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UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA – SAN FRANCISCO DIVISION

UNITED STATES OF AMERICA,

Plaintiff,

v.

AU OPTRONICS CORPORATION, *et al.*,

Defendants.

Case No. CR-09-0110 (SI)

**AUO DEFENDANTS' MOTION IN LIMINE  
 TO EXCLUDE OVERCHARGE  
 TESTIMONY OF PROPOSED EXPERT  
 KEITH LEFFLER, Ph.D.**

Date: February 13, 2012  
 Time: 8:30 a.m.  
 Judge: Hon. Susan Illston  
 Place: Courtroom 10, 19<sup>th</sup> Floor

**TABLE OF CONTENTS**

	<b>PAGE</b>
I. INTRODUCTION .....	1
II. FACTUAL BACKGROUND .....	2
III. ANALYSIS .....	6
A. Professor Leffler's Overcharge Analysis Should Be Excluded Because the Results of His Regression Fail to Satisfy the Reliability Requirement of Federal Rule of Evidence 702 and <i>Daubert</i> . ....	6
1. As a Matter of Accepted Statistical Science, Dr. Leffler's Regression Coefficient is Not Reliable. ....	7
2. Dr. Leffler's Overcharge Analysis Fails to Meet the Level of Statistical Reliability That Federal Courts Find Acceptable. ....	8
3. If a 95% Level of Statistical Significance Was Required in <i>Harkonen</i> , That Standard Should Be Applied to Dr. Leffler's Overcharge Analysis. ....	10
B. This Court Should Join the Myriad Courts That Have Rejected Dr. Leffler's Opinions and Flawed Methodology. ....	12
C. In the Alternative, the Court Should Exercise its Discretion under Federal Rule of Evidence 403 to Exclude Professor Leffler's Unreliable Overcharge Analysis. ....	15
D. If Permitted To Testify At All, Professor Leffler Should Not Take The Stand Until After Argument On This Motion Is Heard. ....	16
IV. CONCLUSION .....	17

**TABLE OF AUTHORITIES****PAGE****CASES**

<i>A&amp;M Supply Co. v. Microsoft Corp.</i> 252 Mich. App. 580 (2002).....	14
<i>Apprendi v. New Jersey</i> 530 U.S. 466 (2000).....	2
<i>Bouman v. Block</i> 940 F. 2d 1211 (9th Cir. 1991) .....	8
<i>Butler v. Home Depot, Inc.</i> 1997 U.S. Dist. LEXIS 16296 (N.D. Cal. Aug. 28, 1997).....	10
<i>Castaneda v. Partida</i> 430 U.S. 482 (1977).....	8
<i>Contreras v. City of Los Angeles</i> 656 F. 2d 1267 (9th Cir. 1981) .....	9
<i>Cullen v. Indiana University Board of Trustees</i> 338 F. 3d 693 (7th Cir. 2003) .....	9, 10
<i>Daubert v. Merrell Dow Pharmaceuticals, Inc.</i> 509 U.S. 579 (1993).....	1, 2, 6, 15
<i>Eldredge v. Carpenters 46 N. Cal. Counties JATC</i> 833 F. 2d 1334 (9th Cir. 1987) .....	8
<i>Exxon Corp. v. Superior Court</i> 51 Cal. App. 4th 1672 (1997) .....	15
<i>FTC v. Freeman Hospital</i> 69 F. 3d 260 (8th Cir. 1995) .....	15
<i>Gay v. Waiters' &amp; Dairy Lunchmen's Union</i> 694 F. 2d 531 (9th Cir. 1982) .....	8
<i>Hazelwood School Dist. v. United States</i> 433 U.S. 299 (1977).....	8
<i>Howerton v. Grace Hospital, Inc.</i> 1995 U.S. Dist. LEXIS 21123 (W.D.N.C. July 7, 1995).....	15
<i>In re Intel Corp. Microprocessor Antitrust Litigation</i> MDL Docket No. 05-1717 (D. Del. July 28, 2010).....	2
<i>In re Methionine Antitrust Litigation</i> 2003 WL 22048232 (N.D. Cal. Aug. 26, 2003) .....	1, 13
<i>In re Potash Antitrust Litig.</i> 159 F.R.D. 682 (D. Minn. 1995).....	1, 13

