

**IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF PENNSYLVANIA**

ADVANCED FLUID SYSTEMS, INC.,	:	CIVIL ACTION NO. 1:13-CV-3087
	:	
Plaintiff	:	(Chief Judge Conner)
	:	
v.	:	
	:	
KEVIN HUBER, INSYMA	:	
(INTEGRATED SYSTEMS AND	:	
MACHINERY, LLC), LIVINGSTON &	:	
HAVEN, LLC, CLIFTON B. VANN IV,	:	
and THOMAS AUFIERO,	:	
	:	
Defendants	:	

MEMORANDUM

Plaintiff Advanced Fluid Systems, Inc. (“AFS”) commenced this action alleging that the collective defendants—a former employee and several of AFS’s competitors—colluded to deprive AFS of its trade secrets and valuable business opportunities. Following more than four years of litigation and several rounds of dispositive motion practice, the court on September 18, 2017 convened a bench trial to address AFS’s remaining claims for misappropriation of trade secrets, breach of fiduciary duty, and aiding and abetting said breach, and to hear evidence on AFS’s request for compensatory, exemplary, and punitive damages. Pursuant to Federal Rule of Civil Procedure 52(a), we set forth our findings of fact and conclusions of law below.

I. Findings of Fact and Procedural History¹

A. The Parties & Their Relationships

AFS distributes, manufactures, and installs hydraulic components and hydraulic systems. (See Doc. 236 at 2; see also 9/20/17 Tr. 146:24-147:1; 9/25/17 Tr. 10:17-11:19). The company is headquartered in York, Pennsylvania. (See Doc. 236 at 2, 4). Dan Vaughn (“Vaughn”) serves as AFS’s vice president and engineering manager. (9/18/17 Tr. 72:21-22). Vaughn oversees “large engineering projects” and directs AFS’s sales and engineering teams. (Id. at 73:5-9). His father, Jim Vaughn, is founder and president of the firm. (Id. at 101:9-10, 117:7-9; 9/22/17 Tr. 130:17-20). In November 2006, AFS hired defendant Kevin Huber (“Huber”). (See 9/18/17 Tr. 99:14-16; 9/21/17 Tr. 14:4-6; 9/25/17 Tr. 10:3-5; see also AFS Ex. 6 at 1). Huber was employed by AFS continuously through his resignation on October 26, 2012. (See 9/18/17 Tr. 37:15-19).

Defendant Livingston & Haven, LLC (“Livingston”) designs, assembles, and installs hydraulic fluid systems and is headquartered in North Carolina. (See Doc. 236 at 5). Defendant Clifton B. Vann IV (“Vann”) is the chief executive officer of Livingston’s holding company. (See 9/19/17 Tr. 137:21-138:1, 140:2-22). He was president of Livingston at all times relevant herein. (AFS Ex. 42 at 2). Defendant Thomas Aufiero (“Aufiero”) was employed first as sales engineer and eventually as

¹ The above narrative represents the court’s findings of fact as derived from the record. Citations thereto include the transcript of the six-day bench trial convened from September 18 through September 25, 2017, (“[Date] Tr.”), as well as exhibits introduced by AFS, (“AFS Ex.,” “Brainard Ex.,” and “VCSFA Ex.”), the Livingston defendants (“L&H Ex.”), and Huber and Integrated Systems (“Huber Ex.”). We cite to our Rule 56 memorandum opinion (Doc. 236) for undisputed contextual background. (See Doc. 243 ¶ 3).

sales manager at AFS from 1989 through January 2011, when he left to work for Livingston as regional sales manager. (9/21/17 Tr. 11:10-12:16, 21:6-8). Huber too forged a relationship with the Livingston defendants beginning in January 2012, in hopes of pursuing business opportunities of mutual interest. (See id. at 28:7-29:18, 37:1-17). Huber left his position at AFS after incorporating his own firm, Integrated Systems and Machinery, LLC (“Integrated Systems”), in October 2012. (9/25/17 Tr. 8:17-9:21). This litigation has its genesis in Huber’s concurrent affiliations with AFS, Livingston, and Integrated Systems. (See generally Docs. 70, 236).

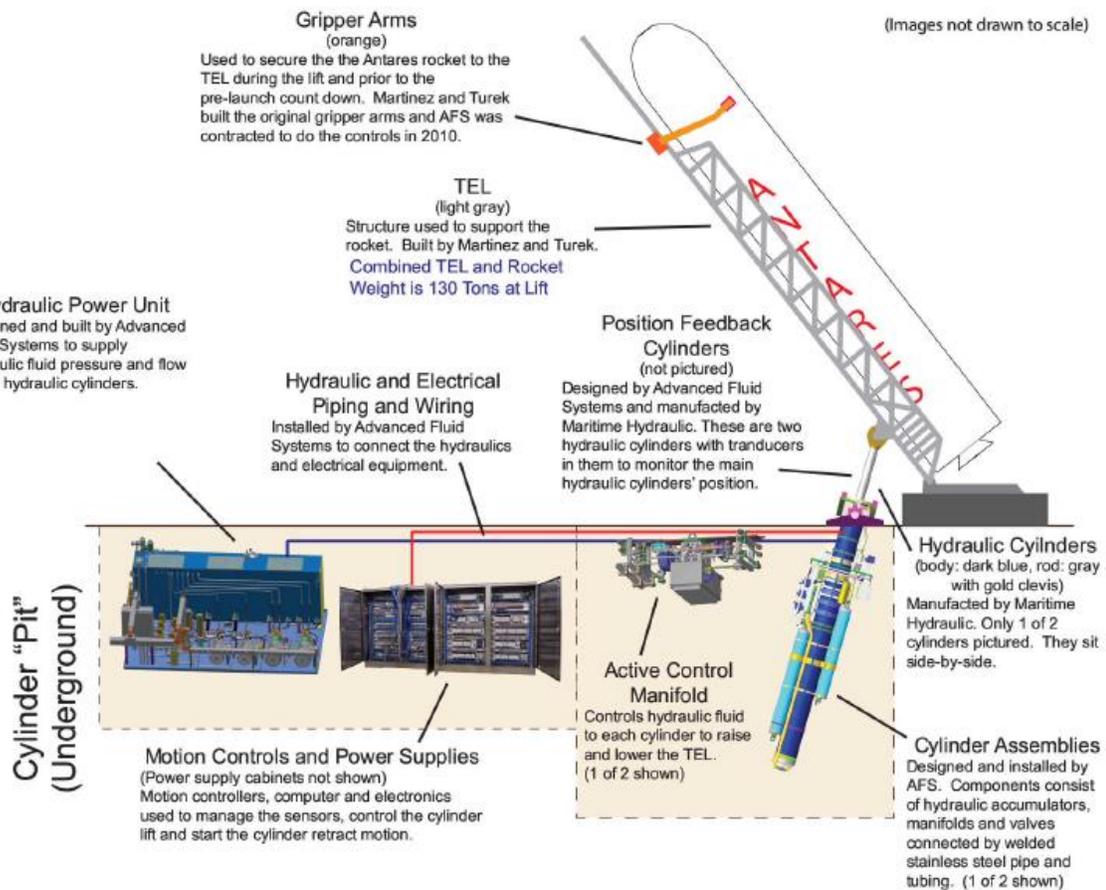
B. Huber’s Employment with AFS

Huber joined AFS as a full-time sales engineer in November 2006. (See 9/18/17 Tr. 99:14-16; 9/21/17 Tr. 14:4-6; 9/25/17 Tr. 10:3-5). He was employed with AFS consistently until his abrupt resignation in October 2012. (9/18/17 Tr. 37:15-22; 9/20/17 Tr. 14:4-11). At some point after Huber’s departure, AFS learned that, for a three-month period in 2008, Huber worked contemporaneously for both AFS and another equipment manufacturer, Dayton T. Brown. (See 9/21/17 Tr. 14:16-16:4; 9/25/17 Tr. 159:24-163:4). Huber received compensation from both employers during this time, (see 9/25/17 Tr. 160:8-162:4), but never informed either AFS or Dayton T. Brown of the dual-employment arrangement, (see 9/21/17 Tr. 14:16-23, 15:25-16:19; 9/25/17 Tr. 161:6-12, 163:2-4).

Shortly after beginning employment with AFS, Huber gave AFS the “lead” on a hydraulics project at Wallops Island, Virginia. (See 9/18/17 Tr. 99:17-18; 9/21/17 Tr. 78:11-22). A college friend of Huber’s, Keith Fava (“Fava”), was employed by Orbital Sciences Corporation (“Orbital”) and advised Huber that Orbital and the

Virginia Commonwealth Space Flight Authority (“the Authority”) were seeking a hydraulics supplier to design a system to launch Orbital’s “Antares” rocket from NASA’s facility on Wallops Island. (See 9/21/17 Tr. 78:11-22). The Antares rocket services and supplies the International Space Station. (See Doc. 236 at 3; see also 9/20/17 Tr. 63:21-64:1). AFS contracted with the Authority in September 2009 to build, install, and maintain the system. (See AFS Ex. 15).

The resulting installation—the Teleporter/Erector/Launcher Hydraulic System (“Hydraulic System”)—is comprised of several constituent parts, depicted and labeled below:



(AFS Ex. 272A). The “TEL” or “strongback” component is a platform which carries the rocket in a horizontal position to the launch pad. (See AFS Ex. 16; 9/18/17 Tr. 75:1-9, 77:3-5). A pair of “gripper arms” secure the rocket to the strongback. (AFS Ex. 16; 9/18/17 Tr. 77:6-8). The strongback “mates” to the cylinder assemblies, at which point the system is prepared for the launch sequence. (AFS Ex. 16; 9/18/17 Tr. 75:10-16). The Hydraulic System lifts the rocket into a vertical position over a 30-minute period. (See AFS Ex. 16; 9/18/17 Tr. 75:10-16). After liftoff, the system’s unique “rapid retract” feature pulls the strongback away in a matter of seconds. (See 9/18/17 Tr. 76:3-12). AFS designed the cylinder assemblies together with Maritime Hydraulic, with whom it subcontracted to manufacture the hydraulic cylinders themselves. (See id. at 87:4-9).

AFS developed and supplied the Authority with a comprehensive package of engineering drawings generated during the system’s design and installation. (See AFS Ex. 20; see also 9/18/17 Tr. 92:5-93:3). All drawings delivered by AFS included an AFS title block declaring:

This drawing discloses propriety and confidential data of Advanced Fluid Systems, Inc., and may not be used disclosed or released, in whole or in part, for any purpose outside the authorized recipient, without signed authorization, and must be returned upon request.

(E.g., AFS Exs. 67, 69-81; see also AFS Ex. 20; 9/18/17 Tr. 92:25-93:10, 125:12-22).

These materials were accessible through a password-protected online repository by a limited number of employees of the Authority, Orbital, and Martinez & Turek, a manufacturer subcontracted to design the system’s gripper arms. (See 9/20/17 Tr. 25:6-26:5).

AFS employee Guy Baum (“Baum”) served initially as a full-time project manager for the Hydraulic System. (9/20/17 Tr. 67:12-22). Baum retired in June 2011, at which point Huber unofficially assumed Baum’s responsibilities and served as the *de facto* project manager for the remainder of the AFS-Orbital relationship. (Id. at 67:25-68:2; see 9/18/17 Tr. 99:23-24; 9/20/17 Tr. 68:17-69:2, 173:8-174:1; 9/21/17 Tr. 27:4-6). Key members of the Hydraulic System teams from both the Authority and Orbital agreed that, with few and minor exceptions, they were satisfied with AFS’s work. (See, e.g., AFS Ex. 274, Reed and Nash Dep. 24:7-26:15, Mar. 30, 2016 (“Reed/Nash Dep.”); 9/20/17 Tr. 65:17-70:25; VCSFA Ex. 5). According to Orbital’s lead engineer, Michael Brainard (“Brainard”), the system worked “flawlessly” at its first launch and “performed very well” on subsequent launches. (9/20/17 Tr. 66:2-67:2; AFS Ex. 18). Brainard’s principal criticism was with Baum, with whom Brainard did not get along with and whose project management services Brainard found to be lacking. (See 9/20/17 Tr. 67:10-24, 68:10-16). Brainard agreed that his minor customer service complaints were remediable and likely could have been resolved by AFS’s hiring of a new project manager dedicated to Orbital. (Id. at 68:7-9, 170:2-4).

