**UNITED STATES DISTRICT COURT**
**FOR THE SOUTHERN DISTRICT OF FLORIDA**
**MIAMI DIVISION**

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| **ANDREA ROSSI,** et al., | ) | |
| | ) | |
| Plaintiffs, | ) | |
| v. | ) | No. 16-cv-21199-CMA (JJO) |
| | ) | |
| **THOMAS DARDEN,** et al., | ) | |
| | ) | |
| Defendants. | ) | |
| | ) | |

**DEFENDANTS' OPPOSITION TO PLAINTIFFS' *DAUBERT* MOTION TO STRIKE AND EXCLUDE DEFENDANTS' EXPERTS**

Defendants Thomas Darden, John T. Vaughn, Industrial Heat, LLC ("IH"), IPH International, B.V. ("IPH") and Cherokee Investment Partners, LLC ("Defendants") hereby oppose Plaintiffs' *Daubert* Motion to Strike and Exclude Defendants' Experts. [D.E. 215].

**INTRODUCTION**

Plaintiffs' Motion should be denied. Defendants' expert disclosures were proper and the experts' opinions satisfies the standards set forth in Federal Rule of Evidence ("FRE") 702 and *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579 (1993).

Plaintiffs challenge the Expert Disclosure of Joseph A. Murray ("Murray Disclosure") on the grounds that it does not comply with Federal Rule of Civil Procedure ("FRCP") 26(a)(2)(B). *See* Mtn. at 3-6. But the Murray Disclosure was appropriately made pursuant to FRCP 26(a)(2)(C) because Murray was an IH employee and a fact witness. Plaintiffs do not contest the Murray Disclosure's compliance with FRCP 26(a)(2)(C).

Plaintiffs challenge the Supplemental Expert Report of Rick A. Smith ("Supplemental Smith Report") on grounds that it was untimely. Mtn. at 6. The timing of the Supplemental Smith Report, however, is based upon the fact that he was not permitted until March 2, 2017, to

inspect the warehouse where the purported "guaranteed performance" testing at issue in this litigation took place (the "Doral Warehouse"). The Supplemental Smith Report addresses the information acquired in connection with that inspection.

Finally, Plaintiffs challenge Murray and Smith's opinions on grounds that their qualifications and opinions fail to satisfy the *Daubert* standard. The record, however, makes clear that Murray and Smith's opinions easily satisfy the *Daubert* standard and would be helpful to the trier of fact in making determinations on the merits of this case.

## RELEVANT FACTUAL AND PROCEDURAL BACKGROUND

### *I. The Claims in this Litigation*

Plaintiffs Andrea Rossi ("Rossi") and Leonardo Corporation ("Leonardo") filed the instant lawsuit against Defendants on April 5, 2016 (the "Complaint"). [D.E. 1]. Count I alleges that IH and IPH breached a License Agreement with Plaintiffs by failing to pay Leonardo $89 million after Plaintiffs allegedly completed a year-long "guaranteed performance" test. This alleged test involved Plaintiffs' operating a device – a plant containing a series of e-cat reactors (the "1 MW Plant") – that Plaintiffs claim continually produced steam representing over one megawatt ("1 MW") of power at the Doral Warehouse from February 2015 through February 2016.[1] They further claim a report prepared by Fabio Penon demonstrates that the 1 MW Plant had a "Coefficient of Performance" ("COP") – defined as the amount of energy produced by the 1 MW Plant divided by the amount of energy consumed by the Plant – that was "often greater than sixty (60)," meaning it was producing more than sixty times the energy it was consuming (and eviscerating the law of conservation of energy in the process). Compl. ¶ 73.

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[1] If true, this would be enough to power several hundred homes. What is a Megawatt? https://www.nrc.gov/docs/-ML1209/ML120960701.pdf.

Defendants filed their Fourth Amended Answer, Additional Defenses, Counterclaims, and Third Party Claims ("AACT") on February 1, 2017. [D.E. 132]. Defendants deny that Leonardo is entitled to the $89 million payment under the License Agreement because, *inter alia*, Plaintiffs did not satisfy the Agreement's "guaranteed performance" requirements. *Id.* ¶¶ 78-80. The AACT also alleges that Plaintiffs engaged in a scheme to induce IH to allow removal of the 1 MW Plant from IH's control in North Carolina to a "real Customer" in Doral, Florida that supposedly needed and would pay for the 1 MW Plant's steam power. *Id.* ¶¶ 68-72. It was later revealed that there was no "real Customer" in Florida in need of steam power; rather, the purported customer, J.M. Products, was a company controlled by Rossi that served no purpose other than to further the scheme to deceive and manipulate IH and IPH. *Id.* ¶¶ 72-78.