1	<i>J.B.D.L. Corp. v. Wyeth-Ayerst Laboratories, Inc.</i>	
2	2005 U.S. Dist. LEXIS 11676 (S.D. Ohio 2005) .....	14
3	<i>Kelley v. Microsoft Corp.</i>	
4	2009 WL 413509 (W.D. Wash. 2009) .....	13
5	<i>Merrell Dow Pharmaceuticals, Inc. v. Havner</i>	
6	953 S.W. 2d 706 (Tex. 1997) .....	10
7	<i>Paige v. California</i>	
8	2007 U.S. App. LEXIS 12050 (9th Cir. 2007) .....	9
9	<i>Rebel Oil Co., Inc. v. Atlantic Richfield Co.</i>	
10	146 F. 3d 1088 (9th Cir. 1998) .....	14
11	<i>Rudebush v. Hughes</i>	
12	313 F. 3d 506 (9th Cir. 2002) .....	9
13	<i>The Coca-Cola Co. v. Omni Pacific Co., Inc.</i>	
14	2000 U.S. Dist. LEXIS 17089 (N.D. Cal. 2000) .....	14
15	<i>United States v. Espinosa</i>	
16	300 F. 3d 981 (8th Cir. 2002) .....	2
17	<i>United States v. Frazier</i>	
18	387 F. 3d 1244 (11th Cir. 2004) .....	16
19	<i>United States v. Harkonen</i>	
20	2010 WL 2985257 (N.D. Cal. July 27, 2010) .....	5, 11, 12
21	<i>United States v. Rincon</i>	
22	28 F. 3d 921 (9th Cir. 1994) .....	15, 16
23	<i>White v. City of San Diego</i>	
24	605 F. 2d 455 (9th Cir. 1979) .....	9
25	<b>STATUTES</b>	
26	28 C.F.R. § 50.14 .....	5
27	18 U.S.C. § 3571(d) .....	1
28	Federal Rule of Evidence 403 .....	15, 16
	Federal Rule of Evidence 702 .....	passim

**NOTICE OF MOTION AND MOTION**

TO THE COURT, ALL PARTIES AND COUNSEL OF RECORD:

PLEASE TAKE NOTICE that on February 13, 2012 at 8:30 a.m., before the Honorable Susan Illston, in Courtroom 10 of the United States Courthouse, 450 Golden Gate Avenue, San Francisco, California 94102, Defendants AU Optronics Corporation and AU Optronics Corporation America (collectively "AUO") move the Court to exclude the testimony of Dr. Keith Leffler because his regression methodology and results are not reliable under Federal Rule of Evidence 702 and *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993). The AUO defendants respectfully request that its underlying motion to exclude Dr. Leffler's testimony be heard on Monday, February 13, 2012 at 8:30 a.m. before Dr. Leffler takes the stand and that trial start later on Monday morning to provide sufficient time for argument. This will provide the government with enough time to respond to this motion and the Court with enough time to review the parties' briefing.

**MEMORANDUM OF POINTS AND AUTHORITIES**

**I. INTRODUCTION**

In order to permit the imposition of a fine larger than the statutory maximum, the Government seeks to prove, pursuant to 18 U.S.C. § 3571(d), the overcharge arising from the alleged conspiracy. The Government has retained a retired academic economist, Dr. Keith Leffler, to testify on this subject. Dr. Leffler's testimony regarding the amount of loss that the alleged price-fixing conspiracy caused to United States commerce will be based on a multiple regression analysis he has performed. That multiple regression analysis, by Dr. Leffler's own estimate, has a confidence level of 89%, which is well below the accepted reliability standard of 95%.

Dr. Leffler's methodology has drawn sharp and repeated criticism from federal and state courts throughout his quarter-century career as a plaintiffs' antitrust expert. Judge Breyer of this Court, for example, found in decertifying a class that "Dr. Leffler did not perform a multiple regression analysis as he promised he would do" and that the simple regression he *did* perform was "so insubstantial as to amount to no method at all." *In re Methionine Antitrust Litigation*, 2003 WL 22048232, at \*4, 5 (N.D. Cal. Aug. 26, 2003) (Breyer, J.) (quoting *In re Potash Antitrust Litig.*, 159 F.R.D. 682, 697



