

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF OKLAHOMA**

**THE PONCA INDIAN TRIBE OF
OKLAHOMA, et al.,**

Plaintiffs,

vs.

**CONTINENTAL CARBON
COMPANY, CCC USA CORP., and
CHINA SYNTHETIC RUBBER CORP.,**

Defendants,

And

Case No. CIV-05-445-C

**CONTINENTAL CARBON COMPANY
and CCC USA CORP.,**

Third-Party Plaintiffs,

vs.

CONOCOPHILLIPS, a Corporation,

Third-Party Defendant.

**CONTINENTAL CARBON COMPANY'S MOTION
TO EXCLUDE IN PART THE EXPERT TESTIMONY OF
JOSEPH W. FISHBACK II AND BRIEF IN SUPPORT**

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Continental Carbon Company and CCC USA Corp. (collectively, CCC) respectfully move the Court for an Order excluding from evidence the expert opinions offered by Joseph W. (Bill) Fishback II on behalf of Third-Party Defendant ConocoPhillips (COP) regarding (a) operational problems and related alleged “large” actual or potential carbon black emissions from the CCC plant, and (b) bagfilter “opacity monitor” data, because those opinions are based upon unreliable data and flawed methodology in contravention of Rule 702 and *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993).

INTRODUCTION

Mr. Fishback is a chemical engineer with 36 years total petroleum industry experience who specializes in oil company air quality compliance, permitting, and regulation. During 1984-87, Fishback also worked for a carbon black company. In this motion, CCC challenges Fishback’s generalized and untested opinions regarding the CCC plant.

The first part of this motion addresses Fishback’s opinions that CCC experienced operational problems that resulted in either “large releases” or “potential additional emissions.” Exhibit 1, Fishback’s Expert Report, Apr. 14, 2008, 54-59 (General Comment #2). These conclusory opinions are based on general chemical engineering knowledge, knowledge of the carbon black process, one CCC plant site visit, and review of various CCC documents. Fishback does not perform any real scientific analysis using valid data to correlate alleged operational problems with actual emissions. Instead, Fishback simply posits that because various CCC documents such as shift notes, e-mails,

and downtime statistics indicate operational problems, there was “significant potential for additional emissions,” and therefore “large releases of carbon black to the atmosphere occurred especially during the period 2003-2005.”

The second part of this motion challenges Fishback’s opinions relating to his egregious manipulation of data from what he calls bagfilter “opacity monitors” at the CCC plant. Ex. 1, at 69-75 (General Comments # 2 and #3). Fishback claims that data from these monitors can be used to predict when visible or increased carbon black emissions occurred during a four-year period from April 30, 2004 to March 31, 2008. Ex. 1, at 72.

In reaching his opinions regarding these monitors, Fishback was not aware of or ignored the following important information: (a) the manufacturer, make, and model of the monitors, (b) the installation of newer, different style monitors approximately halfway through the four-year period, (c) problems experienced by the plant with the older monitors and their disuse, and (d) CCC’s learning curve and problems experienced with the new monitors. In addition to fundamental ignorance about what he was evaluating, Fishback performed a wildly unscientific calibration and then manipulation of data recorded from one of the eight newer monitors using one three-minute video event.

ARGUMENT AND AUTHORITIES

A. Standards for Admissibility of Expert Testimony.

In *Daubert* the Supreme Court held that “under the [Federal Rules of Evidence] the trial judge must ensure that any and all scientific testimony or evidence admitted is

not only relevant, but reliable.” *Daubert v. Merrell Dow Pharm., Inc.* 509 U.S. 579, 589 (1993). This gatekeeping responsibility of the trial judge was extended to all expert testimony in *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 119 S.Ct. 1167 (1999). This requirement was codified by Federal Rule of Evidence 702, as amended in 2000, in response to *Daubert* and *Kuhmo Tire*. Fed. R. Evid 702. As a “gatekeeper,” the trial court is charged with the responsibility “to assess the reasoning and methodology underlying the expert’s opinion, and determine whether it is scientifically valid and applicable to a particular set of facts.” *Goebel v. Denver & Rio Grande Western R.R. Co.*, 215 F.3d 1083, 1087 (10th Cir. 2000).

