses, shop equipment, telephone/internet and web hosting expenses, and other hardware (computer and video camera). Domestic Industry Decl. ¶¶ 33-37. Specifically, the evidence shows the following plant and equipment investments for each year from 2020 through 2024:

[redacted]

See Domestic Industry Decl. ¶¶ 32-37. This evidence is unrebutted. *See* Staff Br. at 49-50.

C. Complainants' Investments in Labor and Capital

The evidence shows that, from 2020 through 2024, Complainants incurred at leas[redacted] in domestic investments for the Domestic Industry Product relating to manufacturing and labor costs for the two partners comprising ARPC LLC. Domestic Industry Decl. ¶¶ 33-37. The evidence also shows that Complainants incurred at least [redacted] in domestic investments for the Domestic Industry Products relating to advertising, shipping, product insurance, and trade

[3] Although Complainants provide evidence of domestic investments going back to 2013, the period covering 2020-2024 is particularly relevant in determining whether a domestic industry exists. *See, e.g.*, *Certain Liquid Coolers For Electronic Components in Computers, Components Thereof, Devices for Controlling Same, and Prods. Containing Same*, Inv. No. 337-TA-1394, Comm'n Op., 2025 WL 2254290, *20 fn.10 (Aug. 5, 2025) (relevant time period used for the domestic industry analysis was a several year period preceding the complaint filing).

show expenses. *Id*. Specifically, the evidence shows the following labor and capital investments for each year from 2020 through 2024:

See Domestic Industry Decl. ¶¶ 32-37. This evidence is unrebutted. *See* Staff Br. at 51-52.

D. Significance of Complainants' Investments

The activities Complainants undertake in the United States with respect to the Domestic Industry Product and the expenditures made by Complainants for these activities are undeniably significant. As discussed above, the Domestic Industry Product is 100% manufactured in the United States by the two engineer partners of ARPC LLC in Butte, Montana. All related activities such as testing, warehousing, shipping, marketing, advertising, and customer support also take place in Montana. Moreover, the entire development of the Domestic Industry Product, including the research and prototyping that led to the claimed inventions of the asserted '360 patent, were performed entirely by Complainants in Montana. In view of the record evidence, I find that domestic expenditures of [redacted] for plant and equipment and [redacted] for

manufacturing and labor plus [redacted] for other expenses) for labor and capital for the period spanning 2020-2024 is significant in the context of the record of this investigation.

I therefore find that Complainants have shown with substantial, reliable, and probative evidence that there has been significant investment in plant and equipment and significant employment of labor or capital within the United States with respect to articles protected by the asserted '360 patent.

XII. VALIDITY

Complainants did not address the validity of the '360 patent in their motion for summary determination, and Staff does not challenge that the '360 patent is valid. Staff Br. at 22.

In view of the parties' positions, I find there is no issue of material fact as to the validity of the asserted claims of the '360 patent. *Microsoft Corp.*, 564 U.S. at 95.

XIII. RECOMMENDED DETERMINATION ON REMEDY AND BOND

The Commission's Rules provide that the administrative law judge shall issue a recommended determination concerning the appropriate remedy in the event the Commission finds a violation of section 337, and the amount of bond to be posted by respondents during Presidential review of the Commission action under section 337(j). *See* 19 C.F.R. § 210.42(a)(l)(ii).

A. General Exclusion Order

Complainants request that I recommend a general exclusion order under section 337(d)(2)(B) with respect to each of the asserted claims of the '360 patent in the event a violation of section 337 is found. Mem. at 157-58. Staff supports Complainants' request for a general exclusion order. Staff Br. at 55-64.