(D. Minn. 1995)). A Special Master in another antitrust case recently recommended that Dr. Leffler's testimony be excluded as unreliable under the *Daubert/ Kumho* standard because "it is not based on 'methods and procedures of science,' but rather upon unreliable analyses that fail to measure the alleged Intel overcharge and fails to 'regress out' important factors." *In re Intel Corp. Microprocessor Antitrust Litigation*, MDL Docket No. 05-1717, at 48 (D. Del. July 28, 2010) (Dkt. No. 2073) (copy attached at Healy Decl. Exh. H). Other, equally forceful judicial condemnations of Dr. Leffler's work litter his career as an expert. *See* Analysis, Part C *infra*. His errors here are thus part of a longstanding pattern.

By this motion, the AUO defendants seek an order excluding Dr. Leffler's opinions on this issue because his regression methodology and results are as unreliable in this case as they have been in these other cases. His proposed testimony therefore fails to satisfy the standards of Federal Rule of Evidence 702 and *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993). Specifically, the overcharge estimated by his regression analysis is not statistically significant to the level generally accepted by economists, by statisticians and by controlling case authority, which requires for statistical significance that the probability of a random outcome be no greater than 5%. Therefore, any testimony based on that estimated overcharge—and the resultant total "loss" calculated on the basis of that estimate—is insufficiently reliable. In addition, Dr. Leffler's three-part overcharge opinion is insufficient as a matter of law to satisfy this Court's *Apprendi* Order.<sup>1</sup> (Dkt. No. 356) As *Daubert* requires, this Court should serve as the gatekeeper of expert testimony and should exclude Dr. Leffler's proposed overcharge testimony.

## II. FACTUAL BACKGROUND

For purposes of proving the amount of commerce affected by the alleged TFT LCD conspiracy, the Government retained Dr. Keith Leffler, Ph.D., who prepared a report dated September 13, 2011.<sup>2</sup>

<sup>1</sup> On July 18, 2011, the Court held that "[s]hould the Government wish to go beyond" the maximum fine authorized by the Sherman Act "and seek a significantly larger fine based upon the establishment of additional facts, it must do so by following *Apprendi's* mandate, and by proving those facts to a jury beyond a reasonable doubt." (Dkt. No. 356 at 6) (citing *Apprendi v. New Jersey*, 530 U.S. 466, 490 (2000)). If the Government intends to seek a fine in excess of the statutory maximum of \$100 million, it must present expert testimony opining that the overcharge is a specific dollar figure. The Government has failed to do so. Because the jury therefore cannot determine a total overcharge to beyond a reasonable doubt, as required by the Court's Order and *Apprendi*, the Government is limited to the statutory maximum fine. *See United States v. Espinosa*, 300 F.3d 981, 983 (8th Cir. 2002) (entry of judgment of acquittal is required where Government fails to offer any evidence of a necessary element).

<sup>2</sup> AUO defendants have repeatedly pressed the Government to produce Dr. Leffler's dataset and complete  
266011\_6.DOC 2 Case No. CR-09-0110 SI

(Leffler Report, copy attached at Healy Decl. Exh. A.<sup>3</sup>) To calculate his overcharge, Dr. Leffler does not use any actual prices discussed among Crystal Meeting participants. He does not analyze the price per panel at which AUO and its co-defendants actually sold TFT LCD panels. Instead, Dr. Leffler's regression analysis estimates an overcharge by formulating a measure, never used in any actual transaction by AUO or any of the other five companies attending the meetings, of "price per square meter" for all panels produced. (Leffler Report, ¶43; Healy Decl. Exh. A.) His regression analysis then compares the price per square meter during the period of time when meetings were occurring to the period after the meetings stopped.

The core finding of his regression analysis for panels between 12.1 and 30 inches in size is that the alleged co-conspirators obtained an overcharge of \$439 per square meter (equivalent to an overcharge of 15.8 percent) during the price meeting period from October 2001 through January 2006. (Leffler Report ¶52 and Table 12; Healy Decl. Exhs. A-B.) To reach his conclusion as to the total loss caused, Dr. Leffler multiplies that \$439 per meter overcharge amount by a measure of the total square meters of panels sold, arriving at an estimated overcharge for both worldwide sales (\$12.3 billion overcharge) (Leffler Report, ¶52) and for U.S. Commerce (\$3.2-3.7 billion overcharge).<sup>4</sup> January 9, 2012 Supplemental Disclosure, ¶¶6-9 (Healy Decl. Exh. C).

