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IN THE UNITED STATES DISTRICT COURT FOR THE  
DISTRICT OF UTAH, CENTRAL DIVISION

UNITED STATES OF AMERICA,

Plaintiff,

vs.

RAPOWER-3, LLC, INTERNATIONAL  
AUTOMATED SYSTEMS, INC., LTB1,  
LLC, R. GREGORY SHEPARD,  
NELDON JOHNSON, and ROGER  
FREEBORN,

Defendants.

Civil No. 2:15-cv-00828-DN-EJF

**DEFENDANTS' MOTION IN LIMINE TO  
STRIKE THE EXPERT REPORT OF  
THOMAS MANCINI AND EXCLUDE  
TESTIMONY AT TRIAL**

Judge David Nuffer

Magistrate Judge Evelyn J. Furse

Pursuant to [Rule 702\(a\)-\(d\) of the Federal Rules of Evidence](#), Defendants move to strike the report of Thomas Mancini and exclude any opinion testimony on the mutually exclusive grounds that his report and anticipated testimony are both irrelevant and unreliable. First, Mr. Mancini's opinions are irrelevant because this Court has already ruled that the viability of technology would not determine any of the counts and is at best a "tertiary concern." [See ECF 158 at pg. 5](#). Therefore, it should be excluded under [Rule 702 \(a\)](#). Second, Mr. Mancini's report should be excluded under

[Rule 702\(b\) and \(d\)](#) because the conclusions in his report were not based on the facts of this case, instead relying on unreliable and unrelated speculation or assumptions.

**I. Mr. Mancini's Opinions are Irrelevant.**

[Rule 702](#) of the federal rules imposes a gatekeeping function on district courts to ensure expert testimony is admitted only if it is relevant and reliable. *See Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 141 (1999); *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 589 (1993) (. The language “help the trier of fact” in Rule 702 is a relevance test for expert testimony. *See Daubert*, 509 U.S. at 591. Even if scientifically valid, the expert testimony must “fit”—it must relate to a disputed issue in the case. *Id.* at 591-92.

In this case, the government did not hire Mr. Mancini to provide testimony or an evaluation related to the tax issues at issue in this case, but instead hired Mr. Mancini to:

- A. “explain the basic concepts involved in workable solar energy power generation technology;
- B. evaluate and explain the “IAS Solar Dish Technology” at issue in this case, which includes any equipment installed on sites identified by the Defendants, any technological plans or schematics provided by the Defendants;
- C. to determine whether the IAS Solar Dish Technology is currently converting sunlight into energy; and
- D. to opine on whether the IAS Solar Dish Technology is commercially viable on any scale (or may become commercially viable on any scale) to convert sunlight into electrical power.”<sup>1</sup>

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<sup>1</sup> (See IAS Solar Dish Technology Evaluation (hereinafter “the Mancini Report”), dated July 28, 2017 at ¶ 1., attached as Defendants’ Exhibit 1).

Additionally, in his deposition, Mr. Mancini testified that he was not offering an opinion concerning the application of any portion of the tax code at issue in this case.<sup>2</sup> The scope of Mr. Mancini's role covers an area this Court has determined is irrelevant, or at best a tertiary concern.<sup>3</sup> Consequently, since Mr. Mancini's report relates solely to an irrelevant evaluation of the IAS technology and not any of the tax sections at issue, his testimony would not "help the trier of fact to understand the evidence or to determine a fact in issue." [See Rule 702\(a\)](#). Accordingly, this Court should strike his report and exclude his testimony at trial.

## **II. Mr. Mancini's Report is Unreliable.**

### **A. Rule 702 and Reliability Under Daubert; Generally.**

Federal Rule of Evidence 702 states:

A witness who is qualified as an expert by knowledge, skill, experience, 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.

([Fed. R. Evid. 702](#)).

Rule 702 requires the district court to determine whether the expert's testimony is reliable. [See \*Kumho Tire Co.\*, 526 U.S. at 141](#); *Daubert*, 509 U.S. at 589, 597. The reliability determination calls for a "preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue." [Daubert](#), 509 U.S. at 592-93. These two steps are codified in Rules

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<sup>2</sup> (Mancini Deposition at pgs. 9:24-25, 10:1-22, attached as Defendants' Exhibit 2).

<sup>3</sup> [See ECF 158 at pg. 5](#).