Under section 337(d)(2), a general exclusion order ("GEO") is warranted when "an exclusion order limited to products of named persons" would be circumvented or when "there is a

pattern of violation of this section and it is difficult to identify the source of infringing products." 19 U.S.C. §§ 1337(d)(2)(A) and (B). Satisfaction of either criterion is sufficient for imposition of a general exclusion order. *Certain Cigarettes and Packaging Thereof*, Inv. No. 337 TA-643, Comm'n Op. at 24 (Oct. 1, 2009) ("*Cigarettes*"). The Commission "focus[es] principally on the statutory language itself" when determining whether a general exclusion order is warranted. *Ground Fault Cir. Interrupters*, Inv. No. 337-TA-615, Comm'n Op. at 25. The Commission may look not only to the activities of active respondents, but also to those of non-respondents as well as respondents who have defaulted or been terminated from an investigation. *See, e.g.*, *Certain Pocket Lighters*, Inv. No. 337-TA-1142, Comm'n Op. at 16 (June 22, 2020); *Certain Electronic Paper Towel Dispensing Devices and Components Thereof*, Inv. No. 337-TA-718, Recommended Determination at 7-8 & n.9-10 (July 12, 2011); *Certain Coaxial Cable Connectors and Components Thereof and Products Containing Same*, Inv. No. 337-TA-650, Comm'n Op. at 59 (April 14, 2010).

Section 337(g)(2) also imposes a heightened requirement for issuance of a general exclusion order in cases involving defaulting respondents. When respondents in an investigation are found in default, the Commission issues a general exclusion order excluding all infringing goods regardless of source under subsection 337(g)(2) when three conditions are met:

> (A) no person appears to contest an investigation concerning a violation of the provisions of this section,
>
> (B) such a violation is established by substantial, reliable, and probative evidence, and
>
> (C) the requirements of subsection (d)(2) of this section are met.

19 U.S.C. § 1337(g)(2).

1. Widespread Pattern of Violation

The record evidence shows there is a widespread pattern of violation with respect to the '360 patent. Complainants presented evidence showing that a significant number of entities, separate from the ten respondents identified in the Notice of Investigation, were offering for sale and selling infringing products through online marketplaces such as Amazon, Alibaba, Walmart and eBay. *See* Mem. at 163 (citing Compl. Ex. 2 (eBay Seller Anonymity) ¶ 2). These entities use the name and part number of the Complainants' Domestic Industry Product to advertise their unauthorized products. For example, an authorized vendor on Amazon uses the name of Complainants' Domestic Industry Product ("arp fridge defend") as an optimized search term "to direct customers to the accused infringing product advertised on Amazon.com . . . ." Mem. at 162-63 (citing Compl. Ex. 4 (Search Fridge Defend)). Meanwhile, on eBay, sellers use Complainants' part number for the Domestic Industry Product ("637360") in 600 listings for unauthorized products. *See* Mem. at 163 (citing Compl. Ex. 2 (eBay Seller Anonymity). And, as has already been noted, the Accused Products of the Defaulting Respondents are advertised with Complainants' part number 637360. *See supra* section I.E.2. I find the record shows there are hundreds of products available for purchase in the United States that are not authorized by Complainants. This is a widespread pattern of violation of section 337 and a widespread pattern of violation of Complainants' intellectual property rights.

2. Difficulty Identifying the Source of Infringing Products

The record evidence also shows that it is difficult to identify the source of infringing products. With respect to this issue, Complainants argue: "Manufacturers and sellers of infringing boiler protection for absorption refrigeration systems employ complex business arrangements, do business under more than one name, ship from multiple addresses, and/or form intricate arrays of

confusingly similar affiliates, which makes it difficult, if not impossible, to determine the source of the infringing products." Mem. at 158.

For example, infringing products purchased on Amazon and which were marked "Made in China" came in product packaging that lacked a return address, thus preventing identification of the exact Chinese company that made the product. *See* Mem. at 164 (citing Compl. Exs. 11A-11F). The evidence also shows that, for infringing products purchased from Walmart, the return addresses hide the name of the Chinese companies that manufactured the products, and instead show the names WIN.IT and US ELOGISTICS SERVICE, which are businesses that warehouse products for online resellers including Walmart. *See* Mem. at 164-65 (citing Compl. Exs. 11G-11J).