The two facts critical to the present motion are set forth in Table 12 of his report, in which Dr. Leffler states that—with respect to his key overcharge finding of \$439 per square meter—the "standard error" associated with that result is \$272.32. (Leffler Report, ¶52 and Table 12; Healy Decl. Exhs. A-B.) Computer-based software used to run regressions typically report both of these numbers—the estimate (referred to as the "coefficient") and the standard error, as explained in the accompanying declaration of expert statistician, Professor Joseph Kadane. (Kadane Decl. ¶7.)

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backup so that they could fully understand and assess the regressions he performed. Our most recent meet-and-confer effort was this past Saturday, February 4, 2012. Healy Decl. ¶11. When the Government once again refused to produce the dataset, the AUO defendants had no choice but to file this motion without that data. The AUO defendants informed the Government that they would file a motion to exclude Dr. Leffler. *Id.*

<sup>3</sup> The declarations submitted in support of this motion are cited by the declarant's surname, i.e., "Healy Decl." and "Kadane Decl."

<sup>4</sup> By order dated December 23, 2011 (Dkt. No. 631), the Court directed that Dr. Leffler's testimony be limited to the affected volume of U.S. Commerce. The Government submitted the supplemental January 9, 2012 disclosure in response.

1 Before proceeding, we explain the purpose of the regression analysis in this context.  
 2 Conceptually, regression analyses of the type used by Dr. Leffler begins with a “null hypothesis,” or an  
 3 assumption that the dependent variable has no, or “zero,” relationship to the input variables. In this  
 4 case, the null hypothesis was that the price meetings had no effect on the price per square meter.  
 5 (Kadane Decl. ¶¶5-6.) In performing a regression for this purpose, a scientist, such as Dr. Leffler, seeks  
 6 to test whether there was any such effect and whether that effect was statistically significant. The null  
 7 hypothesis can be rejected only if the regression yields an overcharge estimate that is different from  
 8 zero, based upon the accepted standards of statistical significance.

9 Dr. Leffler’s coefficient of \$439 per square meter is, on its face, not equal to zero. However, due  
 10 to inherent variability in any regression estimate, the relationship might truly be zero even if  
 11 Dr. Leffler’s result is \$439. To test this, statisticians and economists review both the coefficient and the  
 12 measure of the variation, known as the “standard error” in regression analysis. Standard error in this  
 13 context is well approximated by the more common term “standard deviation.” (Kadane Decl. ¶7 & n. 7;  
 14 *see* D. Rubinfield, “Reference Guide on Multiple Regression,” *Reference Manual on Scientific Evidence*  
 15 (Federal Judicial Center 3d ed. 2000) (hereafter “Reference Guide”) at 340, copy attached at Healy Decl.  
 16 Exh. E.)

17 The t-statistic is used by economists and statisticians as a measure of the number of standard  
 18 deviations away from zero in order to determine the “level of confidence.” Besides standard error and  
 19 standard deviation, economists and statisticians use the “level of confidence” to determine if regression  
 20 results are statistically significant. To explain, a t-statistic of 1.96 standard deviations corresponds to a  
 21 95 percent level of confidence that the observed effect between the dependent variable and input  
 22 variables was not an anomalous result. Reference Guide at 343 (Healy Decl. Exh. E). The 95 percent  
 23 confidence standard is sometimes referred to as the 5 percent level of significance. The 95 percent level  
 24 of confidence is a widely accepted benchmark among statisticians and other social scientists when  
 25 reporting results from a variety of statistical analyses. (Reference Guide at 343 (Healy Decl. Exh. E);  
 26 Kadane Decl. ¶¶10-12.) Notably, the 1.61 standard deviations of Dr. Leffler’s overcharge result  
 27 corresponds to a confidence level of only **89 percent**, falling short of the accepted 95 percent level.  
 28 (Kadane Decl. ¶13.)