Evaluation of reliability is the hallmark of the gatekeeping function imposed by the Supreme Court on trial judges in determining admissibility of expert testimony. *Daubert*, 509 U.S. at 589. Particularly important considerations for the trial court include whether the methods are peer-reviewed, developed independent of the litigation, and/or generally accepted by the relevant scientific community. *See Norris v. Baxter Healthcare Corp.*, 397 F.3d 878, 886 (10th Cir. 2005). Under *Daubert*, “any step that renders the [expert’s] analysis unreliable . . . renders the expert’s testimony inadmissible.” *Mitchell v. Gencorp Inc.*, 165 F.3d 778, 782 (10th Cir. 1999).

The proponent of expert testimony bears the burden of proving that the testimony is admissible pursuant to Rule 702 and *Daubert*. *See Ralston v. Smith & Nephew Richards, Inc.*, 275 F.3d 965, 970 n.4 (10th Cir. 2001). An expert’s bald assurance of validity or speculation is not enough. *See Dodge v. Cotter*, 328 F.3d 1212, 1222 (10th

Cir. 2003). Opinion evidence connected to existing data only by the *ipse dixit* (say-so) of the expert is not allowed. *See General Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997) (“A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered”).

B. Fishback’s General Opinions Regarding “Large Releases” or “Potential Additional Releases” Are Not Sufficiently Reliable under Rule 702 and *Daubert* and Must be Excluded.

1. Fishback’s opinions are weak generalizations.

Fishback starts by offering an extremely broad opinion with regard to emissions from the CCC plant:

[L]arge releases of carbon black to the atmosphere occurred at CCC’s carbon black plant in Ponca City prior to February 19, 2008 [the date of his only site visit]. I believe large releases of carbon black to the atmosphere occurred especially during the period 2003-2005 when continual serious operational and maintenance problems were acknowledged to be occurring and prior to the time that capital projects may have been completed by CCC on bag filters, air preheaters, and carbon black driers to address these operational and maintenance problems.

Ex. 1, at 54.

Under this very general opinion, Fishback offers several “specific” comments that can be summarized as follows: operational problems resulted in excessive downtime that involved frequent startups, shutdowns, and opening of equipment for repairs, which had “significant potential to cause additional emissions of carbon black to the atmosphere.”

Ex. 1, at 55, 59 (emphasis added); Exhibit 2, Deposition of Fishback (June 9-10, 2008), at I:251:15-255:16 (in deposition, Fishback said the problem with downtime is not really

the shutdown and then startup but the “potential for excess emissions exists primarily from opening equipment to repair or clean it out.”)

In his report, Fishback does not define what he means by “large releases” or by “additional emissions.” Ex. 1, at 54, 59. In his deposition, Fishback stated that “additional” means higher emissions than “normal.” Ex. 2, at II:241:5-11. Neither “large” nor “additional” is very specific, and Fishback does nothing to identify when these “large” or “additional” emissions occurred – except to say they “especially occurred” during a two-year span (2003-2005). Ex. 1, at 54, 59. These opinions are so general as to be meaningless, not only because they are vague and unquantified, but also because an opinion that operational problems had the “potential” for additional emissions offers no specificity or certainty as to whether additional emissions actually occurred.

Nor do these opinions demonstrate any true expert analysis other than review of documents to identify the “potential” that emissions could happen. This Court has excluded efforts to introduce “expert” testimony that is based on a review of factual or historical documents that could be reviewed and interpreted by the jury. *Morris v. Goodyear Tire & Rubber Co.*, 2004 U.S. Dist. LEXIS 30824 (W.D. Okla. Dec. 17, 2004) (excluding opinions of what a defendant did and what it knew based on a review of defendant’s documents, observing that much of the excluded testimony reads more like a closing argument and was not appropriate as expert testimony); *see also Pfeiffer v. Lewis County*, 308 F. Supp.2d 88 (N.D.N.Y. 2004) (excluding most of an expert witness’

testimony because the trier of fact was capable, on its own, to evaluate the information relied upon by the expert).

2. Fishback's opinions are not the product of any real expert work.

The basis for Fishback's opinions about large releases or potential additional emissions is his knowledge of the carbon black process, a site visit to the CCC plant on February 19, 2008, and a review of CCC internal documents that he claims show operational problems during the period 2003-2005. Ex. 1, at 51-54, 55-59. Fishback has done no further analysis or testing to support his imprecise and limited opinions.