Another prominent feature of Plaintiffs' scheme involved manipulating the operation of the 1 MW Plant at the Doral Warehouse and the data collected in connection therewith. *Id.* at ¶ 142. For example, Defendants obtained electrical power data from Florida Power and Light ("FPL") for the Doral Warehouse in discovery and compared it to the power data reported by Penon and Third Party Defendant Fulvio Fabiani, two individuals involved in measuring the 1 MW Plant's performance. *Id.* The FPL data shows that Penon and Fabiani's power data was inaccurate; in fact, in some instances, Penon and Fabiani reported the 1 MW Plant consumed more power than was supplied by FPL for the entire Doral Warehouse. *Id.* For this and other reasons, Defendants contend that the data used to support Plaintiffs' claims about the 1 MW Plant's performance at the Doral Warehouse are inaccurate and unreliable. *See id.*

## *II. Defendants' Expert Disclosures and Subsequent Doral Warehouse Inspection*

On January 30, 2017, Defendants submitted their expert disclosures pursuant to the deadlines set forth in this Court's scheduling order. [D.E. 23]. They served the other parties

with the Expert Report of Rick A. Smith, P.E. ("Smith Report") (Ex. 1) pursuant to FRCP 26(a)(2)(B) and the Murray Disclosure pursuant to FRCP 26(a)(2)(C). (Ex. 2).

On January 20, 2017, Defendants served a FRCP 34 request to inspect the Doral Warehouse, which they amended on January 27, 2017 to move the inspection date back one day to February 21, 2017. (Ex. 3). Just before the inspection date, Plaintiffs took the position they were unavailable for the inspection on that date, and they also sought to limit the scope of the inspection of the Doral Warehouse. (Ex. 4). Accordingly, the parties held an emergency telephonic hearing before Magistrate Judge O'Sullivan on the morning of February 21, 2017. Magistrate Judge O'Sullivan ordered that the inspection occur either (1) on the evening of February 21, 2017, (2) on March 2, 2017, or (3) on another date mutually agreeable to the parties. [D.E. 148].

Because an inspection of the Doral Warehouse on the night of February 21, 2017 was not feasible, Defendants elected to proceed with the inspection on March 2, 2017. Declaration of Rick Smith ("Smith Dec.") ¶ 5 (Ex. 5). During the inspection, Smith and Murray took photographs and measurements of portions of the Doral Warehouse, including the 1 MW Plant and the second floor mezzanine that purportedly once housed a "heat exchanger" during the operation of the 1 MW Plant. Id. ¶ ¶ 6-7.[2]

On February 16, 2017, Defendants served the other parties with supplemental information relating to the Murray Disclosure, which consisted of heat simulations and water

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[2] There are no pictures or records of this alleged heat exchanger (or of any workers who assembled or disassembled it). Rossi Dep. 235:5-236:17; 238:3-240:6; 291:13-19 (Ex. 6); Leonardo Dep. 265:1-267:4; 269:18-271:21; 288:21-290:6 (Ex. 7); JMP Dep. 114:14-117:12; 120:9-124:25; 140:10-143:4; 144:20-145:23; 153:13-23; 156:20-158:2 (Ex. 8). And according to Rossi, he took down all the parts of the exchanger and put them to other uses in early 2016, so the only "evidence" of the heat exchanger is Rossi's self-serving testimony. Rossi Dep. 236:10-237:18; JMP Dep. 94:1-6; Leonardo Dep. 273:24-274:5

flow tests. (Ex. 9). They were not required to provide this information under FRCP 26(a)(2)(C). On March 20, 2017, Defendants served the other parties with the Supplemental Smith Report "[b]ased upon information received by [Smith] subsequent to his expert report, including his visit to the Doral site on 02 Mar 2017." Supp. Smith Report at 2 (Ex.10).

**LEGAL STANDARD**

Pursuant to FRCP 26, "a party must disclose to the other parties the identity of any witness it may use at trial to present evidence under [FRE] 702, 703, or 705." For a witness retained or specially employed to provide expert testimony, or whose duties regularly involve providing expert testimony, the disclosure must include a written report of his or her opinions per FRCP 26(a)(2)(B). For other witnesses offering expert opinions, only summaries of their opinions and underlying facts must be provided per FRCP 26(a)(2)(C). *See Cruz v. U.S.*, No. 12-cv-21518, 2013 WL 246763, at *2 (S.D. Fla. Jan. 22, 2013). An expert disclosure under FRCP 26(a)(2)(C) is "considerably less extensive than the report required by [FRCP] (a)(2)(B). Courts must take care against requiring undue detail, keeping in mind that these witnesses have not been specially retained and may not be as responsive to counsel as those who have." *S.E.C. v. Bankatlantic Bancorp., Inc.*, No. 12-cv-60082, 2013 WL 11981913, at *6 (S.D. Fla. Dec. 6, 2013) (quoting FRCP 26(a)(2)(C) advisory committee's notes (2010)); *see also In re Denture Cream Prods. Liab. Litig.*, No. 09-2051-MD 2012 WL 5199597 at *4 (S.D. Fla. Oct. 22, 2012).