C. Huber’s Courtship with Livingston

Aufiero resigned from AFS in January 2011, (9/18/17 Tr. 106:2-3; 9/21/17 Tr. 21:6-8), and joined Livingston as regional sales manager and industrial hydraulic project manager. (9/21/17 Tr. 26:1-19). Aufiero began to recruit Huber to join Livingston shortly after his own departure. (Id. at 22:6-16). He kept in close touch with Huber and remained interested in AFS’s work on the Hydraulic System. (Id.

at 22:23-23:6). Aufiero asked Huber to send him photographs of the recently-completed cylinder assemblies on January 30, 2011, and Huber complied. (AFS Ex. 28; AFS Ex. 29 at 1-2; 9/20/17 Tr. 23:7-16). In November 2011, Huber shared videos and photographs with Aufiero of milestone testing of the Hydraulic System's rapid retract function. (AFS Exs. 30, 30A, 30B, 31-32, Ex. 32-wmv; 9/18/17 Tr. 107:4-108:25). Huber thereafter asked Aufiero to shift communications to Huber's personal Gmail address. (AFS Ex. 9).

Huber began collaborating with Livingston on business opportunities as early as December 2011. Their discussions initiated with a Navy test stand project; Huber advised Aufiero that AFS lacked capacity to bid on this project. (See 9/21/17 Tr. 31:2-25). Huber visited Livingston's headquarters for the first time on January 8, 2012 to discuss the Navy project. (Id. at 28:18-29:3). At least four "high level" Livingston employees—Vann, Aufiero, Craig Hill ("Hill"), and Wayne Hawkins ("Hawkins")—attended this meeting. (Id. at 28:24-29:18). Each knew that Huber was employed by their competitor, and each knew that Huber was attempting to steer valuable business their way. (Id. at 30:16-31:4). Over the coming months, Huber directed two other opportunities—an Air Force test stand and a Passaic Valley Sewerage Commissioners' project—to Livingston. (See AFS Exs. 45-47, 218). Huber never presented these opportunities to AFS. (9/25/17 Tr. 6:13-7:16).

During the January 8, 2012 meeting, Huber and the Livingston team also discussed the Hydraulic System on Wallops Island. (9/19/17 Tr. 157:4-10). Huber told attendees that "the relationship between AFS and [Orbital] was souring, and at some point the customer was going to do something different and did [Livingston]

want to participate.” (Id. at 157:11-17). That same day, Hill invited Huber to his commercial Dropbox folder, allowing Huber and Livingston employees to share documents electronically. (9/22/17 Tr. 34:6-18). Vann knew about the Dropbox arrangement by February 2012 but never questioned it. (9/20/17 Tr. 21:24-22:5). Livingston also installed a virtual private network (“VPN”) on Huber’s AFS laptop and provided him with a Livingston email address. (See AFS Ex. 42 at 2). Huber’s signature line on his Livingston email account identified him as Livingston’s “Program Manager.” (See, e.g., AFS Ex. 43 at 2; see also AFS Ex. 211 at 4).

Defendants’ collaboration accelerated in earnest after the January meeting. Huber obtained a confidential list of spare parts and component pricing for the Hydraulic System from AFS on March 6, 2012 and forwarded it directly to Aufiero. (AFS Ex. 48; AFS Ex. 49 at 1; 9/18/17 Tr. 109:6-112:24).² On March 9, 2012, Huber introduced Livingston to Orbital as a potential alternate vendor, stating by email to Brainard: “I have this other company that is willing to come up and speak to you . . . about long term support” for the Hydraulic System. (AFS Ex. 52). Huber knew by this point that contract opportunities for “enhancements to the TEL and TEL Hydraulic System[]” were “coming” in the near future. (See AFS Ex. 49). He shared this information with Livingston, (see id.), but not with AFS, (see 9/18/17 Tr. 113:10-25).

Huber coordinated a visit to Wallops Island on March 21, 2012, for Aufiero, Hill, and another Livingston employee to meet Orbital staff and become acquainted

² During his testimony at trial, Vann admitted that this transmission was inappropriate. (9/19/17 Tr. 182:23-184:9).

with the Hydraulic System. (AFS Ex. 55). Vann was aware of this trip. (See 9/21/17 Tr. 59:12-22). The group met briefly with Fava during this visit, and he explained Orbital’s plan to upgrade the gripper arms and the cylinders, as well as the need for a “spares” supplier. (See 9/21/17 Tr. 59:23-61:18, 167:12-14). They also toured the rocket assembly and launch areas of the facility. (See id. at 62:7-63:13, 167:19-168:6). Huber took Hill to the area below the launch pad to view the cylinder assemblies themselves. (Id. at 62:19-63:13, 168:2-6). While there, Huber and Hill encountered AFS’s on-site engineer, Tom Reiker (“Reiker”). (9/21/17 Tr. 64:19-65:2). Aufiero expressed concerned that Reiker might report the encounter to AFS management. (See id. at 65:18-66:12; see also AFS Ex. 57). He memorialized these concerns in an email exchange two days later:

Aufiero: Kevin, I thought about it more and I am thinking Tom [Reiker] might have sent an email to Dan [Vaughn]. Dan [Vaughn] would tell Jim [Vaughn] right away.

Huber: Craig [Hill] definitely was not too smooth in there. I wanted to shoot myself when he told Tom [Reiker] who he was.

Aufiero: We should have had a plan before he went in. . . .

(AFS Ex. 57). In the same email exchange, Huber shared video of AFS’s most recent rapid retract testing milestones at Wallops Island. (See id.; AFS Ex. 56-wmv). Brainard was unable to attend the March 21 meeting, but Huber sent a follow-up email to him on March 23, making his intentions regarding Livingston clear: “What I am going to do is create a ‘road map’ of how to phase out AFS and incorporate another company (that you select) like [Livingston] to partner with you

on the TEL Enhancement and Long Term Maintenance and Support.” (AFS Ex. 59).

Huber coordinated a second visit to Wallops Island for April 12, 2012, this time inviting Vann in attempt to impress Orbital. (See AFS Exs. 90-91; 9/10/17 Tr. 42:24-43:6). In the interim, Huber shared dozens of AFS documents with members of the Livingston team to prepare them for the meeting. Huber emailed Aufiero eleven pages of hydraulic and electrical spares for the system. (See AFS Ex. 60). These spreadsheets provided a comprehensive look at the system’s component parts. (9/18/17 Tr. 123:15-16). On April 2, 2012, Huber downloaded many of AFS’s engineering drawings and its bills of materials to an external hard drive and then uploaded them to the Livingston Dropbox, noting that the upload included “[t]he majority of the hydraulic schematics.” (AFS Exs. 62-63; 9/18/17 Tr. 124:3-134:20). Each drawing featured AFS’s proprietary stamp. (AFS Exs. 67, 69-81; see 9/18/17 Tr. 125:19-22). These documents were valuable to Livingston and provided a baseline understanding of the system’s infrastructure in advance of their meeting with Orbital. (9/21/17 Tr. 50:14-51:8). This file drop included what Huber described as “top level drawings and hydraulic schematics” for the entire Hydraulic System. (AFS Ex. 56). Huber also shared the original system specifications provided by Orbital to AFS in 2010 for the initial Hydraulic System design. (See AFS Ex. 88). Hill agreed that this document helped him to prepare for the second Orbital meeting. (9/22/17 Tr. 28:13-16).

Huber corresponded directly with Vann in advance of the April 12, 2012 meeting with Orbital. Huber told Vann in an April 4 email that he was “working

diligently” to give Livingston an edge with Orbital. (AFS Ex. 86). Despite Vann’s present claim that he was “alarmed” that an AFS employee was working on his company’s behalf, (see 9/20/17 Tr. 51:6-9), he nonetheless followed up with Huber, speaking to him about the opportunity by phone for nearly an hour the following day, (see id. at 54:19-55:15; 9/25/17 Tr. 138:10-139:4).

Vann, Aufiero, Hill, and Huber had dinner together the night before the Orbital meeting. (9/19/17 Tr. 174:19-175:1; 9/21/17 Tr. 41:15-23; 9/25/17 Tr. 142:25-143:8). During the meeting, Vann told Huber that “he would have to leave AFS to continue a relationship with Livingston.” (9/21/17 Tr. 43:19-44:1; see 9/19/17 Tr. 174:13-175:1; 9/20/17 Tr. 19:16-20:13; 9/21/17 Tr. 41:22-44:1). Vann and Aufiero each separately recalled this conversation. (9/19/17 Tr. 174:13-175:1; 9/20/17 Tr. 19:16-20:13; 9/21/17 Tr. 41:22-44:1). When asked whether he ever followed up with Huber about this issue, Vann explained that he assumed it was Huber’s responsibility to resolve the conflict: “Well, as I recall it just seemed to drag and I didn’t obviously call Kevin Huber every day and ask are you still employed at your company, but we anticipated that he would leave at any time, and he just seemed to stay there.” (9/20/17 Tr. 25:13-17). Vann never enforced or followed up on his directive. (Id. at 25:18-26:3; 9/21/17 Tr. 70:21-25, 71:17 72:2). Ostensibly, Livingston’s employees were equally concerned with the risk Huber posed to Livingston itself, with Hill postulating that if Huber was this willing to disclose AFS’s confidential information, he might also “share [Livingston’s] information or he would use [Livingston’s] information to get stuff.” (See 9/22/17 Tr. 61:4-16).

On April 12, 2012, Huber, Vann, Aufiero, and Hill met with Fava on Wallops Island to discuss Orbital's upgrade plans for the Hydraulic System. (AFS Ex. 240). Fava explained to Vann, Aufiero, and Hill that Orbital was competitively bidding the upgrades because Orbital had experienced issues with AFS's customer service and desired a dedicated project manager for the system. (See id. at 2). Among other things, the group discussed the alternatives Orbital was considering for the upgrade—a “new” cylinder option and a “modified” cylinder option. (Id. at 1-2). Fava indicated in a subsequent email to Brainard that although Orbital would bid the contract competitively, Livingston would have a “leg up” if it retained Huber to manage the project. (Id.) Huber thereafter acquired Livingston's labor rates from Aufiero and increased AFS's labor rates above Livingston's to, in Huber's words, “justify LnH taking over!!!” (AFS Exs. 96-97; 9/18/17 Tr. 119:2-21). Huber did not share Orbital's upgrade plans with AFS until three months later. (See 9/18/17 Tr. 113:22-25).

Livingston offered Huber a compensation package on May 25, 2012. (See AFS Ex. 209). Vice President Tim Gillig (“Gillig”) summarized the compensation agreement in an email to Huber, copying Vann, Aufiero, and Hawkins:

1. [Livingston] will pay you 5.5% of the overall sales for the project we are sending you today. Note: This is regardless of how profitable the project is. In other words, [Livingston] is guaranteeing you this figure.
2. [Livingston] would like to propose you be the the [sic] project manager on this project. This figure is within our quote and will be pulled out for your eyes only.
3. [Livingston] will pay you once we get paid per each progressive payment.