Indeed, no less an authority than the Department of Justice itself employs the 95 percent standard in various contexts, and views confidence levels below 95 percent with appropriate skepticism.<sup>5</sup> For purposes of determining statistical significance with regards to reporting crime statistics, the Department of Justice has written: “[a] standard of confidence [of] 95%, meaning there is a possibility that the difference may be due to chance but that this possibility is less than 5%. [The Department] terms findings in the 90% range as marginal or as indicating some evidence of a change. (“Displaying Violent Crime Trends Using Estimates from the National Crime Victimization Survey,” U.S. Dept of Justice, Bureau of Justice Statistics Technical Report (June 1998) at pg. 4, copy attached as Healy Decl. Exh. F.) Also, the Department of Justice has promulgated employment regulations regarding the validity of selection criteria that embrace the 95 percent standard:

[The Department] standards, based on general social science practice, specify the degree of certainty that is acceptable with sampled data. For the most part, the BJS standard of confidence is the relationship between performance on the procedure and performance on the criterion measure is statistically significant at the 0.05 level of significance, 28 C.F.R. § 50.14, at § 14(b)(5).).

To the same effect, Dr. Leffler himself has written that regression coefficients at the 90% level of confidence are “marginally significant.” (Keith B. Leffler, Randal R. Rucker, Ian A. Munn, “The Choice Among Sales Procedures: Auctions vs. Negotiated Sales of Private Timber,” (Preliminary Draft, Sept. 15, 2003), copy attached as Healy Decl. Exh. D.)

The critical fact for the present motion is that Dr. Leffler’s price coefficient falls short of the 95 percent level of confidence, using the standard statistical test.<sup>6</sup> Expressed another way, this 95 percent level of confidence can be used to calculate a broad range between *minus* \$95 and \$928. (Kadane Decl. ¶8.) Therefore, Dr Leffler’s regression does not reliably reject the existence of any hypothetical coefficient within this range, be it overcharge, no effect or undercharge. (Kadane Decl. ¶8.) In

<sup>5</sup> See discussion of *U.S. v. Harkonen*, *infra*, at Analysis, Part A(3) *infra*.

<sup>6</sup> As Dr. Kadane explains, comparing the t-statistic to standard statistical tables using what is known as the “two-tailed” test is the preferred approach to this type of inquiry. The “two-tailed” test refers to the probabilities occurring at either end of the “bell curve” curve of results. (Kadane Decl. ¶8 & n. 2.) Even if Dr. Leffler use a one-tailed test, his results are still not significant at the 95 percent level of confidence. *Id.*; see also Reference Guide at 321.

summary, whenever a value of zero falls within the 95 percent confidence level (as it clearly does in this case), the statistician cannot reject the null-hypotheses (in this case that there is *no overcharge*).

Because Dr. Leffler's overcharge coefficient is not statistically significant at accepted levels, the AUO defendants move to exclude those modeling results and any opinion testimony based on those results.

### III. ANALYSIS

#### A. Professor Leffler's Overcharge Analysis Should Be Excluded Because the Results of His Regression Fail to Satisfy the Reliability Requirement of Federal Rule of Evidence 702 and *Daubert*.

Federal Rule of Evidence 702 governs the admissibility of expert testimony. This rule provides:

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.

Rule 702 was amended in 2000 to incorporate the principles first articulated by the Supreme Court in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 593-94 (1993). See Fed. R. Evid. 702, Adv. Comm. Notes (2000).

The present motion focuses on the reliability of Dr. Leffler's findings of overcharge, so we turn to the non-exclusive factors that federal courts are to consider when assessing the scientific validity or reliability of expert testimony:

- 1) Whether the theory or technique has been tested;
- 2) Whether the theory or technique has been subjected to peer review and publication;
- 3) The known or potential *rate of error* of the method used;
- 4) The *existence and maintenance of standards* controlling operation of the methodology;

and

- 5) Whether the theory or method has been generally accepted by the scientific community.

*Daubert*, 509 U.S. at 593-94 (emphasis added).

Here, we focus on whether Dr. Leffler's price coefficient—which has a t-statistic of 1.61 and a confidence level of just 89 percent—is sufficiently reliable under the standards established by Rule 702 and *Daubert*. As we explain, statistical science and controlling legal authorities answer that inquiry with a resounding “no.”

**1. As a Matter of Accepted Statistical Science, Dr. Leffler's Regression Coefficient is Not Reliable.**

In accordance with *Daubert*, the Court should first consider whether Dr. Leffler's regression results are viewed as acceptable by the scientific community.