Complainants presented further evidence to show the difficulty in identifying the source of infringing products:

> [eBay's] high turnover of sellers combined with no seller contact information makes it impossible for the Complainants to enforce its patent rights, much less for any consumer to seek accountability if the advertised alleged safety device cannot perform the advertised function/utility that the product was purchased from [eBay] for [*sic*] in the first place.
>
> Turning to [Alibaba], a search of this online platform in the U.S., of mostly Chinese goods and products, which claims to be a business-to-business (B2B) platform, but yet sells to any consumer in the U.S., just two resellers of the accused product are documented. See Complaint Exhibit 3 (Alibaba Stocking Distributor) EDIS Doc. 851167-2381355. . . .
>
> While Complainants have, in many instances, successfully purchased and received such infringing products identifiable as illegal imports, e.g., by "Made in China" labels, etc., many of the received packages have intentionally or unintentionally illegible, confusing, contradictory, and often incomplete return addresses and, in some instances, no return addresses at all, making the specific infringers' identities a mystery.

Mem. at 163.

The investigative record also contains examples of entities using complex business arrangements to evade tracking. For instance, named respondent Wang Hai Ping was terminated

from this investigation based on withdrawal of allegations in the complaint because neither the Commission nor Complainants were able to serve Wang Hai Ping with the complaint and notice of investigation. *See* Order No. 10. Complainants describe the difficulties in serving Wang Hai Ping with documents in this investigation thusly:

> The Commission attempted to serve Notice of Institution to Wang Hai Ping, but the service attempt was returned with status of "Unable to Deliver[.]" See EDIS Doc. ID 857504-2408113 ("Respondent Return Mail"). When Complainants researched Respondent Wang Hai Ping at the time of composing Motion for Default (EDIS Doc. ID 864651), the Complainants came to find that Wang Hai Ping was not a proper business entity within China (PRC). EDIS Doc. ID 864651-2452085 ("Exhibit 3C"). Therefore, there was no practical or effective way to serve the accused Respondent.

Mem. at 159-60. The record shows that, after Complainants had identified Wang Hai Ping as a potential respondent in the complaint, Wang Hai Ping was able to evade service by the Commission and Complainants by changing its business name (by rearranging the order of words) and the address (by changing the room, building, street, and district). *See* Mem. at 160-61.

The Commission and Complainants were unable to serve other named respondents who were not reachable at the business names and address that Complainants had identified and included in the complaint. *See, e.g.*, Order Nos. 10, 12, 18, 19. Thie record of these attempts supports a finding that it is difficult to identify the unauthorized overseas entities who use online platforms to anonymously offer infringing products for sale in the United States. *See* Mem. at 160-61.

3. Satisfaction of the Heightened Requirements of 19 U.S.C. § 1337(g)(2)

The heightened requirements of section 337(g)(2) have been satisfied under the circumstances of this investigation. No respondent appeared to contest this investigation—all respondents have either been found in default or else, in the case of the Wuhu Respondents, were terminated from the investigation on the basis of a consent order.

Moreover, as discussed above, Complainants have submitted substantial, reliable, and probative evidence showing that the Defaulting Respondents are involved in "[t]he importation into the United States, the sale for importation, or the sale within the United States after importation by the owner, importer, or consignee, of articles" that infringe the asserted claims of the '360 patent. Complainants have also submitted substantial, reliable, and probative evidence showing the existence of a domestic industry with respect to articles protected by the '360 patent. None of the evidence submitted by Complainants is rebutted.

Accordingly, it is my recommendation that, in the event the Commission finds a violation of section 337 and public interest factors do not weigh against imposing a remedy, a general exclusion order should be entered barring importation of all products that infringe claims 1, 4, 6, and 10 of the '360 patent.

B. Cease-and-Desist Orders

Complainant argues that cease-and-desist orders should be issued as to all four of the Defaulting Respondents in the event a violation of section 337 is found. Mem. at 171-72. Staff argues that cease-and-desist orders would be an appropriate remedy as to only three of the four Defaulting Respondents. Staff Br. at 67-69.