4. There will be milestones involved and once these are met the customer will be obligated to pay [Livingston]. If we receive 20% of the overall sale price of the job we will pay you 20% of your portion of the project. This will continue until the entire project is complete.
5. Any additional engineering changes will be paid in the same manner.

Wayne Hawkins will be sending our proposal to you this afternoon. If you have any questions please feel free to contact Tom [Aufiero], Wayne, or myself. I hope this meets your expectation and I look forward to the huge success this could be to really kick off our relationship together.

Best Regards,

Tim Gillig
Vice president of Sales
Livingston & Haven

(Id.) Gillig confirmed that the “project” referenced in his email “related to the [H]ydraulic [S]ystem down on Wallops Island.” (AFS Ex. 277, Gillig Dep. 18:19-19:7, 21:16-22:1, Mar. 3, 2016 (“Gillig Dep.”)). Gillig knew Huber was an AFS employee at the time he offered the compensation package to him. (See id. at 14:14-15:3). Vann approved the compensation agreement. (Id. at 16:5-17:1; 9/19/17 Tr. 168:23-169:10). Vann, like Gillig, knew Huber remained an AFS employee, (9/19/17 Tr. 169:11-14), yet the package did not include a requirement that Huber leave AFS before joining Livingston’s team, (Gillig Dep. 18:7-18). The purpose of the compensation package was “to pay . . . Huber for business that he steered toward[] or participated in with Livingston.” (9/19/17 Tr. 169:7-10).

1. *Gripper Arms Contract*

Orbital sought bids from both AFS and Livingston for replacement of the Hydraulic System's gripper arms. (9/20/17 Tr. 75:15-18; see AFS Ex. 102; AFS Ex. 238 at 5). Huber asked AFS's engineers to develop technical recommendations for the gripper arms project, (see AFS Ex. 104), while simultaneously corresponding with Livingston employees about their design, (AFS Ex. 105). Huber "provide[d] a lot of . . . ideas" and "technical support" to Livingston regarding the gripper arms "because [he] knew the application." (9/25/17 Tr. 103:12-21). On August 10, 2012, Huber submitted a rough order of magnitude (an industry term for preliminary proposal) on AFS's behalf totaling \$277,000. (AFS Ex. 106). Livingston submitted its firm fixed price in the amount of \$320,500 on September 7, 2012. (AFS Ex. 107).

AFS authorized Huber to submit a final price of \$277,828.80. (See AFS Ex. 108; 9/18/17 Tr. 139:21-140:15; 9/21/17 Tr. 117:2-23). The engineering department built a profit margin of 30 to 40 percent into its final authorized price. (9/18/17 Tr. 140:5-9). Huber nonetheless inflated AFS's final firm fixed price to ensure that the Livingston bid was more competitive. (See AFS Ex. 109). On September 17, 2012, he submitted a firm fixed price on AFS's behalf in the amount of \$410,383—more than \$130,000 higher than the amount authorized by AFS's engineering team. (Id.; see also AFS Ex. 108). Huber concealed this bid from everyone at AFS except its newest sales manager, Dwylan Lefever ("Lefever"). (See 9/18/17 Tr. 143:10-144:10; see also 9/19/17 Tr. 81:8-17). Huber assured Lefever that he "went extremely high on the quote for a reason." (AFS Ex. 110). Copies of Huber's inflated firm fixed price and AFS's gripper arms drawings were found in Livingston's files and in its

Dropbox account during discovery. (See AFS Ex. 111; AFS Ex. 204 at 2; AFS Ex. 206; AFS Ex. 267 at 11).

Orbital awarded the gripper arms contract to Livingston. (AFS Ex. 238 at 32, 34; 9/20/17 Tr. 76:8-9, 80:20-21). In contemporaneous notes throughout the bidding process, Fava observed that the choice “will likely come down to price, with a slight nudge toward[]AFS due to their experience with the current system.” (AFS Ex. 238 at 22, 26). Fava later confirmed that the award to Livingston was “[b]ased on price.” (9/20/17 Tr. 76:8-11, 80:17-20, 175:12-20). Brainard agreed that the “high price [was] the principal reason why AFS lost this contract.” (Id. at 80:17-20).

Huber continued assisting Livingston with its gripper arms design throughout the fall as the team prepared for a November 7, 2012 “kick off” meeting with Orbital. (See AFS Ex. 149). At Aufiero’s request, Huber shared AFS’s gripper arms schematics with Livingston engineer Sumpter Smith (“Smith”). (AFS Ex. 162 at 1-3; AFS Ex. 164; 9/21/17 Tr. 146:15-17). Huber also shared a gripper arms bill of materials with Aufiero, Hill, Hawkins, and Smith that was “virtually identical” to the one prepared by AFS’s engineers. (9/18/17 Tr. 150:16-151:10; AFS Ex. 165 at 1, 4-6). Huber participated in a conference call with this same group a few days later during which they discussed AFS’s gripper arms drawing. (See AFS Exs. 166-67; 9/21/17 Tr. 153:18-154:19). Afterward, Livingston altered its design to borrow three of AFS’s features: counterbalance valves, isolation logic valves with pilot control, and pressure transducers. (See 9/18/17 Tr. 146:16-149:16; 9/21/17 Tr. 147:22-150:13, 155:16-156:20; see also AFS Ex. 168 at 7; AFS Ex. 69 at 7; AFS Ex. 170).

Orbital and Livingston agreed on a design and a final contract price of \$285,685 in December 2012. (AFS Ex. 178). Livingston subsequently received an installation contract for the gripper arms valued at \$157,967 and a refurbishment contract following an on-site explosion valued at \$219,776. (See AFS Ex. 265 at 7; AFS Ex. 266 at 7-8). Brainard confirmed that AFS likely would have received these contracts had it been selected for the gripper arms upgrade. (See 9/20/17 Tr. 81:13-15). Livingston paid Huber \$41,322.15 for securing the gripper arms contract. (AFS Ex. 180 at 2; see also AFS Ex. 113; 9/22/17 Tr. 63:19-64:4).

2. *Cylinder Upgrade Contract*

In 2012, Orbital also began exploring two options for upgrading the Hydraulic System's cylinders: the new cylinder option, which contemplated installation of new cylinders and cylinder assemblies, and the modified cylinder option, which would replace the cylinders' component parts but not the cylinders themselves. (See AFS Ex. 240; 9/18/17 Tr. 152:24-153:12). Orbital hoped to increase the cylinders' capacity by 250,000 pounds to allow the Antares rocket to carry a heavier payload. (9/18/17 Tr. 152:17-29; 9/20/17 Tr. 81:16-24). AFS initially had an "advantage" for the contract as the incumbent vendor on Wallops Island. (9/20/17 Tr. 74:9-17). Orbital wanted the same vendor to perform the gripper arms and the cylinder upgrades. (Id. at 122:11-123:4, 194:5-22).

Huber and Livingston knew of Orbital's intent to bid both cylinder options by their April 12, 2012 meeting with Fava. (See AFS Ex. 240 at 1; 9/20/17 Tr. 182:10-12). Orbital's engineers wanted AFS to bid on both options, and expressed as much to Huber. (9/20/17 Tr. 83:13-23, 189:10-190:15). Fava advised Huber that "Orbital

was interested in having AFS submit proposals on both options.” (See id. at 189:90-190:15). Yet Huber never presented the new cylinder option to AFS, (9/18/17 Tr. 153:10-20), and he concealed the modified cylinder option from AFS until July 2012, (id. at 113:22-114:2).

a. April through May 2012

In the weeks after the April 12 meeting on Wallops Island, Huber put Livingston in touch with AFS’s cylinder subcontractor, Maritime Hydraulic, and provided Livingston with confidential pricing information that AFS received from Maritime Hydraulic in 2011 for the original system build. (See AFS Exs. 118-20; 9/18/17 Tr. 162:20-164:20). No one but AFS and Maritime Hydraulic previously had access to this information. (See 9/18/17 Tr. 164:21-165:3). Huber also shared AFS’s 2011 selling prices with Aufiero, who later supplied them to Hill. (AFS Exs. 121-22). Orbital eventually executed a nondisclosure agreement with Livingston on May 16, 2012, authorizing document sharing between Orbital and Livingston as they explored Orbital’s options. (See L&H Ex. 75). Shortly after the agreement was executed, Orbital engineer Kris Edwards (“Edwards”) shared a limited set of three engineering drawings with Livingston. (See L&H Ex. 73 at 18-51). Neither Huber nor AFS are party to the nondisclosure agreement. (L&H Ex. 75). No member of the Orbital team authorized Livingston to accept AFS’s documents from Huber, and no member of the team authorized Huber to provide AFS’s documents to Livingston. (Reed/Nash Dep. 87:6-20; 9/20/17 Tr. 89:12-90:7, 183:23-184:8, 201:8-17).

b. June through September 2012

Huber eventually presented the cylinder modification option to AFS in July 2012. (9/18/17 Tr. 113:22-114:2, 152:8-10). AFS sought and received a formal request for quote for the modification option on September 5, 2012. (9/18/17 Tr. 152:20-23; AFS Ex. 129). The AFS team was concerned that the cylinder modification option was not feasible—its engineers did not believe the existing assembly could support an increased payload, and they agreed that the system could not be modified on Orbital’s tight deadline. (See 9/18/17 Tr. 154:8-12, 155:11-156:25; 9/19/17 Tr. 125:1-129:14). Huber proposed a feasibility study to Orbital, but Brainard responded that AFS must first provide a rough order. (AFS Exs. 131-32; see also 9/18/17 Tr. 155:19-25). Huber urged AFS not to bid the cylinder modification, stating in an email that he did not think the project was “good business for AFS at this time” and that he had “trepidation in moving ahead.” (AFS Ex. 131). AFS obliged Huber’s guidance and discontinued its pursuit of the project. (See 9/19/17 Tr. 76:16-78:25, 125:1-128:5). Vaughn testified at trial that AFS would have been interested in the new cylinder option, describing it as the “much cleaner way to proceed.” (9/18/17 Tr. 158:1-5).

Huber continued his campaign to disparage AFS throughout this time period. In an email to Fava on September 11, 2012, he stated:

Keith,

I can’t get anything done over here. Larry & Dave are the only guys doing their part efficiently.

This Gripper Arm thing is 90% there...all I need is for Dan to get his Manufacturing numbers firm and fixed and it’s stalling. I had it layed [sic] up on a tee and I’m getting the most ridiculous response.

Forget about the Cylinders.

My advise [sic] is to go with an alternative vendor and then I'll jump ship. . . .

Sorry for the hassle.

Later,

Kevin

(AFS Ex. 133). Huber had already received the gripper arms bill of materials from AFS's engineering team at the time of this message. (9/18/17 Tr. 160:25-161:11). Not long after this email, Orbital stopped seriously considering AFS as a contender for the cylinder upgrade. (See 9/20/17 Tr. 194:14-195:5). According to Fava, once AFS lost the gripper arms contract in late September, it was at a "huge disadvantage" for the cylinder contract. (Id. at 194:14-19).