An expert witness is required to supplement his or her expert disclosure "in a timely manner if that party learns that in some material respect the disclosure or response is incomplete or incorrect, and if the additional or corrective information has not otherwise been made known to the other parties during the discovery process or in writing." FRCP 26(e)(1)(A).

Finally, under FRE 702, a "witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if: (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert has reliably applied the principles and methods to the facts of the case."

FRE 702's inquiry is "a flexible one." *Daubert*, 509 U.S. at 594. The Eleventh Circuit breaks this inquiry into three parts, requiring District Courts to determine whether:

> (1) the expert is qualified to testify competently regarding the matters he intends to address; (2) the methodology by which the expert reaches his conclusions is sufficiently reliable as determined by the sort of inquiry mandated in *Daubert*; and (3) the testimony assists the trier of fact, through the application of scientific, technical, or specialized expertise, to understand the evidence or to determine a fact in issue.

*City of Tuscaloosa v. Harcros Chemicals, Inc.*, 158 F.3d 548, 562 (11th Cir. 1998); *Geyer v. NCL (Bahamas) Ltd.*, 203 F. Supp. 3d 1212, 1215 (S.D. Fla. 2016). "The Eleventh Circuit refers to these requirements as the qualifications, reliability, and helpfulness prongs, respectively." *Id.* (citation and internal quotation marks omitted).

## ARGUMENT

### I. The Murray Disclosure is Sufficient under Rule 26(a)(2)(C).

As the lead argument in their *Daubert* motion, Plaintiffs allege that Defendants "failed to provide any written report prepared by Mr. Murray" pursuant to ***FRCP 26(a)(2)(B)***. This is without merit. As Plaintiffs are well aware, Murray was the Vice President of Engineering for IH from approximately May 2015 through October 2016. Murray Dep. at 30:19-31:9; 8:18-9:14

(Ex. 11).[3] He was not specially retained or employed by Defendants to provide expert testimony in this matter. *See* Murray Disclosure at 1; Murray Dep. at 204:16-205:15. As a result, the applicable rule is ***FRCP 26(a)(2)(C)***, and Defendants were only required to provide the other parties with a summary of Murray's expert opinions and facts underlying those opinions. *See Cruz*, 2013 WL 246763, at *2.[4] Defendants satisfied this requirement by summarizing Murray's testimony and opinions concerning the performance of the 1 MW Plant and the accuracy and reliability of the report submitted by Penon about that performance. *See* Murray Disclosure at 1-3. Plaintiffs elected to present no arguments to the Court as to why the Murray Disclosure fails to satisfy Rule 26(a)(2)(C) and should be barred from doing so in their reply brief. *See F.T.C. v. Nationwide Connections, Inc.*, No. 06-cv-80180, 2007 WL 4482607, at *2 (S.D. Fla. Dec. 19, 2007) (this Court "does not allow litigants to introduce new arguments in reply briefs").

## II. The Supplemental Smith Report is Justified Due to the Timing of the Doral Warehouse Inspection.

Plaintiffs argue that the Supplemental Smith Report should be excluded because it was served "after the deadline to make expert disclosures." Mtn. at 6. The Supplemental Smith Report was submitted when it was because Smith was not able to inspect the Doral Warehouse – which Plaintiffs continue to lease and occupy – until after the report deadline. "A party has a

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[3] Deposition transcripts are cited herein as "[Last Name of Witness] Dep." The first time a witness' deposition is cited, it is also assigned an exhibit number to this Opposition.

[4] Murray is a "hybrid" witness who will "provide both fact testimony and opinion testimony based on [his] scientific, technical or other specialized knowledge." *Bankatlantic Bankcorp, Inc.,* 2013 WL 11981913, at *6 (citing *Ashkenazi v. S. Broward Hosp. Dist.*, No. 11-61403-CV, 2012 WL 760824, at *1 (S.D. Fla. Mar. 8, 2012)). Plaintiffs, Defendants, and Third-Party Defendants all listed Murray as a potential fact witness in their initial disclosures. See Ex. 12. Moreover, hundreds of email communications to or from Murray were produced by IH in fact discovery in this case, some of which were used as exhibits in Plaintiffs' deposition of Murray. *See, e.g.*, Murray Dep., Exs. 3, 4, 5, 6, 8, 9, 10, & 14. Because Murray "has some connection to the specific events underlying the case apart from his preparation for the trial," for this further reason he is exempt from the robust reporting requirements under FRCP 26(a)(2)(B). *Goodbys Creek, LLC v. Arch Ins. Co.*, No. 3:07-cv-947, 2009 WL 1139575, at *4 (M.D. Fla. Apr. 27, 2009) (citation and internal quotation marks omitted).

duty to timely supplement its expert report if the party learns that the report is incomplete or incorrect in a material way." *Allstate Ins. Co. v. Levesque*, No. 8:08-CV-2253-T-33EAJ, 2010 WL 11479285, at *1 (M.D. Fla. Nov. 22, 2010). Smith, after analyzing evidence obtained during the site inspection, determined that there was additional evidence supporting the conclusions set forth in his initial report. Smith Dec. ¶ 7.