Fishback relies on visual observations of carbon black on the ground, railings, and piping inside the CCC plant during his Feb. 19, 2008 site visit to "confirm" that "large releases occurred" prior to Feb. 19, 2008. Ex. 1, at 52. However, he also states in his report that carbon black plants are extremely dirty places under the best of circumstances. *Id.* Fishback does nothing in the way of any further expert investigation to determine whether the carbon black he observed during his site visit was the result of emissions or normal plant operations, or to determine when and how the carbon black he saw was deposited. Fishback's observations are also irrelevant to the issue of whether carbon black emissions left the plant.

The documents that Fishback reviewed included Production Department Notes, which are used to pass on information to the next shift. Ex. 1, at 51-52; Exhibit 3, Declaration of Gary Tipton, June 13, 2008, ¶ 11. Fishback identified many repeated comments in Production Department Notes that he claims indicate operational problems.

Ex. 1, at 51-52. However, he also admitted the Notes are a good practice for one shift to communicate information about areas requiring attention to another shift. Ex. 2, at I:236:24-237:2. Fishback did not perform any analysis to tie any of the comments in Production Department Notes to specific emissions. Ex. 2, at I:229:10-15. He cannot exclude the possibility that the Notes were used to advise operators on the next shift what to do to prevent operational problems and emissions. Ex. 2, at I:242:6-12.

Fishback also drew conclusions about the CCC plant having excessive downtime by totaling up the amount of downtime for one unit in 1999 and one unit in 2004, and then comparing the downtime for those units to an inference he made from an e-mail comment by the plant manager that 4% downtime is unacceptable. Ex. 1, at 55-59; Ex. 2, at II:249:8-250:7. Fishback did not review or calculate the downtime in all years for all units which would have shown the plant routinely averages more than 4% downtime. Ex. 2, at II:250:18-252:4. By failing to do a complete analysis of downtime, Fishback cannot say there were greater operational problems in 2003-2005 than other years. In his limited calculations, Fishback also failed to exclude inventory control and power failures, which are causes of downtime that do not signify operational problems. Ex. 2, at II:244:3-245:8.

Courts have rejected similar efforts by “experts” to reach broad-ranging conclusions without demonstrating the necessary foundation in both data and methodology. *U.S. v. SCA Services of Indiana, Inc.*, 1995 WL 569634 (N.D. Ind. Aug. 15, 1995) (excluding the testimony of a witness who concluded, without a foundation,

that all of the materials found in a landfill contained hazardous constituents); *see also Pinal Creek Group v. Newmont Mining Corp.*, 352 F. Supp.2d. 1037 (D. Az. 2005) (rejecting an expert report that summarized facts and stated advocacy-based interpretations of documents in the record).

3. Fishback's opinions are not based on any quantification or testing.

Fishback did nothing to quantify or test his opinions that large releases occurred due to operational problems or that there was significant potential for additional emissions as a result of downtime. Ex. 2, at I:230:6-8. These opinions are inherently without any quantification whatsoever. No attempt was made to identify when the alleged emissions occurred other than a span of years or to determine how "large" they were (other than the statement that collectively they were large enough over time to turn all surfaces in the plant dark – an unremarkable proposition considering Fishback's admission that carbon black plants are extremely dirty places under the best of circumstances). Ex. 2, at I:229:10-21; 231:1-4. No attempt was made to investigate whether "large" or even "additional" emissions actually occur when equipment is opened for repairs. Ex. 2, at I:231:1-4. Fishback made no investigation of what procedures are involved or what precautions are taken during maintenance to prevent or minimize emissions. Finally, Fishback did not attempt to identify any specific occasions when an emission occurred and then match the emission to downtime records or maintenance records. Ex. 1, at 55-59. This Court has rejected similar efforts to introduce conclusory arguments disguised as expert testimony. *Ecker v. Allstate Insurance Co.*, 2001 U.S. Dist. LEXIS 26276 (W.D. Okla. Apr. 9, 2001) (rejecting testimony that is simply the

witness' conclusions on the evidence, unsupported by scientific evidence, objective testing or statistics).

C. Fishback's Opinions Regarding Bagfilter Particulate Monitor Data are Not Sufficiently Reliable under Rule 702 and *Daubert* and Must be Excluded.