Huber encouraged Livingston from the outset to pursue Orbital's preferred new cylinder option and to "no quote" the modification option that he confined AFS to. (AFS Ex. 118). Orbital sent a formal request for quote to Livingston for the new cylinder option on July 10, 2012. (AFS Ex. 125). Huber worked in earnest with Livingston to prepare its quote. He emailed photos to Aufiero and Hill depicting construction, assembly, and testing of the original cylinders at AFS's headquarters. (See AFS Ex. 135; 9/18/17 Tr. 165:22-167:2). He participated in regular and lengthy phone calls with Livingston's engineers to discuss their joint proposal for the new cylinders. (See AFS Ex. 8 at 4-7). And he participated in a meeting with Hill and Aufiero at Livingston's headquarters on September 27, 2012. (See AFS Ex. 137; AFS Ex. 278, Aufiero Dep. 137:8-23, Feb. 12, 2016 ("Aufiero Dep."); 9/21/17 Tr. 96:9-

97:2). The Livingston team “looked at everything” in developing a rough order for the cylinders, including AFS’s top-level hydraulic schematics and other engineering drawings provided by Huber over the preceding six months. (See Aufiero Dep. 139:12-141:15; 9/21/17 Tr. 97:3-17).

c. October through December 2012

Huber registered a domain name and established an email address for his new company, Integrated Systems, on October 6, 2012. (See AFS Exs. 139-40). At the same time, he continued communicating with Livingston concerning its rough order for the new cylinder upgrade. (See AFS Ex. 8 at 7; see, e.g., AFS Ex. 143 at 1-3; AFS Ex. 159). Unbeknownst to Livingston, Huber was secretly preparing to submit his own competing bid for the cylinder upgrade on behalf of Integrated Systems. (See Brainard Ex. 27 at 2-3).

Beginning at approximately 6:00 p.m. on October 8, 2012 and continuing through the evening, Huber used his AFS laptop to copy nearly 98 gigabytes of data to an external hard drive. (AFS Ex. 267 at 3; see AFS Ex. 142; 9/18/17 Tr. 49:4-51:8). Huber downloaded “all of the design drawings, all the documents that had been prepared [by AFS] and approved by NASA, all the test procedures, all the bill of materials, everything associated with the entire [Hydraulic System] project.” (9/18/17 Tr. 170:11-15; see AFS Ex. 267 at 3). He also took documents specific to AFS’s gripper arms quote, as well as “all AFS engineering projects with pending customer quotes” and “all AFS files on completed AFS projects going back to 1993.” (AFS Ex. 267 at 3; see also 9/18/17 Tr. 49:4-21). Huber tendered his resignation notice to AFS the next day, setting a projected resignation date of November 9,

2012. (See 9/18/17 Tr. 37:15-22). Huber was in contact with Aufiero over the course of this two-day period. (See AFS Ex. 8 at 7). Huber later accelerated his resignation date to October 26, 2012. (See 9/18/17 Tr. 37:23-38:1). When Huber returned his laptop to AFS, staff discovered it to have been wiped of emails, documents, and a drawing program. (Id. at 38:16-21; AFS Ex. 267 at 1-2).

Huber and the Livingston team doubled down on their preparatory efforts in late October 2012 after receiving notice of the November 7 gripper arms “kick off” meeting. (See AFS Ex. 149). In his scheduling email, Fava advised that Orbital would need Livingston’s rough order for the cylinders by November 2 to be able to discuss that contract at the November 7 meeting. (Id.) Huber thereafter emailed to Aufiero, Hill, and Hawkins many of the files he downloaded earlier in the month. (AFS Exs. 150, 158). These files included weld maps and weld history reports, (AFS Exs. 151-54), a Non-Destructive Evaluation Plan, (AFS Exs. 155-56), and tubing assembly diagrams, (AFS Exs. 157-58). To conceal his theft, Huber postdated the files and substituted “Integrated Systems” for “Advanced Fluid Systems, Inc.” as the author and owner. (See AFS Exs. 153-58). Huber participated in a second, daylong meeting at Livingston’s offices on October 29. (See AFS Ex. 159; 9/25/17 Tr. 52:22-24; see also 9/21/17 Tr. 187:17-188:14, 189:9-190:3). Livingston submitted its rough order of magnitude for the cylinder upgrade on November 2, 2012.³ (AFS

³ The draft proposal developed by Huber included a finder’s fee and project management compensation for Integrated Systems. (AFS Ex. 143 at 3; AFS Ex. 280, Hawkins Dep. 27:22-24, 28:15-29:3, Mar. 3, 2016). The finalized rough order does not explicitly reference the finder’s fee or project management compensation, but Integrated Systems is identified as the project manager. (See AFS Ex. 173 at 2).

Ex. 173). Orbital and Livingston representatives discussed the proposal in detail during the November 7 “kick off” meeting. (See AFS Ex. 177 at 5). Livingston’s rough order relied on drawings generated by AFS and insider knowledge revealed by Huber. (See 9/18/17 Tr. 186:4-187:18; 9/22/17 Tr. 5:10-14; see also AFS Ex. 173 at 2; AFS Ex. 135).

d. January through March 2013

Orbital ultimately awarded the cylinder contract to Integrated Systems, to the “complete surprise” of the Livingston team. (See 9/22/17 Tr. 117:15-118:4). According to Aufiero, Vann was “stunned” and “certainly not happy” with the development. (Id. at 120:12-121:10). Integrated Systems submitted a firm fixed price of \$1,495,890 for the cylinder modification option and \$1,768,998 for the new cylinder option. (AFS Ex. 183 at 10). Orbital asked Integrated Systems to submit a best and final offer for the new cylinder option alone. (AFS Ex. 189). On March 5, 2013, Integrated Systems submitted its best and final offer with a price of \$1,974,966. (AFS Ex. 191 at 14). Integrated Systems’ firm fixed price and best and final offer cited directly to, incorporated, and relied on AFS’s documents. (See AFS Ex. 183 at 1, 3, 11; AFS Ex. 191 at 1-2).

On March 20, 2013, Orbital awarded the cylinder contract to Integrated Systems. (AFS Ex. 192). Orbital and Integrated Systems later agreed to a final, modified contract price of \$2,028,966. (AFS Ex. 193 at 2). In a post-selection risk assessment analysis, Fava cited Huber’s familiarity with the hydraulic system and the cost savings of working directly with Integrated Systems in justifying its decision. (L&H Ex. 15 at 3-4). Brainard later intimated that Orbital would not have

awarded the cylinder contract to Integrated Systems had it known of Huber's conduct. (See 9/20/17 Tr. 90:12-23).

D. Lost Profits

Vaughn arrived at AFS's lost profits figure together with Dr. Jonathan A. Cunitz ("Dr. Cunitz"), who was qualified at trial as an expert in damages calculation and analysis. (9/19/17 Tr. 110:17-18, 111:17-19). Vaughn and Dr. Cunitz calculated lost profits as follows:

Gripper Arms Subcontract

Subcontract Price:	\$285,685
<i>Less AFS Hardware Costs:</i>	(\$112,000)
<i>Less AFS Labor Costs:</i>	(\$67,650)
AFS Lost Profit:	\$106,035

Gripper Arms Installation

Subcontract Price:	\$157,967
<i>Less AFS Hardware Costs:</i>	(\$18,800)
<i>Less AFS In-House Labor Costs:</i>	(\$39,480)
<i>Less AFS Miscellaneous Costs:</i>	(\$7,158)
<i>Less AFS On-Site Labor/Travel Costs:</i>	(\$20,326)
AFS Lost Profit:	\$72,203

Gripper Arms Refurbishment

Subcontract Price:	\$219,776
<i>Less AFS Hardware Costs:</i>	(\$100,000)
<i>Less AFS Labor Costs:</i>	(\$40,830)
<i>Less AFS On-Site Labor/Travel Costs:</i>	(\$2,200)
AFS Lost Profit:	\$76,746

Cylinder Upgrade

Subcontract Final Price:	\$1,956,011
<i>Less AFS Hardware Costs:</i>	(\$853,186)
<i>Less AFS Labor Costs:</i>	(\$261,800)
AFS Lost Profit:	\$841,025

(AFS Ex. 265 at 9-13; AFS Ex. 266 at 10-14). Vaughn calculated AFS's estimated costs by consulting with AFS engineers and relying on his familiarity with AFS labor rates and its engineering, project management, and administrative capacity for such projects. (See AFS Ex. 265 at 3-4).

Hill submitted a defense expert report and offered comments in response to AFS's calculations. (See L&H Ex. 44). Hill remonstrated broadly that Vaughn's and Dr. Cunitz's damages calculations were too high. (See id.) The value of Hill's report and testimony is seriously undermined by several inconsistencies in his own calculations which he was unable to explain at trial. (See, e.g., 9/22/17 Tr. 53:9-13; compare L&H Ex. 44 ¶¶ 8-9, 16-19 with AFS Exs. 160, 273).

E. This Litigation & The Dropbox Discovery

AFS commenced this action on December 24, 2013. (Doc. 1). In its initial complaint, AFS named Huber, Integrated Systems, Livingston, Vann, Aufiero, and Orbital as defendants. (Id.) AFS asserted misappropriation, tortious interference with contract and prospective contractual relations, unjust enrichment, common-law unfair competition, conversion, common law conspiracy, and Computer Fraud and Abuse Act claims against all defendants, and Lanham Act claims against all defendants but Orbital. (Id. at 28-34). AFS also charged Huber with breach of fiduciary duty and the other defendants with aiding and abetting Huber's breach. (Id. at 34-35). AFS thereafter voluntarily dismissed Orbital from the lawsuit. (See Doc. 57). After Rule 12 motion practice winnowed the claims, AFS filed a second amended complaint on July 7, 2014, (Doc. 70), and all defendants filed answers on August 4, 2014, (Docs. 77-80).

During discovery, AFS subpoenaed Dropbox for access to any accounts associated with Huber's personal and business email addresses. (AFS Ex. 244 at 5-6). Dropbox reported that Huber had created two accounts: one affiliated with his personal Gmail address, and another affiliated with his AFS email address. (Id. at 1, 9-10). Forensic examination revealed that, shortly after AFS served its subpoena, Huber deleted a number of files and folders from his personal Dropbox account. (AFS Ex. 268 at 2, 4; AFS Ex. 244 at 2, 4, 16). Dropbox restored portions of the folders at counsel's request. Analysis of the restored folders showed that Huber deleted AFS's gripper arms schematics, his inflated firm fixed price for the gripper arms, circuit drawings for AFS's gripper arms design, the hydraulic system end-item data package delivered by AFS to the Authority following completion of the system in 2011, and his consulting contract with Livingston for the gripper arms work. (See AFS Ex. 268 at 4; AFS Exs. 204-08). The parties thereafter proceeded with discovery.

Following Rule 56 motion practice, (see Doc. 236), the court convened a bench trial over the course of six days from September 18 through September 25, 2017. (See Docs. 303-08). The court set an initial deadline of November 29, 2017 for all parties to submit proposed findings of fact and conclusions of law. (Doc. 299). At the Livingston defendants' request, the court extended the deadline to December 4, 2017. (See Doc. 316, 319). AFS submitted its proposed findings and conclusions on November 16, 2017, (see Doc. 312), and Huber and Integrated Systems followed suit on December 4, 2017, (see Doc. 323). To date, the Livingston defendants have not

complied with the court's order. Accordingly, the Livingston defendants have waived any opportunity to present their factual and legal position to the court.

II. Conclusions of Law

Several issues of liability are settled at this juncture. We held at the Rule 56 stage that unequivocal record evidence established that Huber and Integrated Systems had misappropriated AFS's trade secrets under the Pennsylvania Uniform Trade Secrets Act ("PUTSA"), 12 PA. CONS. STAT. § 5301 *et seq.* (Doc. 236 at 28-31). We found that AFS had proven two of the requisite elements of its common law tort claim for breach of fiduciary duty against Huber, but resolved that genuine disputes of fact precluded disposition of the third and final element. (*Id.* at 37-39). We also determined that AFS had failed to show tortious conduct by Integrated Systems, necessitating summary judgment in Integrated Systems' favor, and that manifold factual disputes precluded summary judgment on AFS's aiding and abetting claim against Livingston, Vann, and Aufiero. (*Id.* at 42-44).