The conclusions set forth in the Supplemental Smith Report are essentially more detailed explanations of the conclusions provided in the initial Smith Report. For example, Conclusion #1 in the initial Smith Report states: "The Penon reports, standing alone, are not valid to tabulate and compute the performance of the E-Cat. The data are suspect and the methodology is not explained." Smith Report at 21. Conclusions #1, #3, #4, #5, and #6 provide further explanation for why Penon's report is flawed in light of information Smith learned during the site inspection. Supp. Smith Rpt. at 27. Similarly, Conclusion #3 in the initial Smith Report states: "The E-Cat never produced the energy which was claimed for it. This energy had to be rejected somewhere, and this analysis has shown, by the process of elimination, that the claimed energy never existed." Smith Rpt. at 21. Conclusion #2 in the Supplemental Smith Report confirms that, based upon information obtained at the site inspection, there was no physical evidence of the existence of a heat exchanger that would have ejected from the Doral Warehouse the energy produced by the 1 MW Plant. *See* Supp. Smith Report at 27.

It was important for Smith to inspect the Doral Warehouse to supplement his analysis and conclusions with respect to the reported performance of the 1 MW Plant. Smith Dec. at ¶ ¶ 7-10. Because Smith could not conduct the site inspection until March 2nd, the timing of Defendants' production of the Supplemental Smith Report is fully justified.

## III. Murray's Testimony Satisfies the *Daubert* Standard.

Murray's opinions are admissible because (1) he is competent to testify regarding the matters addressed in the Murray Disclosure, (2) the methodology he used to reach his conclusions are reliable, and (3) his testimony will certainly assist the jury.

Murray is a mechanical engineer with specialized experience and training in the areas of heat transfer, fluid mechanics, turbulence, and thermodynamics. *See* Murray Dep. 17:6-23; 22:2-21; 26:18-22; 27:7-20; 28:13-21. In addition, Murray is uniquely positioned to provide both fact and expert testimony about the technology at issue in this case because he served as the Vice President of Engineering for IH and helped develop systems for analyzing and testing the E-Cat and other "low energy nuclear reactor" technologies. *See id.* 82:14-83:26; 56:3-63:8. He is well qualified to render the opinions in the Murray Disclosure.

### A. Murray's Power Absorption Analysis is Reliable and Helpful to the Jury.

Plaintiffs seek to exclude Murray's testimony regarding his comparison of the power supplied by FPL to the Doral Warehouse and the power Penon and Fabiani reported was absorbed by the 1 MW Plant. Mtn. at 7.

Plaintiffs initial argument is that Murray's power absorption analysis is not relevant because "Penon's measurements are the sole and only measurements which are relevant to the issues raised in Plaintiffs[']s case. *Id.* at 8. This argument is self defeating. If Penon's measurements are relevant, then an attack on the validity of those measurements is certainly relevant. Plaintiffs point to no License Agreement provision that bars IH or IPH from challenging Penon's measurements, for the simple reason that no such provision exists. Rather, the Agreement states that payment for "guaranteed performance" "is contingent upon the Plant operating at the same level (or better) at which Validation was achieved for a period of 350 days (even if not consecutive) within a 400 day period …." License Agreement § 5. The Agreement

also requires that an "ERV … confirm in writing the Guaranteed Performance," *id*., but that does not eliminate the initial "contingen[cy]" that guaranteed performance in fact be achieved. Under Plaintiffs' bizarre reading of the License Agreement, IH and IPH could not challenge Penon's report even if it was the product of bribery or fraud. Nothing in the License Agreement even remotely suggests such would be permissible.

Plaintiffs admit that "if Murray were opining that *some type* of manipulation had occurred, then perhaps his testimony could have satisfied [the relevance] prong of the *Daubert* standard." Mtn. at 8 (emphasis added). Murray did in fact opine that manipulation occurred (or that Penon and Fabiani collected inaccurate data), *see* Murray Dep. at 260:5-14, but did not opine as to whom the manipulation or error should be attributed. Murray testified that if FPL verifies that its data is valid, it would be impossible for the Penon power absorption data to be correct. *See id.* 257:24-258:6. Murray's opinion is not required to connect every dot for the fact finder in order to be relevant. Because Plaintiffs have taken the position that the Penon data is accurate, Murray's analysis and conclusions about the discrepancies between the FPL data and Penon's data is undoubtedly relevant.