A basic problem with Fishback's opinions relating to bagfilter "opacity monitors" – correctly referred to as particulate monitors – is that he did not bother to learn anything about the monitors the plant was using, when they were installed, or how they worked. Ex. 1, at 69-75. He compounded that gross error by taking three minutes worth of video and attempting to correlate it to historical data "values" (expressed in percent) without knowing what the data meant or what values were "normal." Ex. 1, at 71-72.

1. Fishback did not learn about the monitors before attempting to use their data.

Fishback developed opinions about exhaust bagfilter (EBF) and main bagfilter (MBF) "opacity monitor" data without even taking the basic step of familiarizing himself with the instruments. Ex. 2, at I:49:1-20; 113:14-114:15; 115:14-21 (Fishback had no way of knowing if the monitors were the same during the four-year time period; he did not know the make or model of the current monitors (CPM 750); he did not know the specific equipment). As a result, Fishback did not know that the monitors were not "opacity monitors" – instead, they are correctly known as particulate monitors (there are important differences). Ex. 3 (Dec. Tipton), ¶ 2.¹ In an act of expert chutzpah, Fishback

¹ For historical reasons, CCC did identify the data points measured by the particulate monitors as "EBF Opacity" and "MBF Opacity" (without the word "monitor") in its tag standard for the DCS system, but Fishback made no attempt to learn any of the

further testified that he did not need to know specifics about the monitors (Ex. 2, at I:49:1-20; 122:20-25; 124:14-125:16) – but as shown below, he did.

2. Fishback did not know there were two different kinds of monitors during the four-year period.

One consequence of not learning about the instruments is that Fishback did not know that there were two completely different sets of “particulate monitors” during the four-year period in question. In 1997, the plant installed a set of “Triboguard” monitors which consist of a probe that detects particulate in a line based on an electric current. Ex. 3 (Dec. Tipton), ¶ 3. The plant had problems with the Triboguard monitors and by 2004 (the start of Fishback’s four-year period) had stopped using them even though the monitors remained hooked up to the DCS system. *Id.*, ¶ 4.

In 2005-2006, the plant installed new “CPM 750” particulate monitors as required by a Consent Order between the Oklahoma Department of Environmental Quality (DEQ) and CCC. *Id.*, ¶ 5; Exhibit 4 (table showing installation completion dates). Seven of the eight CPM 750 monitors were installed during May-December 2006; one was installed in April 2005. Ex. 2, I:182:12-23; Ex. 4 (table). The CPM 750 monitors sense particulate using a light beam, a completely different method of operation than the older Triboguard monitors. Ex. 3, ¶ 7; Exhibit 5, BHA CPM 700 Series Operation and Installation Manual, June 2004.

specifics of the instrumentation or he would have discovered the imprecision in this nomenclature.

Fishback never knew any of this information. Ex. 2, at I:183:7-12. Fishback assumed that all of the data he was seeing in the DCS during the four-year period from April 30, 2004 to March 31, 2008 came from the same type of monitor when it did not. Ex. 1, at 69-75. Similarly, Fishback did not know that because the plant was not using and maintaining the Triboguard monitors in 2004, any data that may have been recorded from them would have been unreliable. Ex. 3, ¶ 5.

3. Fishback did not know anything about the plant's experience with the newer monitors.

The current CPM 750 monitors – most of them installed more than halfway through the four-year period analyzed by Fishback – are used only to alert the plant to the possibility of a bagfilter leak. Once an alarm flashes, the possibility of a leak must be investigated. Ex. 3 (Dec. Tipton), ¶ 7. The plant has been on a learning curve since these monitors were installed. *Id.*, ¶ 8. The plant has experienced many occasions when the alarms have gone off but no leaks could be found. *Id.* The plant has investigated whether vibration, purge air, or moisture could be causing false alarms, and has worked on making “damping” adjustments (smoothing out spikes) and other adjustments to reduce the possibility that larger pieces of dust (“dustballs”) might cause false alarms when there is no leak. *Id.*, ¶¶ 7-8. Fishback was not aware of this history, which should have called into question the reliability of the data recorded from these monitors. Ex. 2, at I:187:22-188:22.