Three inquiries remain. *First*, whether Livingston, Vann, or Aufiero are liable for misappropriation of trade secrets under Pennsylvania law. *Second*, whether Huber is liable for breaching his fiduciary duty to AFS, and whether the Livingston defendants are liable for aiding and abetting said breach. And *third*, whether and to what extent compensatory, exemplary, and punitive damages are warranted. We address these issues *seriatim*.

A. Misappropriation of Trade Secrets by Livingston, Vann, and Aufiero

Pennsylvania law divides “misappropriation” into three distinct categories: “acquisition,” “use,” and “disclosure.” 12 PA. CONS. STAT. § 5302. AFS advances its misappropriation claim under the first theory, contending that the Livingston defendants “misappropriated AFS’[s] trade secrets through improper ‘acquisition.’” (Doc. 312 at 94 ¶ 5). PUTSA defines the offense of misappropriation by acquisition as the “acquisition of a trade secret of another by a person who knows or has reason to know that the trade secret was acquired by improper means.” 12 PA. CONS. STAT. § 5302. “Improper means” include, *inter alia*, “theft, bribery, misrepresentation, breach or inducement of a breach of a duty to maintain secrecy or espionage through electronic or other means.” *Id.*

There is no dispute that the Livingston defendants acquired trade secrets belonging to AFS. (Doc. 236 at 32-34). The record is rife with proof that, beginning in March 2012, the Livingston defendants eagerly accepted from Huber copious AFS documents relating to the cylinder upgrade. The information shared included an 11-page Hydraulic System spares spreadsheet, 88 pages of engineering drawings, 37 pages of system specifications, and price and cost data for the system’s cylinder assemblies. During the gripper arms bidding process, Huber also shared AFS’s firm fixed price with Livingston via Dropbox, in addition to AFS’s gripper arms drawings and other documents in October 2012 and January 2013. Each of these documents contained AFS’s trade secrets as defined by Pennsylvania law. (Doc. 236 at 20-28). The only extant determination is whether the Livingston defendants

knew or should have known that Huber acquired these trade secrets by improper means. See 12 PA. CONS. STAT. § 5302.

Each Livingston defendant *at minimum* had constructive knowledge that Huber obtained AFS's trade secrets by improper means before transmitting them to Livingston employees. Vann, Aufiero, Hill, Hawkins, and Smith each received confidential AFS documents from Huber throughout 2012. With the exception of documents altered by Huber to include Integrated Systems' title block, most documents transmitted to the Livingston team contained AFS's propriety stamp, which declared:

This drawing discloses propriety and confidential data of Advanced Fluid Systems, Inc., and may not be used disclosed or released, in whole or in part, for any purpose outside the authorized recipient, without signed authorization, and must be returned upon request.

No defendant was able to offer a credible explanation for wholly disregarding AFS's proprietary stamp. Moreover, Vann, Aufiero, Hill and Hawkins were aware that Huber was an AFS employee the entire time. They were aware of it when they granted him access to Livingston's commercial Dropbox, when they installed a VPN on Huber's AFS laptop, and when they provided him a Livingston email address. And they were aware of it each time they accepted a confidential drawing from him. Huber confirmed that his employment with AFS was no secret to Livingston. Yet the Livingston defendants eagerly accepted AFS's confidential documents from Huber for nearly a year.

The Livingston defendants offer two justifications for their conduct.⁴ *First*, they suggest that Orbital employees intimidated Vann, Aufiero, and others that Orbital legally owned all drawings and other materials produced by AFS pursuant to the 2009 contract. (See 9/18/17 Tr. 27:12-28:8; see also Doc. 175-2 at 11-12). At trial, counsel averred that Orbital, “from day one,” represented to Livingston that Orbital owned the Hydraulic System drawings. (See 9/18/17 Tr. 28:3-5). Counsel also alleged that Edwards, Orbital’s then-ground systems engineer, shared certain documents with Livingston pursuant to the nondisclosure agreement. (Id. at 27:23-28:3). It follows, counsel posited, that the Livingston defendants were justified in believing that Huber could also share AFS’s materials with them. (Id. at 27:16-28:8).

The chronology established at trial belies this contention. The Livingston defendants began their collaboration with Huber in early January 2012, granting him access to Livingston’s Dropbox, establishing a Livingston VPN on his AFS-issued laptop, and providing him with a Livingston email address. These actions enabled Huber to share AFS’s confidential documents with Livingston, which he did as early as March 2012. On March 27, 2012, for example, Huber emailed a spreadsheet containing spare part requirements and pricing for the Hydraulic System to Aufiero. On April 2, 2012, he transmitted a batch of AFS engineering drawings to Aufiero via Dropbox, including a “majority of the hydraulic schematics,” to provide Livingston with a leg-up during its April 11, 2012 meeting

⁴ As noted *supra*, the Livingston defendants failed to comply with the court’s orders directing the parties to file proposed findings of fact and conclusions of law by December 4, 2017. (See Docs. 299, 319). As a result, the court is constrained to extrapolate the Livingston defendants’ arguments from their position at summary judgment and counsel’s opening statement at trial.

with Orbital. And on April 4, 2012, Huber provided Hill with the 37-page specifications on which AFS's system design was based.

The nondisclosure agreement heralded by defendants as authorizing their acceptance and use of these documents was not executed until May 16, 2012—nearly *two months* after Huber's first transmissions. And it was not until June 2012 that Edwards shared with Livingston a limited set of AFS drawings pursuant to the nondisclosure agreement. The Livingston defendants could not have been relying on Orbital's conduct at the time they accepted AFS documents from Huber in March and April.

Nor does the nondisclosure agreement or Orbital's conduct absolve the Livingston defendants for their actions after May 16, 2012. The *only* reasonable inference to be drawn from the nondisclosure agreement and Edwards' disclosure of documents is that *Orbital* believed it was authorized to share documents with Livingston. The record offers no support for the Livingston defendants' claimed belief that *Huber* was authorized to share AFS's engineering drawings. *Per contra*, Orbital's employees and the Authority's employees testified uniformly that neither entity authorized Huber to share AFS's drawings with Livingston, nor did either authorize Livingston to accept the documents from Huber. Both entities confirmed that to do so would contravene their internal policies. We cannot credit the Livingston defendants' *post hoc* rationalization of their conduct.

Second, the Livingston defendants intimate that industry practice countenances their conduct. Livingston's counsel adjured during opening statements that it is "common practice in the engineering field" for customers

shopping new engineering firms to share schematics developed by an incumbent in the course of soliciting quotes. (See 9/18/17 Tr. 24:23-25:7). Whether this practice exists is irrelevant to the claims *sub judice*. AFS does not assert that the Livingston defendants violated the law by accepting a limited batch of drawings from Orbital. It contends they did so by acquiring those documents from *Huber*—a known employee of a firm against which Livingston was actively competing.

Several additional points bear emphasis. The Livingston defendants were not merely passive recipients of AFS documents. Livingston employees used the documents provided by Huber to prepare for meetings with Orbital and, on at least one occasion, solicited specific documents from him. Regarding documents Huber transferred to Aufiero in advance of Livingston’s April 2012 meeting with Orbital, Aufiero admitted at trial that he “absolutely” reviewed the documents to gather an “understanding” of the Wallops Island project. Hill concurred that the documents helped the Livingston team prepare for the meeting. Later, when bidding for the cylinder upgrade was in full swing, Aufiero explicitly asked Huber to forward the hydraulic schematic for both the cylinders and the gripper arms. Vann conceded that he was aware as early as February 2012 of the document sharing between his employees and Huber.

Finally, the evidence establishes that the Livingston defendants knew Huber’s conduct was wrong. Hill voiced concern to Aufiero about trusting Huber, postulating that if Huber’s ethics did not impede him from sharing AFS documents, he might likely do the same to Livingston. Vann testified with respect to receipt of AFS’s internal pricing information that had he “known that [his] . . . high-level

employees[] were getting internal pricing from another company,” he would have directed them to reject it. (9/19/17 Tr. 184:6-9). Aufiero testified that he did not take AFS’s documents with him when he left the firm and agreed to do so is “wrong.” (9/21/17 Tr. 77:4-18). He further testified that he knew AFS management would not “have been happy about” what Huber was doing. (Id. at 75:15-18). Yet each of these individuals persisted in their collusion with Huber.

AFS has proven by a preponderance of the evidence that Vann and Aufiero acquired AFS’s trade secrets from Huber knowing that Huber had obtained same through “improper means.” See 12 PA. CONS. STAT. § 5302. Vann’s and Aufiero’s stated beliefs that their conduct was aboveboard are untenable against the weight of the record, in particular the chronology of events and circumambient indicia of awareness of Huber’s wrongdoing. These defendants knew that their conduct was inappropriate and resolved that the risk was worth the reward.

AFS has also proven by a preponderance of the evidence that Livingston is vicariously liable for the acts of Vann and Aufiero. No court has yet addressed whether PUTSA allows for vicarious trade secret liability. The near unanimous consensus of federal and state courts holds that the Uniform Trade Secrets Act—on which the Pennsylvania statute is based—does contemplate vicarious liability when

state law otherwise provides the cause of action.⁵ Pennsylvania law recognizes *respondeat superior* liability for intentional and even criminal acts of an employee. Brezenski v. World Truck Transfer, Inc., 755 A.2d 36, 39 (Pa. Super. Ct. 2000) (citing Fitzgerald v. McCutcheon, 410 A.2d 1270, 1271-72 (Pa. Super. Ct. 1979)). We join the majority of federal and state courts and hold that PUTSA authorizes vicarious trade secret liability.

Under Pennsylvania law, an employer may be vicariously liable for its employee's intentional acts if the conduct (1) is similar in kind to that which the employee is hired to perform, (2) occurs "substantially within" the temporal and spatial scope of employment, and (3) is "actuated," at least in part, in service of the employer. See PNC Mortg. v. Superior Mortg. Corp., No. 09-5084, 2012 WL 628000,

⁵ See Manitowoc Cranes LLC v. Sany Am. Inc., No. 13-C-677, 2017 WL 6327551, at *4-5 (E.D. Wisc. Dec. 11, 2017) (Wisconsin Uniform Trade Secret Act); Deluxe Fin. Servs., LLC v. Shaw, No. 16-3065, 2017 WL 3327570, at *4-5 (D. Minn. Aug. 3, 2017) (Ohio Uniform Trade Secrets Act); Enhanced Recovery Co., LLC v. Frady, No. 3:13-CV-1262, 2015 WL 1470839, at *11-12 (M.D. Fla. Jan. 20, 2015) (Florida Uniform Trade Secrets Act), rejected in part on other grounds by 2015 WL 1470852 (M.D. Fla. Mar. 31, 2015); Extreme Reach, Inc. v. Spotgenie Partners, LLC, No. 13-7563, 2013 WL 12081182, at *6-7 (C.D. Cal. Nov. 22, 2013) (California Uniform Trade Secrets Act); Language Line Servs., Inc. v. Language Servs. Assocs., Inc., 944 F. Supp. 2d 775, 783 (N.D. Cal. 2013) (same); Newport News Indus. v. Dynamic Testing, Inc., 130 F. Supp. 2d 745, 750-51 (E.D. Va. 2001) (Virginia Uniform Trade Secrets Act); Thola v. Henschell, 164 P.3d 524, 528-29 (Wash. Ct. App. 2007) (Washington Uniform Trade Secret Act). These courts hold that the Uniform Trade Secret Act's preemption clause—which is identical in all material respects to PUTSA's preemption clause, 12 PA. CONS. STAT. § 5308—does not preclude vicarious liability because same is a theory of liability rather than an independent tort, claim, or remedy. See Newport News Indus., 130 F. Supp. 2d at 751; but see Infinity Prods., Inc. v. Quandt, 810 N.E.2d 1028, 1033-34 (Ind. 2004) (holding that Indiana's more stringent preemption clause, evincing state legislature's rejection of uniform act language, precludes vicarious liability). We agree with the *ratio decidendi* of this robust majority.

at *30 (E.D. Pa. Feb. 27, 2012) (citing Bro-Tech Corp. v. Thermax, Inc., 651 F. Supp. 2d 378, 419-20 (E.D. Pa. 2009); Costa v. Roxborough Mem. Hosp., 708 A.2d 490, 493 (Pa. Super. Ct. 1998)). Vann's and Aufiero's actions (as well as the actions of Hill, Hawkins, and Smith) related directly to their job duties, occurred fully within the temporal and spatial scope of their work, and were motivated, at least in part, by a desire to serve Livingston. The court finds that Livingston is vicariously liable for its employees' misappropriative acts.