[702\(c\) and 702\(d\)](#). Although many factors may bear on whether expert testimony is based on sound methods and principles, the Daubert Court offered five non-exclusive considerations: whether the theory or technique has (1) been or can be tested, (2) been peer-reviewed, (3) a known or potential error rate, (4) standards controlling the technique's operation, and (5) been generally accepted by the scientific community. [See Daubert, 509 U.S. at 593-94.](#)

“The focus, of course, must be solely on principles and methodology, not on the conclusions that they generate.” [Id. at 595.](#) “The plaintiff need not prove that the expert is indisputably correct . . . . Instead, the plaintiff must show that the method employed by the expert in reaching the conclusion is scientifically sound and that the opinion is based on facts which sufficiently satisfy Rule 702's reliability requirements.” [Mitchell v. Gencorp Inc., 165 F.3d 778, 781 \(10th Cir. 1999\)](#) (citation omitted). Neither Rule 702 nor Daubert “requires a district court to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert. A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered.” [See GE v. Joiner, 522 U.S. 136, 146 \(1997\).](#)

#### **B. Mancini's Flawed Methodology Necessitates Excluding His Opinion Testimony.**

As stated above, the government hired Mancini to evaluate the IAS solar technology, determine whether it is currently converting sunlight into energy, and opine whether the IAS technology will be commercially viable on any scale. To this end, Mancini evaluated each component of the IAS system required to operate as a whole.<sup>4</sup> As explained below, Mancini's methodology throughout his report involves substituting assumptions in the place of unavailable but necessary data to opine on the efficacy of the IAS system. Consequently, his conclusions are

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<sup>4</sup> See Exhibit 1, Mancini Report at ¶¶ 74 - 170.

unreliable because he has unreasonably applied principles and methods to non-existent facts for his opinion. Accordingly, his expert report should be stricken and he should be excluded from testifying at trial.

**1. Mancini's Evaluation Unreliably Depends on Assumptions as a Substitute for Actual Data.**

Through his report, Mancini provides "technical and engineering analysis of the IAS Solar Dish Technology, its components, and evaluate what its possible performance would be if it were ever assembled into a working system."<sup>5</sup> He then admits that he lacked "engineering data that [he] would normally use for this type of analysis," justifying his "best estimates based on the materials" and his "own knowledge of scientific, technological, and engineering principles that apply to the components."<sup>6</sup> He further admits that "because I do not have actual data on performance of the individual components, I am forced to make assumptions and estimates based on the information I reviewed and my own experience."<sup>7</sup> In his deposition testimony, he reaffirmed this approach:

Q. [Mr. Snuffer]: And you did no tests of any of the components.

A. [Mr. Mancini]: **I did no tests.**

(See Exhibit 2, Mancini Deposition at pg. 86:24-25, 87:1).

Q. [Mr. Snuffer]: Did you make any measurement or do any comparison of the difference between a lens that had been out in the environment for years and a new lens right out of the box at the Delta IAS facility?

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<sup>5</sup> See Exhibit 1, Mancini Report at ¶ 55 ("Because I do not have the engineering data that I would normally use for this type of analysis, I provide my best estimates based estimates.... Because I do not have actual data on the performance of the individual components, I am forced to make assumptions and estimates based on the information I reviewed and my own experience.")

<sup>6</sup> *Id.*

<sup>7</sup> *Id.*; see also ¶ 87 ("Using the *limited technical information* I have already identified in this report and my own observations as it existed during my site visits, I have analyzed the IAS Solar Dish Technology as if it were operating as a system.") (emphasis added).

A. [Mr. Mancini] **My contract doesn't involve doing any testing or measurement.**

(Id. at pg. 67:19-24).

In sum, Mancini failed to conduct any measurements or tests to provide the necessary data to be able to evaluate the viability of the technology. His opinions are based upon unreliable assumptions alone. Despite making the equipment and system available for testing, Mancini refused to do any testing or measuring, relying instead upon his unsupported and unscientific assumptions. Consequently, his opinions are lacking sufficient foundation in fact and are therefore unreliable and lack usefulness to the trier of fact. On these grounds, his report should be stricken and testimony relating to his observations of the technology excluded at trial.

**2. Using a video clip to measure the size of a solar image as a substitute for reliable tools of measurement.**

Mancini's critique begins by evaluating "the optical efficiency of the solar concentrator which includes the amount of concentrated solar energy that is intercepted by the receiver."<sup>8</sup> This involves determining the size of the solar image in the plane of the solar receiver to determine the interface between the dish and the receiver once the solar energy has passed through the assembly. *Id.* Mancini identifies two methods of determining the size of the solar image: "1) measuring the solar flux distribution in the receiver plane, or 2) using a calorimeter (like a solar receiver) to measure the power absorbed using different aperture diameters."<sup>9</sup> Rather than rely on either of these commonly used methods, Mancini instead "used the video clip Solar Lens Test from the RaPower Website" "[b]ecause I saw no test data for the lens in the documents I reviewed."<sup>10</sup> Using a video clip as a substitute for a calorimeter to determine the size of the solar image is entirely

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<sup>8</sup> See Exhibit 1 at ¶ 87.

<sup>9</sup> *Id.*

<sup>10</sup> *Id.* at ¶ 88.

unscientific and unreliable because it is not one of the methods of determining the size of a solar image that Mancini identifies in his own report. Consequently, any opinion flowing from this flawed measurement approach is unreliable conjecture and not useful.