Fishback said “if Continental Carbon was going to rely on them [the monitors], so was I.” Ex. 2, at I:49:1-20. However, CCC does not rely on the monitors for the purpose

Fishback does. Fishback's purpose is to identify or predict visible emissions or likely visible emissions from the stack (erroneously couched as "opacity"). Ex. 1, at 72. CCC relies on the monitors only as a tool to alert the plant to when a leak may be occurring, which possibility must then be investigated – and, as experience shows – may or may not be borne out (and frequently is not). Ex. 3 (Dec. Tipton), ¶¶ 7-8. Moreover, CCC has not been able to consistently rely on the monitors for long periods while learning how to use them because alarms often did not match leaks. *Id.*, ¶¶ 7-8. Therefore, Fishback's "reliance" was unfounded and not grounded in any data verification such as learning the plant's usage and experience with these monitors.

4. Fishback did not know the baseline and alarm values, or what constituted a "significant" increase.

Fishback testified that based on his review of the monitor data, he believed that zero was the correct "baseline." Ex. 2, at I:46:8-12. He had no idea what the normal flow value should be but assumed it would be near zero although it is impossible to say. Ex. 2, at I:56:25-59:4. Fishback said "anything greater" than the near-zero value when the unit was "as clean as possible" would indicate a leak of some kind. Ex. 2, at I:58:13-59:-4. He also testified that any alarm should be set in the "low single-digits" because a value of one or two percent could indicate "that something has happened. Ex. 2, at I:76:9-77:5. Fishback made no attempt to find out what alarm value is used at the plant. Ex. 2, at I:75:12-76:1. Fishback testified that he did not need the manufacturer's operation and installation manual ("manual") to understand the monitors. Ex. 2, at I:122:13-25.

Not only was Fishback's testimony about baseline, normal, and alarm values internally contradictory, he was wrong about not needing to know what the manual said. According to the manual, baseline or normal is 20 percent, not near-zero. Ex. 5 (Manual), at 28; Ex. 3 (Dec. Tipton), ¶ 10. A baseline of 20 percent is the setting the plant uses. Ex. 3 (Dec. Tipton), ¶ 10. A value of zero indicates no particulate flow; but a value of 20 percent indicates "normal" particulate flow. Ex. 5 (Manual), at 28 ("Set the Span"). The warning alarm, which is designed to alert the operator to increasing emissions, is set at 50 percent at the plant. Ex. 3 (Dec. Tipton), ¶ 10 (Manual uses 40 percent but allows adjustment (*see* Ex. 5 (Manual), at 28); plant sets it higher through experience). The emissions alarm, which is designed to alert the operator to an unacceptably high level of emissions, is set at 70 percent. *Id.* ¶ 10 (Manual uses 50 percent but allows adjustment (*see* Ex. 5 (Manual), at 29); plant sets it higher through experience).

The manufacturer recommended settings prove that Fishback made stunningly wrong assumptions. He was off on the baseline by about 20 percent (20 percent minus zero or near-zero). He was off on the alarm value actually used by the plant by about 50 percent (50 percent minus "low single-digits"). He simply did not know what he was doing or what the values he was seeing in the DCS data really meant because he did not investigate the manual or the plant's actual experience.

5. Fishback misuses the term "opacity."

Fishback refers to the instruments in question as "opacity monitors" when they are not. Ex. 2, at I:184:5-14; Ex. 3 (Dec. Tipton), ¶ 7; fn. 1 *supra*. "Opacity" is a term used

to describe the degree to which visible particulate matter emissions from a stack reduce the transmission of light and obscure the view of an object in the background. OAC 252:100-1-3 (Air Pollution Control); Ex. 2, at I:30:20-32:7. The term “opacity” is not the quantity of particulate matter in a pipe or line (and the monitors in question do not measure such quantity either). Stack opacity is typically expressed in percentages. For example, 30% opacity from a stack means the visible emissions block 30% of the light. *Id.*

In deposition, Fishback claimed that the monitors installed at the CCC plant are a COMS (continuous opacity monitoring system) which is an “opacity monitor.” Ex. 2, at I:39:5-40:23. However, Fishback is wrong: the particulate monitors at the CCC plant are not a COMS and do not and cannot measure opacity – either in the line or from stack emissions. Ex. 3 (Dec. Tipton), ¶ 7; Ex. 5 (Manual), at 7-8. The percentage values recorded in the DCS system as data from the new CPM 750 monitors have no correlation whatsoever with “opacity” or even quantity of particulate matter – they only measure changes in particulate concentration. Ex. 5 (Manual), at 7.