Plaintiffs also attempt to minimize the technical sophistication required to analyze and explain over a years' worth of data from three different sources (FPL, Fabiani, and Penon). *See* Mtn. at 8-9. Contrary to Plaintiffs' suggestion that Murray "simply compared two sets of test data with the FP&L power usage report," however, Murray's analysis actually required a robust knowledge and understanding of complex analytical tools and scientific principles:

Q. What analytical tools did you use?

A. We used a series of tools called Python, which is a programming language, with iPython -- it's now called Jupiter Notebook, but it used to be called iPython Notebook. We used NumPy, which is a numerical tool kit; SciPy, which is a scientific library; and something

> called Pandas, which is a data analytics tool to be able to compare data. And we plotted that . . .-- using Matplotlib to make comparisons between the various data sets.

Murray Dep. 247:5-14. Murray's analysis is not a simple "side by side comparison" of numbers. *See id.* 256:15-18. For example, Murray described in detail the "probability density function analysis" he performed to analyze the FPL, Fabiani, and Penon data.

> Q. What is that?
>
> A. So what you do is you create a distribution of the two data sources so you can look at how those measurements correlate, so you can look at the distribution shape to find out if there's anomalous structure in the distribution.
>
> …
>
> Q. We're, we're comparing presumptively two data points on the same date to each other?
>
> A. No. In a joint probability density function what you're doing is you're actually creating a distribution of all the days at the various power levels and corresponding the power levels measured by, in this case, Penon to the power levels measured by Florida Power and Light. So we could look to see how these distributions vary over time to see if there's structural changes in it.

*Id.* 266:22-267:17. Murray also testified about a "series of analyses" he completed that required examining the baseline power absorption of the Doral Warehouse, *id.* 259:20-25, cross-referencing the daily data against each data source "to make sure we were comparing apples to apples," and plotting the data to observe any differences between the various data sets. *Id.* at 250:15-251:6. Plaintiffs do not challenge the reliability of these methodologies; instead, they just ignore Murray's analysis.

Finally, Plaintiffs argue that Murray's power consumption analysis is not likely to assist the trier of fact. Mtn. at 9. But the Penon, Fabiani, and FPL data sets are voluminous. _. Under this prong of the analysis, expert testimony is admissible "if it concerns matters that are beyond the understanding of the average lay person." *U.S. v. Frazier*, 387 F.3d 1244, 1263 (11th Cir. 2004). The average lay person is not trained in the sophisticated data analysis Murray used to analyze the Penon, Fabiani, and FPL data. The jury will certainly not have access to the

analytical tools Murray used in comparing the Penon, Fabiani, and FPL data. Accordingly, Murray's testimony and opinion regarding power consumption discrepancies in the data sets will be helpful to the jury.

### B. Murray's Analysis of the Inverse Relationship between Power Input and Coefficient of Power is Reliable and Helpful to the Jury.

Plaintiffs seek to exclude Murray's testimony and opinions regarding the illogical inverse relationship between power input and coefficient of power reflected in Penon's report. *See* Mtn. at 10. Plaintiffs claim that Murray's opinion does not satisfy the reliability and helpfulness elements of the *Daubert* standard. *Id.* Plaintiffs' argument is without merit.

Murray engaged in a rigorous analysis in reaching his conclusion that the inverse relationship between power input and coefficient of power is illogical. Murray analyzed, among other things, the flow rate of the steam purportedly produced by the 1 MW Plant, the pressure measurements purportedly taken during the operation of the 1 MW Plant, the impact of the addition of water to the 1 MW Plant during the alleged testing period, the impact of Penon's report not taking into account unknown activity occurring on the J.M. Products' side of the Doral Warehouse, information relating to certain portions of 1 MW Plant being inoperable during the alleged testing period, the pump configuration of the 1 MW Plant, and the lack of defining the state for the output steam and the input steam. *See* Murray Dep. 286:21-287:4; 291: 3-22; 292:7-14. Murray's analysis revealed that, even when E-Cat reactors in the 1 MW Plant were taken offline, the Plant's output power still stayed the same, resulting in an inexplicable increase in the Plant's "COP." *Id.* 287:15-17; *see also* Leonardo Dep. 313:1-4 ("Q: It's hard to regulate the COP of an E-Cat? A. If not impossible. Q: If not impossible? A. In good and in bad."). In Murray's opinion, this result is "consistent with measurement error and particularly measurement error associated with the flow meter." Murray Dep. 287:18-20.

Plaintiffs' completely ignore all of the above-referenced steps taken by Murray to reach his conclusion and refer, in a misleading fashion, to a single quote from Murray's deposition—that he "review[ed] the data, analyz[ed] it, and look[ed] at the . . . history of the energy absorption provided by Mr. Penon and Mr. Fabiani"—as the sum total of the methodology underlying Murray's opinion. Mtn. at. 10-11. This effort to ignore Murray's preceding testimony and summarily brand Murray's methodology as insufficient must fail. Plaintiffs have not demonstrated that Murray's analysis is scientifically invalid or that it cannot properly be applied to the facts at issue in this case. *See Daubert*, 509 U.S. at 592.