B. Breach of Fiduciary Duty by Huber

Under Pennsylvania law, employees owe a duty of loyalty to their employer. Synthes, Inc. v. Emerge Med., Inc., 25 F. Supp. 3d 617, 667 (E.D. Pa. 2014) (citing Crown Coal & Coke Co. v. Compass Point Res., LLC, No. 07-1208, 2009 WL 891869, at *5 (W.D. Pa. Mar. 31, 2009)). This duty obliges employees to refrain from competing with their employer or assisting its competitors and from using protected information to a competitor's advantage. See id. (citing RESTATEMENT (THIRD) OF AGENCY § 8.04-.05 (AM. LAW INST. 2006)). To sustain its claim for breach of fiduciary duty, AFS must demonstrate that: (1) Huber failed to act in good faith and for AFS's sole benefit in the course of his employment; (2) AFS suffered an injury; and (3) Huber's failure to act solely for AFS's benefit was "a real factor in bring[ing] about" that injury. See id. (alteration in original) (quoting McDermott v. Party City Corp., 11 F. Supp. 2d 612, 626 n.18 (E.D. Pa. 1998)). The court held at the summary judgment stage that AFS has proven the first two elements of this claim. (Doc. 236 at 37-38).

No Pennsylvania court has defined the term “real factor,” nor has any federal court interpreted the phrase. The *Pennsylvania Suggested Standard Civil Jury Instructions* define “real factor” as akin to “factual cause,” to wit:

Breach of Fiduciary Duty—Factual Cause

The defendant agent or fiduciary is legally responsible for the damages suffered by the plaintiff if the defendant’s . . . intentional misconduct was a factual cause of those damages.

If the damages in question would have been sustained even if the agent or fiduciary had not . . . acted wrongfully, then the defendant’s conduct would not be a factual cause in causing the plaintiff’s damages. On the other hand, the defendant’s . . . intentional misconduct was a factual cause in causing the plaintiff’s damages if those damages would not have been sustained had the defendant not acted as [he] [she] did.

PA. SUGGESTED STANDARD CIVIL JURY INSTRUCTIONS § 6.230 (2003). Huber agrees that this definition controls. (Doc. 323 ¶¶ 165-66).

The full scope of Huber’s efforts to undermine AFS and support Livingston was illuminated at trial. Huber did not deny the majority of the conduct supporting AFS’s breach of fiduciary duty claim. Indeed, Huber admitted:

- that he twice organized site visits to Wallops Island for the Livingston team to meet with Orbital engineers, (see 9/25/17 Tr. 122:14-23, 132:11-133:4);
- that he met with the Livingston team in advance of those meetings to prepare and better position them, (see id. at 123:25-124:17);
- that part of that preparation included disclosure and use of AFS confidential documents, (see id. at 126:12-19);

- that in April of 2012, he was “working diligently in positioning [Livingston] in a favorable position” with Orbital, (id. at 124:18-126:4);
- that he inflated AFS’s gripper arms bid without authorization from engineering, (see id. at 48:23-49:9); and
- that he instructed a new sales manager to conceal the inflated bid from engineering, (see id. at 47:13-49:9).

The record establishes that Orbital asked Huber to secure quotes from AFS for both cylinder options—its preferred option of building new cylinders and the alternative of modifying the current cylinders—and that Huber never shared the new cylinder request with AFS. He did, however, assist Livingston in bidding the new cylinder contract. Eventually, Huber secured the new cylinder contract for himself and his new firm, Integrated Systems.

We find that Huber was the direct cause of AFS losing the gripper arms contracts. Indeed, the record reflects textbook causation. Huber inflated the gripper arms quote prepared by AFS’s engineering department by more than \$130,000. Orbital cited this inflation in explaining why it chose Livingston over AFS. Fava and Brainard testified that Orbital’s decision was “[b]ased on price.” Brainard left no room for doubt, confirming that “high price” was “the principal reason why AFS lost this contract.” Both agreed that, prior to Huber’s interference, AFS had a clear advantage over Livingston for the gripper arms contract. This testimony wholly refutes Huber’s suggestion that Orbital had written AFS off as a vendor due to past customer service issues.

We reject Huber's claim that he had good reason to submit the self-described "extremely high" gripper arms bid on AFS's behalf. (See Doc. 323 ¶ 70). Huber invokes a host of retrospective justifications for his conduct—claiming that the AFS engineering team failed to account for installation costs, discounts yet to be negotiated by Orbital, and Huber's own desired commission margin. (See id.) To the extent these concerns actually animated Huber's conduct, we can conceive of no legitimate basis for his failure to raise them with AFS's engineers at the time. We simply cannot credit Huber's *ex post facto* justification or his specious claim that he did in fact "want AFS to get the gripper arms contract." (9/25/17 Tr. 47:10-11). Huber inflated AFS's gripper arms bid and concealed his conduct in an effort to price AFS out of contention. He succeeded and, in doing so, deprived AFS of the gripper arms contract.

Huber was also a real factor in denying AFS an opportunity to pursue the preferred cylinder upgrade option. Orbital wanted a single vendor to handle both of the 2012 contracts, and AFS's loss of the gripper arms contract placed it at a "huge disadvantage" for the cylinder upgrade. Orbital relied exclusively on Huber to communicate to AFS that Orbital was seeking quotes for *both* a cylinder modification option *and* a new cylinder option. Orbital's lead engineers described AFS as a "a legitimate contender" for either of the contracts and confirmed that AFS in fact had an "advantage" as Orbital's incumbent vendor. Orbital engineers eventually discovered that modification of the cylinders was not feasible with their launch schedules and that the only workable option was to manufacture and install new cylinders. Huber knew all of this, and he knew that AFS was interested in a

new cylinder option. Yet he concealed the new cylinder opportunity, deliberately limiting AFS to the risky cylinder modification option. He openly encouraged Livingston to pursue the favored new cylinder option. And he pressured Orbital to abandon AFS for Livingston.⁶

More direct evidence of causation is difficult to fathom. Huber's subterfuge resulted in Orbital rejecting AFS's gripper arms bid and prevented AFS from ever competing for the new cylinder contract. What is more: Huber intended this result. Uncontradicted evidence reflects that Huber endeavored to have Livingston replace AFS as the vendor on Wallops Island. At trial, he never once expressed concern for AFS's interests. He instead testified that his goal was "to help the customer," that Orbital "needed somebody to stand by them," and that he "definitely . . . had a loyalty to" Orbital. (9/25/17 Tr. 96:12--97:13; see id. at 159:7-14). Tellingly, Huber also conceded: "and of course I wanted to help myself." (Id. at 97:6-8). Huber adhered to a perceived duty of loyalty to everyone *but* his own employer. Huber is liable to AFS for breach of fiduciary duty. A more compelling case for such a breach is difficult to conjure.

⁶ Huber's claim that he never received a "formal" request for quote from Orbital for the new cylinder upgrade is of no moment. (See Doc. 323 ¶ 168). This assertion ignores the *essentia* of AFS's claim: Huber knew Orbital was weighing both upgrade options, and he knew Orbital wanted AFS to bid both options, yet he deliberately concealed the preferable option from AFS.

C. Aiding and Abetting Breach of Fiduciary Duty by Livingston, Vann, and Aufiero

To prevail on a claim for aiding and abetting a fiduciary's breach, AFS must establish (1) that Huber breached his fiduciary duty to AFS, (2) that the Livingston defendants knew of Huber's breach, and (3) that the Livingston defendants offered "substantial assistance or encouragement" to Huber in effecting his breach. See Synthes, 25 F. Supp. 3d at 674-75 (quoting Reis v. Barley, Snyder, Senft & Cohen, 667 F. Supp. 2d 471, 491 (E.D. Pa. 2009)). In other words, the Livingston defendants must have known that Huber's activities constituted a breach of fiduciary duty and nevertheless assisted or encouraged that breach. See id. at 675 (quoting Bd. of Trs. of Teamsters Local 862 Pension Fund v. Foodtown, Inc., 296 F.3d 164, 174 (3d Cir. 2002)); Bair v. Purcell, 500 F. Supp. 2d 468, 496 (M.D. Pa. 2007) (same). We held *supra* that Huber knowingly breached his fiduciary duty to AFS. Hence, the remaining inquiries are whether the Livingston defendants knew of that breach and either substantially assisted or encouraged same. See Synthes, 25 F. Supp. 3d at 674-75.

Vann and Aufiero knew Huber was breaching his fiduciary duty by working contemporaneously for both Livingston and AFS. Vann admitted at trial that he knew Huber was employed by AFS "for the majority of 2012" and that Livingston knowingly "accepted things from a competitor from one of their employees for nearly a year." Although Vann initially voiced concerns about the arrangement, he never revisited the issue or directed his employees to stop working with their

competitor's employee. Aufiero likewise confirmed that he knew Huber was employed by AFS throughout 2012 and that he worked with him anyway. This knowledge is imputed to Livingston. See PNC Mortg., 2012 WL 628000, at *30 (citing Bro-Tech Corp., 651 F. Supp. 2d at 419-20; Costa, 708 A.2d at 493). The second element resolves in AFS's favor as to all defendants.

AFS must also prove that each defendant provided substantial assistance or encouragement to Huber in committing the fiduciary breach. See Synthes, 25 F. Supp. 3d at 677; Bair, 500 F. Supp. 2d at 496. Pennsylvania courts have adopted the Restatement (Second) of Torts in developing a standard for aiding and abetting breach of fiduciary duty claims. See Koken v. Steinberg, 825 A.2d 723, 731-33 (Pa. Commw. Ct. 2003). The Restatement enumerates five factors for measuring the degree of assistance or encouragement provided, to wit: "the nature of the act encouraged, the amount of assistance given by the defendant, his presence or absence at the time of the tort, his relation to the other [tortfeasor,] and his state of mind." Synthes, 25 F. Supp. 3d at 677 (quoting RESTATEMENT (SECOND) OF TORTS § 876 (AM. LAW. INST. 1965)). Courts often consider duration of assistance to be a sixth relevant factor. See Bair, 500 F. Supp. 2d at 496 (citing Doe v. Liberatore, 478 F. Supp. 2d 742, 759 (M.D. Pa. 2007)).

AFS relies on eleven specific instances of conduct to support its claim against the Livingston defendants. AFS emphasizes that, while knowing Huber was employed by AFS, Livingston: (1) installed VPN software on Huber's AFS laptop; (2) provided Huber with a Livingston email address; (3) provided Huber with

Livingston letterhead; (4) provided Huber with access to Livingston's Dropbox account; (5) provided Huber with accommodations at its corporate condominium in North Carolina; (6) made its employees and headquarters available to Huber; (7) sent Vann to Wallops Island with Huber to "impress" Orbital; (8) agreed to compensate Huber for projects "steered" to Livingston; (9) accepted a contract to pay Huber for his gripper arms work; (10) sent Huber its labor rates to justify Livingston taking over the Orbital relationship; and (11) participated in over 300 phone calls with Huber. (Doc. 312 at 132 ¶ 88).