In deposition, Fishback was forced to concede the monitors do not measure opacity. Ex. 2, at I:156:21-22. However, Fishback’s opinions are still infected by this erroneous usage. Fishback should be precluded from using the term “opacity” in connection with any opinions regarding the CCC plant particulate monitors – there is simply no relationship.

6. The #4 EBF data that Fishback focused on is inherently unreliable.

In a table, Fishback summarizes findings he made from “opacity” data for the #4 EBF which supposedly indicate there would have been 603 “opacity events” during May 1, 2004 to May 1, 2005, 2701 “opacity events” from May 1, 2005 to May 1, 2007, and 2608 “opacity events” from May 1, 2007 to March 8, 2008. Ex. 1, at 72. Even setting aside the misuse of “opacity,” the term “event” was not well defined by Fishback. At one point Fishback indicated that “event” meant a plume roughly comparable to what he saw on the video, while at another point Fishback indicated any higher value than the “event” threshold could mean a visible emission. Ex. 2, at I:154:6-156:5.

Most importantly, the data that Fishback used to identify what he calls an “event” are totally unreliable. First, the #4 EBF data Fishback used from May 1, 2004 to May 1, 2005 includes 11 months of data from the old Triboguard monitor for that location, which is unreliable because that monitor was not being used. Ex. 3, ¶¶ 3-5.

Second, an examination of the data reported by Fishback for the new #4 EBF CPM 750 monitor shows many momentary fluctuations from minus values (in the -22 to -25 range) to an assortment of higher minus values, positive single-digit values, or double-digit values. Ex. 2, at 103:12-104:19. For example, minute-by-minute data shows swings from -23 to 98 and back to -23 within the span of two minutes. *Id.*; Exhibit 6 (data in minutes for March 26, 2006 from 11:00 am to 12:00 pm, the period which includes the video used by Fishback; introduced at Fishback’s deposition as Exhibit 5).

Because the monitors detect change in particle flow, Fishback contends that any increase in values shows greater particle flow.² But the data must first be reliable to draw the conclusion that any increase in values over a four-year period proves greater particle flow on each occasion where an increase appears. Severe ups and downs in the span of only minutes indicate that either the monitor is not working properly or one or more larger particles (a “dustball”) passed through without any leak occurring, and therefore the data does not reliably indicate increased particulate flow. Ex. 3 (Dec. Tipton), at ¶¶ 7-8; Ex. 5 (Manual), at 5, 7 (various factors, including vibration and purge air problems, can affect reliability of the instrument). Even Fishback ignores some of the data from the ups and downs, proving its unreliability. Fishback uses some of the increases but ignores all of the decreases. Ex. 1, at 71-72. When the increases are extreme, Fishback ignores them (example: swing from -23 to 98 and back not used). Ex. 2, at I:107:23-108:8.

7. The #4 EBF data that Fishback focused on is unreliable because Fishback improperly calibrated or normalized it.

Fishback acknowledges that a minus value has no meaning. Ex. 2, at I:38:21-22; 55:18-20. However, instead of considering the very real possibility that minus values, and any values interspersed with minor values, indicate the instrument was not properly calibrated or was malfunctioning, Fishback assumes that the minus values are “baseline” – or normal particle flow – and can be calibrated to zero by adding 22. Id. at I:55:18-20.

² It should be noted that the CPM 750 monitors detect any particulate including rust, metal flakes, etc., in addition to carbon black. Therefore, any attempt to correlate the monitor data exclusively to carbon black or carbon black emissions would be improper.

The number 22 is an average value Fishback determined from attempting to correlate data from March 26, 2006 to one video event. Ex. 2, at I:59:18-60:22. In essence, without using the manufacturer's guidance or even knowing the type of equipment or how it specifically works, Fishback performs a calibration using three minutes worth of video – and determines the magic value to add – to all the data – is the number 22.