Section 337 provides that in addition to, or in lieu of, the issuance of an exclusion order, the Commission may issue a cease-and-desist order ("CDO") as a remedy for a violation of section 337. 19 U.S.C. § 1337(f)(1). The statute states that a cease-and-desist order may "be served on *any person* violating this section, or believed to be violating" section 337. *Id.* (emphasis added). Beyond the provisions in subsections (f)(1) and (g)(1), neither the statute nor the Commission Rules set forth any specific criteria for entry of cease-and-desist orders. The decision as to when or whether to issue a cease-and-desist order has been left to the Commission's well-founded

discretion. *See Viscofan, S.A. v. U.S. Int'l Trade Comm'n*, 787 F.2d 544, 548 (Fed. Cir. 1986) ("The Commission has wide discretion in its choice of a remedy deemed adequate to cope with the unlawful practices in this area of trade and commerce.") (quoting *Jacob Siegel Co. v. Federal Trade Comm'n*, 327 U.S. 608 (1946)). "Where practicable the Commission takes the desire of a section 337 complainant into account and tries to accommodate it because section 337 relief is for the benefit of the patentholder." *Certain Integrated Repeaters, Switches, Transceivers and Prods. Containing Same*, Inv. No. 337-TA-435, Comm'n Op. at 24 (Aug. 16, 2002).

The Commission has stated "[c]ease and desist orders are generally issued when, with respect to the imported infringing products, respondents maintain commercially significant inventories in the United States or have significant domestic operations that could undercut the remedy provided by an exclusion order." *Certain Air Mattress Sys., Components Thereof, and Methods of Using the Same*, Inv. No. 337-TA-971, Comm'n Op. at 49 (May 17, 2017) (citations and footnote omitted).

The record evidence shows that the Accused Products of three of the Defaulting Respondents—Koofang, RVGIVE, and Little Bear Pocket—were shipped by Amazon in Amazon packaging after being purchased online at Amazon.com. *See* Compl. ¶¶ 61, 64, 66; Compl. Exs. 11A, 12A (Koofang), 10D, 12D (RVGIVE), and 10F, 11F (Little Bear Pocket). Amazon's advertisements for each product states that the purchaser can "Get Fast, Free Shipping with Amazon Prime," which, together with the packaging, suggests that Amazon has an inventory of these products in a warehouse in the United States. *See* Complaint Exs. 12A, 12D, 11F. This constitutes circumstantial evidence showing that these three foreign Defaulting Respondents and/or their agent Amazon "maintain[ ] a commercially significant inventory and/or engages in significant commercial operations in the United States" such that a cease-and-desist order is

appropriate as to each of these Defaulting Respondents. *Certain Pillows and Seat Cushions, Components Thereof, and Packaging Thereof*, Inv. No. 337-TA-1328, Comm'n Op. at 10 (Nov. 13, 2023). Accordingly, there is no dispute that cease-and-desist orders should issue against Defaulting Respondents Koofang, RVGIVE, and Little Bear Pocket.

As for a cease-and-desist order against the fourth Defaulting Respondent VISVIC, disputed by Staff, the record evidence shows that its Accused Product was shipped from outside the United States. Compl. Ex. 11I (shipped from Ontario, Canada, to the United States). There is thus no evidence of record showing that Defaulting Respondent VISVIC or its agents maintain any inventory in the United States. The Commission recognizes, however, that inasmuch as a respondent in default "has chosen not to participate in the proceeding, complainants are not able to obtain detailed information in discovery" that may reveal the respondents' domestic activities. *Certain Hand Dryers and Housing for Hand Dryers*, Inv. No. 337-TA-1015, Comm'n Op. at 10 (Oct. 30, 2017). The Commission does not penalize complainants with a less effective remedy because the respondent did not appear in the investigation and participate in discovery. *See id*. The Commission has still provided a cease-and-desist order remedy where the record indicates the respondent "engages in significant commercial operations in the United States." *Certain Pillows and Seat Cushions, Components Thereof, and Packaging Thereof*, Inv. No. 337-TA-1328, Comm'n Op. at 10-11 (Nov. 13, 2023).