As explained above, expert testimony is helpful to a jury when it concerns matters that are beyond the understanding of the average lay person. *Frazier*, 387 F.3d at 1263. The average lay person cannot be expected to understand, without sufficient guidance from someone like Murray, the relationship between all the variables Murray considered in determining that the notion of the 1 MW Plant maintaining a steady output power level while the power inputted into the 1 MW Plant decreased is impossible. Murray Dep. 292:7-293:8 ("A. What I can say as, as an engineer is that taken, taking all of these factors together, the flow rate, the pressure measurements, the, the adding of water, the inability to see what's on the other side of the plant, the lack of defining the state for the output steam as well as the input steam, taking them on the whole, it seems highly unlikely.· In fact, in my opinion I would say it cannot happen. … A. … So this disproportion means the output energy was constant and the input went down and, therefore, the COP went up.· … It's just completely illogical."). Murray's analysis is supremely helpful, as it will provide the jury with valuable insight as to 1 MW Plant's operations, the measurements of the operations reported by Penon, and why Plaintiffs' claim of a magically increasing COP by the 1 MW Plant cannot be correct.

### C. Murray Should be Permitted to Testify about his Thermal Simulations and Water Flow Analysis.

In seeking to exclude Murray's testimony regarding thermal simulations and water flow testing, Plaintiffs again improperly apply the Rule 26(a)(2)(B) standard to a witness offering testimony pursuant to Rule 26(a)(2)(C). Plaintiffs' claim that they were entitled to the "underlying data, test plan, test procedures, or other data relevant to the simulations and/or tests carried out by Murray" (Mtn. at 12), but cite no authority stating that Defendants were obligated to disclose such information to Plaintiffs. It is indisputable that when an expert falls under FRCP 26(a)(2)(C) and therefore "is not required to provide [an expert] report, "the attendant disclosure [in connection with that expert] is 'considerably less extensive.'" *In re Denture Cream Prods. Liab. Litig.*, No. 09-2051-MD 2012 WL 5199597 at *4 (S.D. Fla. Oct. 22, 2012) (quoting Fed. R. Civ. P. Advisory Committee's Notes (2010 Amendments). Plaintiffs also suggest that Murray's thermal simulations and water flow analyses were never provided to them at any point. *See* Mtn. at 12. But, as Plaintiffs acknowledge in another portion of their Motion (Mtn. at 1), Defendants did produce the thermal simulations and water flow analyses in discovery. Exs. 2, 9. These disclosures were provided as a benefit by Defendants since "the requirement to disclose material considered by a testifying expert is applicable to experts who testify under Rule 26(a)(2)(B), *not experts disclosed under Rule 26(a)(2)(C).*" *Bingham v. Baycare Health System*, No: 8:14-cv-73-T-23JSS at *4 (M.D. Fla. Sep. 20, 2016) (emphasis added).

#### 1. The Methodology Underlying the Thermal Simulations and Water Flow Analysis is Reliable.

##### a. Thermal Simulations.

Murray used a program called "Open FOAM" to create 3D steady-state buoyancy-driven flow simulations that would illustrate the temperature inside of the Doral Warehouse during the

operation of the 1 MW Plant. *See* Murray Dep. 303:13-304:19. Murray's opinion is that, during the operation of the Plant, the temperature inside the Warehouse would have been so hot that it was unsuited for a human working environment. *Id.* 304:20-23. To formulate this opinion, Murray gathered relevant information regarding the air transfer rate in the Doral Warehouse, the average temperature for the region, and the average wind flow velocity. Murray Dep. 311:25-312:1-6; 313:20-21. Murray also factored a 10 percent "waste heat calculation" into his analysis, giving Plaintiffs the benefit of the doubt that at least some of the heat was being dissipated through losses in the system or otherwise. *Id.* 314:17-315:2. The simulation, which was based upon an assumption that 100 kilowatts of energy was being produce by the 1 MW Plant (which is ***only 1/10$^{th}$ of the 1 MW Plaintiffs claim*** was regularly being produced) demonstrated that the inside of the Doral Warehouse would have ranged between 55 degrees Celsius (131 degrees Fahrenheit) and 100 degrees Celsius (212 degrees Fahrenheit) during the operation of the 1 MW Plant. *Id.* 315:10-16.