The liberties Fishback takes with science are nowhere more apparent than in his video calibration procedure. His method – which is his alone and unsupported by any scientific literature – involved the following steps. First, Fishback found a video taken by a COP employee of one visible emission from the Unit 4 stack. The video was taken on March 26, 2006 from 11:35 to 11:38 (based on the length of the video and the time shown on a car dashboard clock that was filmed near the end of the video). Ex. 1, at 71; Ex. 2, at 104:1-8; 106:19-107:9. The video lasted three minutes, although the COP employee who took the video stated the emission had been visible for about 20-30 minutes prior to the actual filming. Ex. 2, at I:99:12-100:1.

Second, Fishback looked at the data recorded in the DCS system at the same time as the video (11:35-11:38 on March 26, 2006) and determined that because he saw some increases or spikes during this period, those increases must correspond to the visible emissions seen in the video. Ex. 1, at 71; Ex. 2, at I:46:11-47:2; 66:4-67:3; Ex. 6 (Data).

Third, Fishback assumed the instrument was calibrated, but the calibration was off, and therefore the lowest minus values were really the “baseline,” allowing him to re-

calibrate to zero. Fishback determined that adding a value of 22 to all data would bring the baseline to zero and correct the rest of the data. Ex. 2, at 47:8-24.

Fourth, Fishback used hourly averages to report the data from the #4 EBF and determine “events” even though minute-by-minute data was available and gives a truer picture of the ups and downs while hourly average data “blurs” or masks the ups and downs. Ex. 2, at I:126:7-129:18.

Fifth, Fishback took the single hourly average value of 4.8% (before correction) and 26.8% (after correction) that he claimed corresponded to the time period of the video, and determined those values established a threshold average value for an “opacity” “event.” Ex. 1, at 72; Ex. 2, at I:65:2-66:12. An “event” is one that Fishback claims indicates or predicts a visible emission would have occurred at the same time from the Unit 4 thermal oxidizer stack. Ex. 1, at 72; Ex. 2, at I:140:23-25.

This “method” used by Fishback is not even remotely scientific. To begin with, it is a fundamental proposition that if an instrument is not calibrated, the data is unreliable. *Am. & Foreign Ins. Co. v. Gen. Elec. Co.*, 45 F.3d 135, 139 (6th Cir. 1995) (affirming lower court’s exclusion of expert’s testimony based in part on the fact that “his instruments were not calibrated”). Fishback did not investigate whether the monitor was properly calibrated and has not shown that it was. Without proof of calibration, all of the data must be considered unreliable. *In re Paoli R.R. Yard PCB Litigation*, 35 F.3d 717, 777 (3d Cir. 1994) (“Moreover, Eco Logic failed to calibrate the instruments it used for both electron capture analysis and mass spectrometry . . . The novelty of Eco Logic’s

approach, combined with Eco Logic's flaws in quality control, led the district court to exclude the Eco Logic data under Rules 702 and 703.”).

Even if Fishback’s method is viewed as an attempt to normalize data that was already calibrated, it must fail. Fishback assumed that the baseline should be zero and that whenever low minus values existed, they were indeed baseline, without any support for this leap of faith, such as checking the procedures in the manufacturer’s manual. Fishback further assumed without testing or proof that all the data always bears the same relationship to the other data, so that if he adds 22 to the minus values, he can also add 22 to all the other values. This is simply unsupported changing of data to suit his purposes. If the data contains minus values that are, in Fishback’s own words, meaningless, all the data should be disregarded, and the meaningless data should not be used as the foundation for determining a correction factor.

Another major reason Fishback’s “method” is flawed is that he used only one video event to “calibrate” or “normalize” the data. If Fishback had a hundred or thousand video events showing emissions, he might arguably have been able to develop (and test) a statistically significant correlation between monitor data and visible emissions, or at least between monitor data and increased particle flow. *Kelley v. American Heyer-Schulte Corp.*, 957 F.Supp. 873, 881 (n.8) (W.D. Tex. 1997): “Adequacy of a sample size is an important consideration in assessing the validity of a study, and the adequacy of a sample size must be viewed in terms of the specified level of statistical significance” However, Fishback had only one video three minutes long. Using one video to calibrate

or normalize data is the equivalent of using one voter's opinion in an exit poll to predict the results of an election. It is axiomatic that statistical significance requires more than one event. Ex. 2, I:196:18-197:3 (Fishback admits 100 videos would have been a better data set, but "we used what we had" – which is actually not true because there was plenty of other video that was not used; *see infra*.)