One need look no further on this topic than the very manual used to teach Federal Judges about using scientific evidence. In the *Reference Manual on Scientific Evidence*, published by the Federal Judicial Center, Professor Daniel Rubinfeld of the University of California, Berkeley, authors an article on the use of multiple regression analysis. He succinctly sets forth widely accepted level of statistical significance applicable to regression analyses and in other contexts:

In most scientific work, the level of statistical significance required to reject the null hypothesis (i.e., to obtain a statistically significant result) is set conventionally at 0.05, or 5%. (Reference Guide at 320, attached at Healy Decl. Exh. E.)

As noted previously, Dr. Rubinfeld's reference to 5 percent significance standard is identical to the 95 percent confidence level, just stated in the inverse ( $100\% - 5\% = 95\%$ ). Dr. Rubinfeld also cites the previously-discussed t-statistic standard in his article, noting, “If the t-statistic is less than 1.96 in magnitude, the 95 percent confidence interval around [the estimate] must include 0.” *Id.* at 343.

In the accompanying declaration, Professor Kadane, an expert statistician, explains that the 95% confidence level is widely accepted in statistics and the social sciences, and that Professor Leffler's overcharge result fails to meet that standard. (Kadane Decl. ¶¶10-15.) For that reason, his estimated overcharge result cannot be viewed as reliable. *Id.*

Indeed, Professor Leffler himself acknowledges the importance of the 95 percent level of confidence in his September 2011 Report, claiming that his regression coefficients satisfy that standard. Leffler Report ¶50 (“As expected, the estimated coefficient on the Price Meetings variable is positive in all regressions and generally statistically significant at the 95+% level.”). Although Dr. Leffler does not

1 explain this statement and has not produced all supporting data, we understand the statement to perhaps  
 2 mean that certain of the *other* coefficients listed in Table 12 are “generally statistically significant.” The  
 3 key coefficient of \$439, which he characterizes as his “best” estimate (Leffler Report ¶52) and is the  
 4 *only* estimate he uses for his actual overcharge analysis, is not statistically significant at the 95 percent  
 5 level, as explained above. (See Kadane Decl. ¶8.) In another context, Dr. Leffler has written that the 90  
 6 percent level of confidence was only “marginally significant.” (Healy Decl. Exh. D at 20.) Because his  
 7 core overcharge result only has an 89% level of confidence, it fails to meet even that reduced level of  
 8 confidence.

9 In sum, Dr. Leffler’s overcharge coefficient of \$439 fails to satisfy the 95 percent level of  
 10 confidence that is the accepted standard for statistical significance among statisticians and economists.  
 11 It is therefore insufficiently reliable under Rule 702 and *Daubert*.

## 12 **2. Dr. Leffler’s Overcharge Analysis Fails to Meet the Level of Statistical** 13 **Reliability That Federal Courts Find Acceptable.**

14 In assessing the applicable standard deviation that pertains to a purported statistical disparity, the  
 15 Court does not write on a blank slate. More than 30 years ago, the United States Supreme Court  
 16 considered the appropriate level of statistical significance in an employment discrimination case,  
 17 concluding that “(a)s a general rule for such large samples, if the difference between the expected value  
 18 and the observed number is greater than two or three standard deviations,’ then the hypothesis that  
 19 teachers were hired without regard to race would be suspect.” *Castaneda v. Partida*, 430 U.S. 482,  
 20 497 n. 17 (1977); accord, *Hazelwood School Dist. v. United States*, 433 U.S. 299, 311 n. 17 (1977)  
 21 (“a fluctuation of more than two or three standard deviations would undercut the hypothesis that  
 22 decisions were being made randomly with respect to race”).

23 Moreover, the Ninth Circuit has generally and consistently required statistical disparities to be  
 24 reliable to a level of at least 1.96 standard deviations, corresponding to a 95 percent degree of  
 25 confidence. Compare *Bouman v. Block*, 940 F. 2d 1211, 1225 n.1 (9th Cir. 1991) (applying .05 level of  
 26 certainty to conclude results were statistically significant); *Eldredge v. Carpenters 46 N. Cal. Counties*  
 27 *JATC*, 833 F. 2d 1334, 1340 n.8 (9th Cir. 1987) with *Gay v. Waiters’ & Dairy Lunchmen’s Union*,