**3. Using a photograph to estimate the dimensions of the receiver aperture as a substitute for reliable measuring tools.**

Mancini's unreliable methodology does not end there. Part of his analysis of the proposed receiver of the IAS system relied on a "photograph of the tubular receiver... taken during my tour of the Manufacturing Facility to estimate the dimensions of the receiver aperture at 60 cm by 50 cm" rather than rely on engineering design drawings for any proposed receiver.<sup>11</sup> Using a photograph as a measurement tool, particularly one lacking any measuring element for scale, is fundamentally suspect and unreliable.

**4. No Basis for his Low Value for Optical Efficiency.**

Mancini credits the "low value for optical efficiency" as reported by him "most likely due to a combination of factors in the manufacture of the lenses and a lack of stiffness in the concentrator tracking structure."<sup>12</sup> Yet in the same report, Mancini admits "there is no analysis, no design details, no engineering drawings, no test data or performance data regarding:... stiffness of the concentrator structure and lens assemblies."<sup>13</sup>

**5. Did Not Review Documents "He Would Expect to Review"**

Throughout his report, Mancini notes time and again the absence of data necessary to form his opinions. In evaluating and explaining "the IAS Solar Dish Technology at issue in this case,"

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<sup>11</sup> (See Exhibit 1, Mancini Report at ¶ 91.)

<sup>12</sup> (Id. at ¶ 92).

<sup>13</sup> (Id. at ¶ 26.)

Mancini identifies documents and information he reviewed to apply his evaluative methodology.<sup>14</sup> He begins by enumerating the kinds of documents that he would expect for any solar energy project design and/or operation to have.<sup>15</sup> He then identifies all the documents he reviewed in this case, noting that he did not see in those documents what he “would expect to review in the context of the engineering design and/or operation of solar energy project.”<sup>16</sup> In sum, Mancini admitted that he lacked the documents he needed to adequately evaluate the technology at issue.

**6. Did Not Review Engineering Materials in Patents Prior to Drafting His Report.**

In his deposition testimony, Mancini stated that the only time he has reviewed the patents of the technology related to this case was when he reviewed Mr. Johnson’s expert **rebuttal** report.<sup>17</sup> When asked in his deposition if he had evaluated Mr. Johnson’s patent on the IAS heat exchanger, Mancini stated that he look at it briefly and did not perform any analysis on it.<sup>18</sup> The same is true concerning his evaluation of the turbine.<sup>19</sup>

**7. Did Not Engage in Testing or Experimentation Necessary to Form His Conclusions.**

Mancini acknowledged in his report the lack of “engineering data” he would “normally use for this type of analysis.”<sup>20</sup> In his deposition, Mancini doubled down on this blind-data approach,

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<sup>14</sup> (Defendants’ 1 Exhibit at ¶¶ 45-48.)

<sup>15</sup> (Id. ¶ 48).

<sup>16</sup> (Id. ¶¶ 49-50).

<sup>17</sup> (See Defendants’ Exhibit 2, Mancini Deposition 137:19-25, 138:1-5.)

<sup>18</sup> (Id. at 131:12-20.)

<sup>19</sup> (See Defendants’ Exhibit 1, Mancini Report at ¶ 142 (“Because I have no engineering information of any kind for the turbine, I cannot confirm that their recommendations, as listed in the document, have been incorporated in the final design.”); *id.* at ¶ 147 (“During my site visits on January 24 and April 24, 2017, I did not see the IAS turbine in operation.”))

<sup>20</sup> (See Defendants’ Exhibit 1, Mancini Report at ¶ 55).



stating that he did not conduct his own testing of any component of the IAS technology, either at the site or on his own because it was beyond the scope of his contract.<sup>21</sup> This is particularly problematic where Mancini acknowledges in his report that pyranometers are required to measure solar output and is “the first thing you want.”<sup>22</sup> In sum, he faults Mr. Johnson for his lack of measurement yet provides no measurement of his own in critiquing Mr. Johnson’s work.

### **III. Conclusion**

For the analytical deficiencies outlined above, there is simply too great an analytical gap between the data and the opinion proffered. Therefore, Defendants respectfully request that both Mr. Mancini’s report be stricken and that he be excluded from offering expert opinion at trial.

Dated this 14th day of November, 2017.

NELSON SNUFFER DAHLE & POULSEN

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<sup>21</sup> (See Defendants’ Exhibit 2, Mancini Deposition, pg. 67:19-24 (“My contract doesn’t involve doing any testing or measurement.”); 68:15-21 (did not conduct any testing of the IAS components; *id.* pg. 69:9-12; 70:11-22 (did not take any measurements).

<sup>22</sup> (*Id.* 85:17-20.)

**CERTIFICATE OF SERVICE**

I hereby certify that a true and correct copy of the foregoing **DEFENDANTS' MOTION IN LIMINE TO STRIKE THE EXPERT REPORT OF THOMAS MANCINI AND EXCLUDE TESTIMONY AT TRIAL** was sent to counsel for the United States in the manner described below.

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