All of this conduct occurred under Vann's watch during his tenure as Livingston's president. At trial, Vann expressly confirmed his understanding of an employee's duty of loyalty to their employers. (See 9/19/17 Tr. 144:1-3). Yet he met with Huber as early as January 2012—knowing Huber was then employed by a competitor—to discuss Livingston becoming involved at Wallops Island. He knew Livingston employees met with Huber for a visit to Wallops Island on March. He attended the second visit in April himself. Vann also knew as early as February that Livingston employees were sharing documents on Dropbox and collaborating with Huber. He approved a compensation package for Huber in May, to reward him for "business steered toward[] or participated in with Livingston." And he knew Huber was employed by a competitor the entire time. Astonishingly, Vann suggested that it was Orbital's duty to patrol ethical boundaries and "tell [us] not to come" if doing so would be inappropriate. (9/20/17 Tr. 46:22-47:5).

We find that Vann knowingly provided substantial assistance and encouragement to Huber. Vann offered a financial incentive to draw Huber from AFS and to encourage his ongoing duplicity. Vann's actions confirmed to Huber that his disloyal conduct was and would continue to be fully supported by Livingston. At trial, Vann agreed that "the buck stops" with him. (9/20/17 Tr. 6:17-18). As president of Livingston, Vann had the authority either to shut down or to sanction his employees' complicity in Huber's conduct. Vann chose the latter. As a consequence, Vann is liable—and Livingston is vicariously liable—for aiding and abetting Huber's breach of fiduciary duty. See Brezenski, 755 A.2d at 39; Bro-Tech Corp., 651 F. Supp. 2d at 419-20.

We reach a different result for Aufiero. In stark contrast to Vann, Aufiero was unable to incentivize Huber's double-dealing in any meaningful way. Aufiero lacked the authority to hire Huber or to determine Huber's compensation. AFS has not adduced any record evidence indicating that Aufiero had the ability to arrange for or approve any of the principal acts of assistance identified in its submissions.⁷ Nor is there evidence that Aufiero had supervisory authority to order Livingston's employees to cease engaging with Huber—or that he could have done so even if authorized, given that his own supervisor, Vann, was encouraging their conduct himself. Aufiero did engage in regular telephonic and email correspondence with

⁷ AFS contends that Livingston "[sent] Huber the Livingston labor rates so Huber could 'justify Livingston taking over.'" (Doc. 312 at 132 ¶ 88). Aufiero did send Livingston's rates to Huber at Huber's request. (AFS Exs. 96-97). But he did so believing Huber would use them "[t]o justify AFS rates." (See AFS Ex. 97 at 1). It was Huber, not Aufiero, who thereafter stated he would use the rates to justify Livingston "taking over." (Id.)

Huber, and he and several other Livingston employees did work with Huber to draft the gripper arms and cylinder proposals. But only Vann had the power to *substantially* assist and encourage Huber's conduct. On this record, we cannot conclude that Aufiero aided and abetted Huber's breach of fiduciary duty.

D. Damages & Attorneys' Fees

1. Compensatory Damages

AFS seeks compensatory damages for lost profits under PUTSA rather than common law. (Doc. 312 at 109 ¶ 36). Relying on the damages report and testimony presented by Vaughn and Dr. Cunitz, AFS requests total damages of \$1,096,009 as compensation for lost profits flowing from defendants' misappropriation. (*Id.* ¶¶ 36, 38).

Courts measure damages for misappropriation of trade secrets in one of two ways: plaintiff's losses, or defendant's gain. See 12 PA. CONS. STAT. § 5304(a); Fishkin v. Susquehanna Partners, G.P., No. 03-3766, 2007 WL 853769, at *1 (E.D. Pa. Mar. 19, 2007) (citing Rohm & Haas Co. v. Adco Chem. Co., 689 F.2d 424, 433-34 (3d Cir. 1982); Comput. Print Sys., Inc. v. Lewis, 422 A.2d 148, 157 (Pa. Super. Ct. 1980)). AFS proceeds on the first theory. (Doc. 312 at 109 ¶ 36). Under Pennsylvania law, a plaintiff must prove damages with "reasonable certainty." HealthCare Advocates v. Affordable Healthcare Options, No. 09-5839, 2010 WL 4665956, at *2 (E.D. Pa. Nov. 18, 2010) (citing ATACS Corp. v. Trans World Commc'n, Inc., 155 F.3d 659, 669 (3d Cir. 1998)). This standard does not require "mathematical certainty." Delahanty

v. First Pa. Bank N.A., 464 A.2d 1243, 1257-58 (Pa. 1984). Although damages may not be grounded in “conjecture or guesswork,” a factfinder may make a “just and reasonable estimate” based on “probable, inferential, as well as direct and positive proof.” Advanced Research Sys., Inc. v. Coldedge Techs., Inc., 56 A.3d 402, 417-18 (Pa. Super. Ct. 2012) (quoting Liss & Marion, P.C. v. Recordex Acquisition Corp., 937 A.2d 503, 516 (Pa. Super. Ct. 2007), aff’d, 983 A.2d 652 (Pa. 2009)).

The court finds Vaughn’s and Dr. Cunitz’s damages calculations to be well supported by record evidence. Regarding the cylinder contract, Vaughn and Dr. Cunitz collaborate to arrive at a total lost profit figure of \$841,025. (See AFS Ex. 265 at 8; AFS Ex. 266 at 8). That assessment is based on Vaughn’s experience with the initial hydraulic system design, manufacture, and installation, and the following reasonable assumptions: that AFS would have again subcontracted with Maritime Hydraulic, as Integrated Systems did, for new cylinder design and manufacture, and at the same amount paid by Integrated Systems; and that Orbital would have paid AFS the same amount that it paid to Integrated Systems. (AFS Ex. 265 at 2-5, 9; AFS Ex. 266 at 2-5, 10). Vaughn estimates AFS’s anticipated costs on the cylinder upgrade to be \$1,114,986. (See AFS Ex. 265 at 3-5, 9; see also AFS Ex. 266 at 5, 10). Subtracting this amount from the contract price, Vaughn and Dr. Cunitz arrive at a lost profit of \$841,025 for the cylinder upgrade. (AFS Ex. 265 at 3, 8; AFS Ex. 266 at 5, 8).

Vaughn and Dr. Cunitz employ similar methodology to calculate lost profits for the gripper arms contracts. Vaughn and Dr. Cunitz each fairly assume that

Orbital would have paid AFS the same amount it paid Livingston—\$285,685 for design and manufacture and \$157,967 for installation, site commission, and travel—and that, as the incumbent on the project, AFS also would have received a \$219,776 contract for refurbishment of the gripper arms following damage thereto in 2015. (See Doc. 265 at 5-8; Doc. 266 at 6-8). Vaughn estimates AFS’s costs on the three gripper arms contracts to be \$179,650, \$85,764, and \$143,030, respectively. (Doc. 265 at 6-8, 10-12; see also Doc. 266 at 6-8, 11-13). Deducting total costs of \$408,444 from a total contracts price of \$663,428, Vaughn and Dr. Cunitz calculate AFS’s lost profit on the trio of gripper arms contracts to be \$254,984. (AFS Ex. 265 at 6, 8; AFS Ex. 266 at 7-8).

Defendants’ attempts to oppugn AFS’s damages calculations are ineffectual. Hill, Livingston’s damages witness, states in his responsive report that AFS’s expected profit margin of 43 percent on the cylinder contract is too high and that industry average on such a project would be 25 to 30 percent. (See L&H Ex. 44 ¶¶ 16-17, 19). He claims that Livingston’s rough order of magnitude projected a profit margin in line with this purported industry average. (Id. ¶ 18). This report is in direct conflict with Livingston’s actual rough order of magnitude calculations, which identifies an anticipated margin of 40.3 percent. (See AFS Ex. 160).

Regarding the gripper arms project, Hill avers that Livingston’s actual profit was \$85,520.33, more than \$20,000 less than AFS’s anticipated profit, and that AFS simply could not “have realized so much more in the way of profit than did [Livingston].” (L&H Ex. 44 ¶¶ 8-9). Hill had no response when presented with

evidence that AFS's estimated margin—37 percent—is well *below* Livingston's estimated margin of 44 percent and actual margin of 48 percent, (see AFS Ex. 273), and that Livingston actually received more than \$137,000 in gross profit on the gripper arms project. (9/22/17 Tr. 45:23-53:13). When pressed at trial, Hill could not explain the patent inconsistency: “[H]ow the discrepancy is there I can’t, I don’t know the answer to that.” (Id. at 53:9-13).

Huber also attempts to attack AFS's damages calculation.⁸ He contends that Vaughn underestimated the labor costs for the cylinder upgrade contract and that Vaughn discounted the amount of design work necessary to complete the upgrade. (Doc. 323 ¶ 125). Ample record evidence reflects that it was Maritime Hydraulic, not Integrated Systems, that completed most of the design work for the cylinder upgrade. (See 9/18/17 Tr. 192:24-193:7, 195:9-196:22; 9/19/17 Tr. 124:15-22). Huber also suggests that Vaughn's estimates failed to account for the fact that Integrated Systems was tasked with performing a “component swap,” (Doc. 323 ¶ 125), but Brainard testified on Orbital's behalf that no such swap work was performed by Integrated Systems, (9/20/17 Tr. 90:24-92:7).

AFS is entitled to compensatory damages under PUTSA. Its lost profits on the gripper arms and cylinder upgrade contracts flow directly from defendants'

⁸ Huber and Integrated Systems first counter AFS's damages request by raising many of the same causation defenses asserted with respect to liability, to wit: that AFS caused its own injury by providing substandard services to Orbital and failing to pursue the cylinder contract, and that AFS's own employee concealed Huber's inflated gripper arms bid. (Doc. 323 ¶¶ 142, 145-48). These assertions fail for the reasons identified *supra*.

collusive misappropriation and collaborative use of AFS's trade secrets in proposals presented to Orbital. But for defendants' acquisition of AFS's trade secrets, there is a "reasonable certainty" that AFS would have received the gripper arms and cylinder upgrade contracts. See HealthCare Advocates, 2010 WL 4665956, at *2. The court will award damages of \$1,096,009, jointly and severally, against Huber, Integrated Systems, Livingston, Vann, and Aufiero. See Fishkin, 2007 WL 853769, at *2-3.

2. Exemplary Damages

AFS seeks exemplary damages against Huber, Integrated Systems, Livingston, Vann, and Aufiero. PUTSA authorizes exemplary damages in an amount not more than double compensatory damages in cases of "willful and malicious" misappropriation. 12 PA. CONS. STAT. § 5304(b). Willful and malicious misappropriation is defined by statute to include

[s]uch intentional acts or gross neglect of duty as to evince a reckless indifference of the rights of others on the part of the wrongdoer, and an entire want of care so as to raise the presumption that the person at fault is conscious of the consequences of his carelessness.