Murray has many years of experience performing simulations of this nature. *Id.* 327:17-18. He attended trainings that prepared him to properly use the OpenFOAM tool. The OpenFOAM tool operates by running data through certain diffusive heat transfer equations. *Id.* 328:3-5. The methodology underlying Murray's thermal simulations is more than sufficiently reliable to pass muster under *Daubert.*

b. **Water Flow Analysis**

Murray conducted testing to determine how the flow meter used by Penon during the operation of the 1 MW Plant at the Doral Warehouse operated when a limited amount of water flowed through it. Murray Disclosure at 3. The results of Murray's test showed that the flow meter used by Penon produced inaccurate data about the amount of water actually flowing through the Plant. *See id.* Plaintiffs do not challenge the methodology underlying Murray's

water flow analysis. Instead, they argue that the water flow analysis would not "serve to assist the trier of fact to understand any matter at issue in this case" because the "propriety and/or reliability of the protocol and devices are not at issue in this case." Mtn. at 12. Again, Plaintiffs completely miss the mark on this point because the reliability and accuracy of the devices used by Penon are squarely at issue in this case. *See, e.g.*, AACT ¶ 1 (stating that the "mechanisms which Plaintiffs have used in their experiments and testing of the E-Cat technology are flawed and unreliable in many respects."); *id*. ¶ 71 ("Defendants note that there were many flaws in how the purported Guaranteed Performance test . . . was performed. Several, but by no means all, of those flaws were identified in a document provided to Penon on March 25, 2016."). The Court should reject Plaintiffs' claim that Murray's water flow analysis is irrelevant.

## IV. Smith's Testimony Satisfies the *Daubert* Standard.

### A. Smith is Qualified.

Smith is a Professional Engineer with over forty years' experience and is qualified to testify as an expert on the issues identified in his Report. *See* Smith Report, Ex. A. Plaintiffs concede that Smith "appears to be experienced and qualified to testify with respect to certain boiler systems," but seek to exclude any testimony "beyond the realm of ordinary boiler systems." Plaintiffs proposed limitations are improper. Smith's opinion is that the 1 MW Plant is a boiler – its inputs, after all, were water and electricity and its sole output was allegedly steam – and he is accordingly qualified to opine on its operation and the purported measurements of its performance. *See* Smith Dep. 189:3-13 (Ex. 13); Smith Report at 13.

### B. Smith's Testimony is Based upon Reliable Methodology.

Plaintiffs challenge Smith's methodology on the grounds that he "relies exclusively on his own personal experience as the basis for his conclusion[s]." Mtn. at 15. The Eleventh Circuit has explained that a district court may determine the reliability prong under *Daubert*

based primarily upon an expert's experience and general knowledge in the field. *See Adams v. Laboratory Corp. of America*, 760 F.3d 1322, 1330-31 (11th Cir. 2014) (citing *Kilpatrick v. Breg, Inc.*, 613 F.3d 1329, 1336 (11th Cir. 2010). That said, Smith's methodology, as set forth in his Report, goes beyond his "personal experience" or "general knowledge in the field."

Smith's Report makes clear that his analysis relies upon his understanding of the basic laws of thermodynamics, as explained by Kenneth Wark. Smith Report at 2. He takes time to explain his reliance on certain foundational themodynamic principles relevant to this case, such as the principles that "heat generated by indoor equipment must be rejected to the atmosphere by mechanical equipment," "the boiling point of water (or any liquid) depends upon the pressure of the liquid," "it takes a great deal of energy to convert a kilogram or a pound of water into the equivalent amount of steam," and "[s]uperheated steam (or any superheated vapor) is at a temperature above the saturation temperature." *Id.* at 7-9.

Smith's Report also explains that he relied on standards set forth in the American Society of Mechanical Engineers' Performance Test Codes to identify the proper parameters for measuring steam flow. *Id.* at 13. Smith explained that because the 1 MW Plant is a boiler, "its efficiency can only be accurately measured by accurately determining its actual flow out of the unit, as well as its temperature, pressure, steam quality, among other things." *Id.* Smith's extensive experience, coupled with the specific evaluative approach outlined in the Smith Report, more than suffice to satisfy the reliability prong under *Daubert.*

C. **Smith's Conclusions are Relevant and Helpful to a Jury.**

Smith's first conclusion is that "[t]he Penon reports, standing alone, are not valid to tabulate and compute the performance of the E-Cat. The data are suspect and the methodology is not explained." Smith Report 21. Plaintiffs argue that Smith's opinion is irrelevant because

Penon's findings cannot be challenged. As noted above, there is no support for this in the License Agreement. *See* page 9, *supra*.

Plaintiffs also claim that Smith is not qualified to opine as to the "propriety or validation" of the Penon report because he is unfamiliar with nuclear engineering, low energy nuclear reactions, test plans for low energy nuclear reactions, and/or the nature of the reaction allegedly occurring within the E-Cat reactors. Mtn. at 17. But Smith's first conclusion is not about any of these topics. Instead, it is grounded in the flaws in the methodology Penon purportedly utilized to measure the 1 MW Plant's performance in terms of the cooled fluid and electricity it consumed and the heated fluid it produced. Smith Report at 10-14. In fact, the term "nuclear" does not even appear in the section of the Smith Report focusing on Penon's measurement of the 1 MW Plant's performance. Plaintiffs' argument is red herring.