Here, the record shows that Defaulting Respondent VISVIC advertises infringing products inside the United States, including on the platform Walmart.com. Compl. Ex. 12I. The record also shows that, in response to such advertising, Defaulting Respondent VISVIC has sold and shipped infringing products to a buyer inside the United States. Compl. Exs. 10I, 11I. The Commission routinely issues cease-and-desist orders that prohibit such domestic activity. *Certain Pillows and*

Seat Cushions, Components Thereof, and Packaging Thereof, Inv. No. 337-TA-1328, Cease and Desist Order (directing defaulting respondent to cease and desist from activities in the United States including selling and advertising infringing products) (Nov. 13, 2023) (EDIS Doc. ID 808364). The record therefore supports an inference that Defaulting Respondent VISVIC has engaged in significant commercial operations inside the United States that can be remedied by a cease-and-desist order. *See Ford Motor Co. v. Montana Eighth Jud. Dist. Ct.*, 592 U.S. 351, 359 (2021) (finding specific jurisdiction over a global corporation where the defendant deliberately "reached out beyond" its home through, inter alia, "online" advertising in the forum and the plaintiff's claims arose out of the defendant's contacts with the forum). Because Defaulting Respondent VISVIC "engages in significant commercial operations in the United States" that can be remedied by a cease-and-desist order, and because Complainants have sought that remedy, I recommend such an order be issued against Defaulting Respondent VISVIC. *See Certain Pillows and Seat Cushions, Components Thereof, and Packaging Thereof*, Inv. No. 337-TA-1328, Comm'n Op. at 10-11 (Nov. 13, 2023).

Accordingly, it is my recommendation that, in the event the Commission finds a violation of section 337 and public interest factors do not weigh against imposing a remedy, cease and desist orders should be directed at Defaulting Respondents Koofang, RVGIVE, Little Bear Pocket, and VISVIC.

C. Bond During Presidential Review

Complainants and Staff both argue that a 100% bond would be appropriate during the 60-day Presidential review period in the event a violation of section 337 is found and the Commission issues a remedy. Mem. at 170-71; Staff Br. at 69-70.

Pursuant to section 337(j)(3), the administrative law judge and the Commission must determine the amount of bond be required of a respondent, during the 60-day Presidential review period following the issuance of permanent relief, in the event the Commission determines to issue a remedy. The purpose of the bond is to protect the complainant from any injury. 19 U.S.C. § 1337(j)(3); 19 C.F.R. §§ 210.42(a)(1)(ii), 210.50(a)(3).

When reliable price information is available, the Commission has often set the bond by eliminating the differential in sales prices between the domestic product and the imported, infringing product. *Certain Automated Put Walls and Automated Storage and Retrieval Sys., Associated Vehicles, Associated Control Software, and Component Parts Thereof*, Inv. No. 337-TA-1293, Comm'n Op. at 46 (July 31, 2023). In other cases, the Commission has turned to alternative approaches, especially when the level of a reasonable royalty rate could be ascertained. *Id*. A 100% bond has been required when no effective alternative existed. *Id*.

None of the Defaulting Respondents participated in this investigation, thereby preventing Complainants from seeking discovery on pricing and royalty information. Accordingly, I recommend the Commission set the bond rate for the Presidential review period at 100%.

XIV. INITIAL DETERMINATION ON VIOLATION

For the reasons set forth above, it is my initial determination that Complainants have shown a violation of section 337 in the importation into the United States and the sale within the United States after importation of certain boiler protection for absorption refrigeration systems and components thereof. Motion No. 1453-012 is granted.[4]

This initial determination is hereby certified to the Commission.

[4] Any motions that may remain pending in this investigation are denied as moot in view of the findings in this initial determination.

Pursuant to 19 C.F.R. § 210.42(h), this initial determination will become the determination of the Commission unless a party files a petition for review pursuant to 19 C.F.R. § 210.43(a) or the Commission, pursuant to 19 C.F.R. § 210.44, orders on its own motion a review of the Initial Determination or certain issues therein.

XV. ORDER

Within seven days of the date of this document, the parties must jointly submit a single proposed public version with any proposed redactions indicated in red. If the parties submit excessive redactions, they may be required to provide declarations from individuals with personal knowledge, justifying each proposed redaction and specifically explaining why the information sought to be redacted meets the definition for confidential business information set forth in 19 C.F.R. § 201.6(a). The proposed redactions should be made electronically, in a single PDF file using the "Redact Tool" within Adobe Acrobat. The proposed redactions should be submitted as "marked" but not yet "applied." The Staff should submit the proposed redactions via Box, with an email sent to Cheney1453@usitc.gov providing notice of the submission, and not filed on EDIS.

SO ORDERED.

Clark S. Cheney
Chief Administrative Law Judge