Id. § 5302. In determining whether to award exemplary damages, courts have considered, as proof of willfulness and malice, the duration of misappropriative conduct, the defendant's consciousness of resulting injury, and any efforts to cover up malfeasance. See, e.g., B.B. Microscopes v. Armogida, 532 F. Supp. 2d 744, 756-

57 (W.D. Pa. 2007); Advanced Research Sys., Inc. v. Coldedge Techs., Inc., No. 2317 EDA 2015, 2016 WL 5210561, at *2 (Pa. Super. Ct. 2016) (mem.).⁹

Huber suggests that he at worst committed “barebones” misappropriation undeserving of enhanced damages. (Doc. 323 ¶ 156 (citation omitted)). We have a different view entirely. Huber siphoned AFS’s trade secrets to Livingston continuously for almost an entire year. He worked tirelessly to divert valuable Orbital contracts from AFS—his own employer—to a known competitor, and he used AFS’s trade secrets to accomplish that objective. He was conscious of his wrongdoing, as evidenced by his alteration of title blocks to obscure ownership and authorship of crucial engineering drawings. And he was conscious that his actions would cause financial and reputational harm to AFS. See 12 PA. CONS. STAT. § 5302. Indeed, he plainly intended to deprive AFS of a valuable customer relationship

⁹ Huber asseverates that Pennsylvania law requires AFS to prove exemplary damages by clear and convincing evidence. (Doc. 323 ¶ 154). As support, he cites to a decision from the Central District of California applying California’s Uniform Trade Secrets Act and determining that California’s statute requires proof of willful and malicious conduct at a heightened standard. See Mattel, Inc. v. MGA Entm’t, Inc., 801 F. Supp. 2d 950, 952 (C.D. Cal. 2011). We note that the decision in Mattel is inconsistent with the Ninth Circuit’s determination in Yeti by Molly Ltd. v. Deckers Outdoor Corp., 259 F.3d 1101 (9th Cir. 2001), that “nothing in [Montana’s Uniform Trade Secret Act],” containing an exemplary damages provision nearly identical to California’s, “requires exemplary damages to be proved by clear and convincing evidence.” Id. at 1111. State and federal courts across the country are split on the applicable standard. Compare Russo v. Ballard Med. Prods., No. 2:05-CV-59, 2007 WL 752164, at *2 (D. Utah Mar. 7, 2007) (preponderance) and Zawels v. Edutronics, Inc., 520 N.W.2d 520, 523-24 (Minn. Ct. App. 1994) (same), with Trandes Corp. v. Guy F. Atkinson Co., 996 F.2d 655, 666 (4th Cir. 1993) (clear and convincing) and Centrol, Inc. v. Morrow, 489 N.W.2d 890, 896 (S.D. 1992) (same). No Pennsylvania court has addressed this question. We need not resolve the issue—the proof adduced at trial supports our determinations *infra* under either standard.

and—in his own words—assist AFS’s competitor in “taking over!!!” (See AFS Ex. 97).

These actions would independently support an award of exemplary damages. But Huber’s conduct went further. In the 24-hour period preceding his resignation notice, Huber downloaded nearly 98 gigabytes of AFS’s data—including, *inter alia*, hydraulic system engineering drawings, gripper arms files, and materials for every other AFS project throughout the country—to an external hard drive. Huber wiped his AFS laptop of all evidence of wrongdoing before returning it to AFS. What is more, Huber engaged in wholesale destruction of evidence: less than a month after AFS served a subpoena on Dropbox seeking contents of accounts linked to Huber’s email addresses, Huber deleted a number of files and folders in a last-ditch effort to scrub the account of its most damning contents. We struggle to conceive a pattern of conduct more emblematic of willfulness and malice. Huber acted, at minimum, with “reckless indifference” to AFS’s rights and with a total dearth of care as to the consequences of his conduct. See 12 PA. CONS. STAT. § 5302. We will award AFS exemplary damages in the amount of \$1,000,000 against Huber.

The role of Integrated Systems and the Livingston defendants in this misappropriation pales in comparison. With respect to Integrated Systems, we held at the Rule 56 stage that, under existing precedent, its “passive acquiescence” in Huber’s misappropriation sufficiently established its own liability. (See Doc. 236 at 31-32 (citing Fishkin v. Susquehanna Partners, G.P., 563 F. Supp. 2d 547, 588 (E.D. Pa. 2008), aff’d, 340 F. App’x 110 (3d Cir. 2009))). Because Integrated Systems never repudiated its ill-gotten contract with Orbital, we found that Integrated Systems

was liable for knowingly using misappropriated trade secrets for its own gain. (Id. at 32). But AFS has not proven that Integrated Systems was otherwise complicit in Huber's conduct. Indeed, none of the instances of alleged willfulness and malice cited in AFS's submissions directly concern conduct by the company. (See Doc. 312 ¶ 46). Accordingly, we cannot find that Integrated Systems engaged in willful and malicious misappropriation.

Nor does the Livingston defendants' conduct evince willfulness or malice. No doubt, these defendants knew their actions were wrong. Aufiero was concerned about getting caught as early as April 2012, yet continued to accept AFS documents for the balance of the year. He admitted that he personally knew that it was wrong to transfer trade secrets to a competitor, and admitted further that the Livingston team "all knew" it was wrong to engage with Huber in such conduct. Hill, too, knew Huber should not have been sharing AFS's confidential documents; his concern, however, was not with the wrong to AFS, but that Huber might turn around and visit the same harm upon Livingston. These defendants had no justification for their conduct. Despite their protestations to the contrary, no Orbital employee ever authorized the Livingston defendants to receive AFS's documents from Huber. Nonetheless, their motives were purely competitive, in the interest of acquiring a valuable new customer. AFS has not proven that exemplary damages are appropriate as to Livingston, Vann, or Aufiero.

3. *Punitive Damages*

AFS also seeks punitive damages against Huber for breach of fiduciary duty and against Livingston and Vann for aiding and abetting that breach. Pennsylvania

law authorizes punitive damages for conduct that is “outrageous” either because of “evil motive” or “reckless indifference to the rights of others.” In re Lemington Home for the Aged, 777 F.3d 620, 633 (3d Cir. 2015) (quoting Feld v. Merriam, 485 A.2d 742, 747 (Pa. 1984)). State of mind is key: the action supporting an award of punitive damages “must be intentional, reckless[,] or malicious.” Id. (quoting Feld, 485 A.2d at 748). The Third Circuit Court of Appeals has signaled that an award of punitive damages must be grounded in more than the “same conduct” supporting compensatory damages. Id. AFS bears the burden of proving punitive damages by a preponderance of the evidence. See Wolfe v. McNeil-PPC, Inc., 703 F. Supp. 2d 487, 493 (E.D. Pa. 2010) (citing Martin v. Johns-Manville Corp., 494 A.2d 1088, 1096 (Pa. 1985)); Sealover v. Carey Canada, 793 F. Supp. 569, 571 & n.6 (M.D. Pa. 1992) (same).

The record developed over six days of trial impels an award of punitive damages against Huber. His conduct was egregious, unprincipled, deliberate, and driven by his own avarice. He sought to divest his own employer of valuable contracts and to reap the pecuniary benefit thereof himself. That Huber subsequently double-crossed Livingston evinces that his disloyalty knows no bounds. Huber’s own testimony—“[O]f course, I wanted to help myself”—encapsulates his breathtaking self-interest. (9/25/17 Tr. 97:6-8). Huber’s conduct justifies an award of punitive damages.

The same is true for Livingston and Vann. At trial, Livingston’s witnesses tried to lay blame for AFS’s injury exclusively at Huber’s feet. The events which unfolded *sub judice* unquestionably originated with Huber. But AFS’s injury

could not have been effected so swiftly without Livingston and Vann's complicity. Livingston, through Vann and its employees, deliberately disregarded Huber's fiduciary breach in pursuit of a profit. And they indeed profited—several times over—on the gripper arms contract. Both defendants knowingly and willingly facilitated the injury that Huber inflicted upon AFS. Accordingly, AFS is entitled to punitive damages against Vann and Livingston.

In determining an appropriate amount of punitive damages, we are mindful of their essential purpose. Punitive damages are not intended as recompense for an injured plaintiff. See *In re Lemington*, 777 F.3d at 633. Their purpose is twofold: deterrence and retribution. See *State Farm Mut. Auto. Ins. Co. v. Campbell*, 538 U.S. 408, 416 (2003); *Taha v. Cty. of Bucks*, 862 F.3d 292, 305 (3d Cir. 2017) (citing *Hutchinson ex rel. Hutchinson v. Luddy*, 870 A.2d 766, 770 (Pa. 2005)).

With respect to Huber, we note that this is not the first time he was secretly employed by two competitors at once: trial evidence revealed that, for the first few months of his employment with AFS, Huber was also employed by a competitor, Dayton T. Brown—information that he concealed from both Dayton T. Brown and AFS. (See 9/25/17 Tr. 159:24-163:4). To date, Huber remains adamant that he did no wrong by aiding a competitor to his own employer's detriment. It is Huber's claimed belief that his only duties of loyalty are to Orbital and to himself. The record compels us to put a finer point on it: Huber's only concern is his own bottom line. As such, a considerable award of punitive damages is warranted to provide retribution and to achieve a significant deterrent effect.

Vann and Livingston have likewise failed to acknowledge the gravity of their conduct. At trial, Vann maintained that the company received nothing “valuable” from AFS. (See 9/19/17 Tr. 158:10-159:1; 9/20/17 Tr. 18:8-19:1). The only Livingston employee to intimate a sense of remorse was Aufiero, who indicated that, with the benefit of hindsight, he could see that he had been manipulated by Huber. (9/21/17 Tr. 81:10-82:1). Neither Vann nor any of the other Livingston witnesses expressed any semblance of regret, remorse, or consciousness of wrongdoing. Their conduct likewise warrants a considerable award of punitive damages. The court will award punitive damages in the amount of \$1,000,000, to be paid by Huber, Livingston, and Vann, jointly and severally.¹⁰

4. Attorneys’ Fees

AFS lastly seeks attorneys’ fees and costs. (Doc. 312 ¶¶ 57-58). Pennsylvania law authorizes a court to award “reasonable attorney fees, expenses[,] and costs to the prevailing party” in cases involving willful and malicious misappropriation. 12

¹⁰ The Livingston defendants have waived their opportunity to challenge AFS’s requested damages by failing to submit proposed findings and conclusions as ordered by the court. Huber does not take issue with the amount of damages requested; he disputes only whether damages are warranted at all. Nonetheless, we briefly address the constitutional propriety of our damages award in the interest of caution. An award of both exemplary and punitive damages is not duplicative, when, as here, different conduct is punished by each: exemplary damages address defendants’ willful and malicious misappropriation of trade secrets, and punitive damages address Huber’s egregious disloyalty and the Livingston defendants’ role in facilitating same. The aggregate award of exemplary and punitive damages is consistent with, and well within, the “single digit ratio” sanctioned by the United States Supreme Court. Campbell, 538 U.S. at 424-25 (declining to impose “bright-line ratio which a punitive damages award cannot exceed” but noting “in practice, few awards exceeding a single-digit ratio between punitive and compensatory damages, to a significant degree, will satisfy due process”).

PA. CONS. STAT. § 5305. In light of the court's conclusion that Huber engaged in willful and malicious misappropriation, we find that AFS is statutorily entitled to fees and costs. The court will entertain AFS's request for attorneys' fees and costs by separate motion in accordance with Federal Rule of Civil Procedure 54(d)(2).

III. Conclusion

The court finds in favor of Aufiero on AFS's aiding and abetting breach of fiduciary duty claim. The court otherwise finds in favor of AFS and against the defendants on all other issues of liability. We will award compensatory damages of \$1,096,009, jointly and severally, against Huber, Integrated Systems, Livingston, Vann, and Aufiero; exemplary damages of \$1,000,000 against Huber individually; and punitive damages of \$1,000,000, jointly and severally, against Huber, Livingston, and Vann. An appropriate order shall issue.

/S/ CHRISTOPHER C. CONNER
Christopher C. Conner, Chief Judge
United States District Court
Middle District of Pennsylvania

Dated: March 6, 2018