Smith's second conclusion is that "[t]he E-Cat test setup was not properly instrumented and there was no measurement of the E-Cat's actual output." Smith Report at 21. Plaintiffs contend this opinion would not assist the jury because the test plan used by Penon as the ERV was accepted by the parties, and hence cannot be challenged. This is erroneous on a number of grounds. First, the License Agreement does not make the test plan unassailable. Second, the License Agreement does require that "the ERV … measure the flow of the heated fluid and the Delta T between the temperature of the fluid before and after the E-CAT reaction." License Agreement § 4. Smith's opinion that the flow of the heated fluid was not measured goes directly to a License Agreement requirement. Third, whether the test plan was accepted and implemented as accepted is a fact in dispute.[5] Finally, Smith's opinion that the proper

[5] For example, in connection with his proposed test plan, Penon testified that he requested a condensate trap line be installed on the pipe carrying the heated fluid out of the 1 MW Plant (to capture any heated fluid that was not steam) and Rossi agreed, but Penon does not recall ever seeing a trap line on

instrumentation was not used to evaluate Plaintiffs' claimed "guaranteed performance" is clearly relevant to a jury's determination of whether in fact "guaranteed performance" under the Agreement was achieved.

Smith's third conclusion is that "[t]he E-Cat never produced the energy which was claimed for it. This energy had to be rejected somewhere, and this analysis has shown, by the process of elimination, that the claimed energy never existed." Smith Report at 21. Plaintiffs argue that Smith's third conclusion should be excluded because Smith "offers no methodology and/or theory upon which to arrive at this conclusion." Mtn. at 19. Plaintiffs further argue that this conclusion is improper because Smith refused to consider the existence of a purported heat exchanger located on the second floor of the Doral Warehouse. *Id.* Finally, Plaintiffs' allege that Smith's conclusion is nothing more than a regurgitation of Murray's findings. Plaintiffs' arguments are plainly incorrect.

The Smith Report devotes nearly seven pages to the analysis underlying his third conclusion. *See* Smith Report 14-21. Smith analyzed information generated by Plaintiffs and others to determine whether, under the conditions that existed at the Doral Facility, it is likely that the heat purportedly produced by the 1 MW Plant was sufficiently expelled or dissipated from the Doral Warehouse. *See id.* Smith's analysis, which is based in part upon his decades of experience with boilers, is sufficiently reliable under the *Daubert* standard. Plaintiffs seem to take issue with what they characterize as a "process of elimination relating to potential means by which heat could be dispersed from the Doral Facility." Mtn. at 19. But Plaintiffs cite no authority for the proposition that using a process of elimination is somehow unreliable in this

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this output pipe and Plaintiffs removed the trap line IH installed before the 1 MW Plant was shipped to Florida. Penon Dep. 162:5-163:6; 165:2-5 (Ex. 14); Dameron Dep. 78:11-79:14; 200:6-201:6 (Ex. 15).

context. Contrary to Plaintiffs' argument, courts have held that a trial court is permitted to admit expert testimony that involves a "process of elimination" analysis. *See Kilgore v. Reckitt Benckiser, Inc.*, 917 F.Supp. 2d 1288, 1295 (N.D. Ga. 2013) (citing *U.S. v. Santiago*, 2020 F. App'x. 339, 401 (11th Cir. 2006)). Plaintiffs also fail to recognize that Smith's inclusion of facts supplied by Murray in his analysis is not the same as an expert "simply repeat[ing] or adopt[ing] the findings of other experts." *See* Mtn. at 19. Murray is a hybrid witness who can supply both fact and expert testimony. Finally, there was no need for Smith to factor into his consideration a heat exchanger operating at the Doral Warehouse for the simple reason that there are no photographs of such a heat exchanger at the Warehouse and no records or receipts evidencing such a heat exchanger at the Warehouse. *See* note 2, *supra*. Rossi has testified that a heat exchanger did exist that he later dismantled/destroyed (*see* note 2, *supra*), but the Supplemental Smith Report done after Smith inspected the Warehouse demonstrates that Rossi's claim of a once-existing-but-now-gone heat exchanger is not possible. Supp. Smith Report at 27. Plaintiffs' challenge to Smith's third conclusion should be rejected.

**CONCLUSION**

Plaintiffs' *Daubert* motion should be denied.

Dated: April 3, 2017

Respectfully submitted,

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**CERTIFICATE OF SERVICE**

I HEREBY CERTIFY that on April 3, 2017, I electronically filed the foregoing with the Clerk of the Court by using the CM/ECF system which will send a notice of electronic filing to all counsel or parties of record.

*/s/ Christopher R.J. Pace*
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