Moreover, a review of the actual minute-by-minute data during the one-hour period that includes the three minutes of video, and the 20-30 minute period of visible emission that allegedly preceded it, shows no correlation whatsoever. Ex. 6 (Data) . While the visible emission was supposedly occurring during 11:05 or 11:10 to 11:38, there are consistent minus values and only a few spikes. *Id.* Under Fishback's view, the minus values which Fishback says are baseline would not indicate anything other than normal particle flow so the alleged visible emission could not have been occurring during the time the COP employee filming the video said it did. Even if the 11:38 clock was off by a few minutes, there is still no three-minute period with consistent positive values, corrected or not. Ex. 6 (Data). Thus, Fishback has grossly misused the narrow period of limited data that he relied upon.

Finally, Fishback did not attempt to consider the extensive amount of video that the CCC plant has from Fall 2004 through 2006 and in 2007 to test his method. Ex. 2, at I:197:18-198:8. In contrast, in deposition, CCC showed one video clip for December 5, 2006, where values highlighted by Fishback would predict a visible emission, but absolutely nothing was seen coming from the Unit 4 thermal oxidizer stack. Ex. 2, at

I:147:22-6-149:20. Therefore, Fishback did not test his method by checking many events against the large amount of available video.

8. Fishback’s opinions that CCC did not believe the monitors were important enough to keep operational are completely off-base.

Fishback contends that the absence of “opacity” data for long periods of time shows that CCC did not consider keeping the monitors operational important, and that even when the instruments were working CCC would not respond for many days to repair them. Ex. 1, at 73, 75. These opinions are easily refuted by the fact the Triboguard monitors were not used or maintained in 2004-2005, and therefore showed large stretches of zero value data or no data at all. Ex. 1, at 74; Ex. 3 (Dec. Tipton), ¶ 5. For example, seven of eight time periods cited by Fishback to support his opinion that CCC did not fix the monitors were in the year 2004, when CCC had stopped using the old Triboguard monitors. Ex. 1, at 75, Ex. 3 (Dec. Tipton), ¶ 5.

9. Fishback improperly generalizes to all monitors from his unreliable data for the #4 EBF monitor.

Fishback concludes by stating that opacity data from the #4 EBF combined with the video he used confirms that stack tests are not a reliable method to determine carbon black emissions and they under-report emissions. Ex. 1, at 75. This opinion is wrong and should be excluded for several reasons.

First, Fishback testified that he was aware there were stack testing results for the CCC plant in 2004 or 2007, but he did not evaluate them. Ex. 2, at 168:4-14. Therefore, Fishback can hardly opine on what the stack test results show. Second, Unit 4 is

fundamentally different from the other three units at the plant because the #4 EBF line enters the stack (thermal oxidizer) at a much higher point than the other three units. Ex. 2, at I:177:15-23. This means that any conclusions drawn from the #4 EBF cannot be applied to the other units. Third, the #4 EBF particulate monitor detects particulate matter before it enters into the stack, without quantifying it, so no quantitative comparisons can be made with stack testing. Ex. 5 (Manual), at 8 (CPM 700 and 750 cannot be calibrated to any specific value equating to emissions). Fourth, stack testing on Unit 4 includes both sampling in the stack and sampling in the #4 EBF exhaust line after the #4 EBF particulate monitor. Exhibit 7, Metco Stack Test Report, May 2007, at 3, 17-18. Therefore, Unit 4 stack testing includes the #4 EBF particulate matter – a fundamental fact of which Fishback simply was not aware. Therefore, whether the #4 EBF particulate matter is combusted once it reaches the stack (thermal oxidizer) or not (which Fishback disputes) is not relevant to the emissions reported based on stack testing results.

CONCLUSION

Mr. Fishback's opinions regarding "large releases" and "significant potential additional emissions" from the CCC plant, as well as his opinions relating to bagfilter "opacity monitor" data, are not sufficiently reliable to meet the standards of *Daubert* and Rule 702 because they are based upon extreme flawed methodology and unreliable data. For the reasons set forth herein, the Court should entirely exclude Mr. Fishback's proposed opinions in General Comments 2, 3, and 4 of his April 14, 2008 expert report.

DATED: June 16, 2008

Respectfully submitted,

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