694 F. 2d 531, 551-52 (9th Cir. 1982) (requiring higher threshold for inference of *intentional* discrimination).

Of particular significance here, Ninth Circuit precedent firmly supports rejecting statistical evidence that does not satisfy the .05 level of certainty. In *Contreras v. City of Los Angeles*, 656 F. 2d 1267, 1273 (9th Cir. 1981), a group of city employees offered statistics to establish that an examination given to senior accountant applicants had a disparate impact on Hispanics. Because the disparity was not significant at the 95 percent level of certainty, the district court held that no prima facie case was established. On appeal, the Ninth Circuit noted that the .05 level of statistical significance is “generally recognized as the point at which statisticians draw conclusions from statistical data.” *Id.* at 1273 n. 3 (citing *White v. City of San Diego*, 605 F. 2d 455, 460 (9th Cir. 1979)). The court affirmed the district court’s conclusion that the plaintiffs’ statistical evidence, which was not significant at a .05 level of statistical significance, was insufficiently reliable. *Id.* at 1273. Further, in a recent unpublished decision the Ninth Circuit concluded that “the court committed clear error by not using the 1.96 mark.” *Paige v. California*, 233 Fed. App. 646; 2007 U.S. App. LEXIS 12050 (9th Cir. 2007) (“we have relied upon the 1.96 standard deviation standard unless the factual circumstances of the case warranted departure”).

Federal courts have applied these guidelines to the results of regression analyses. In *Rudebush v. Hughes*, 313 F. 3d 506 (9th Cir. 2002), a group of university faculty members brought a “reverse discrimination” lawsuit to challenge a salary increase that was extended primarily to minority and female faculty members. The university had relied on a regression analysis in an effort to demonstrate historical salary discrimination and to determine the amounts of the purportedly remedial salary increases. The Ninth Circuit did not find the university’s regression analysis convincing and expressed its “concern about inferring discrimination from a study in which the highest single pay disparity for ethnic minorities fell 2.0 standard deviations away from predicted salary.” 313 F. 3d at 515. Similarly, in *Cullen v. Indiana University Board of Trustees*, 338 F. 3d 693 (7th Cir. 2003), plaintiff sought to establish a prima facie case of discrimination under the Equal Pay Act through reliance on a regression analysis which showed that her salary was more than one but less than two standard deviations away

1 from the mean. *Id.* at 697. The Seventh Circuit concluded that showing was insufficient to establish a  
 2 prime face case. *Id.* at 701-02.<sup>7</sup>

3 In keeping with the level of scrutiny that other courts have applied to regression analyses, this  
 4 Court has also followed the Supreme Court's guidance regarding standard deviations in a disparate  
 5 impact case. In *Butler v. Home Depot, Inc.*, 1997 U.S. Dist. LEXIS 16296 (N.D. Cal. Aug. 28, 1997)  
 6 (Illston, J.), plaintiff's expert offered statistical evidence of a disparity in hiring women for particular  
 7 positions. The court noted that "[a standard deviation] of 2 to 3 may be significant." *Id.* at \*18 n.6.

8 In the present case, Dr. Leffler's overcharge coefficient fails to make the grade. His regression  
 9 analysis estimated the amount of overcharge at \$439 per square meter. But, as his report makes clear,  
 10 the standard error associated with that coefficient is \$272.32, which means the result is only 1.61  
 11 standard deviations away from zero. (Table 12 of Leffler Report (Healy Decl. Exh. B); Kadane Decl.  
 12 ¶7.) That is well below a 95 percent confidence standard of 1.96 standard deviations—and much less  
 13 than "two or three standard deviations"—that courts typically accept as statistically significant.

14 Because Dr. Leffler's overcharge coefficient is not statistically significant at accepted levels, it is  
 15 not reliable. Pursuant to Rule 702 and *Daubert*, the Court should exclude any expert opinions based on  
 16 that analysis.

17 **3. If a 95% Level of Statistical Significance Was Required in *Harkonen*,  
 18 That Standard Should Be Applied to Dr. Leffler's Overcharge Analysis.**

19 Should there be any remaining doubt as to whether the 95% standard for statistical significance  
 20 should be applied in this criminal prosecution, the Court need look no further than a case that the

21 <sup>7</sup>  
 22 Courts have applied the well-accepted 95 percent level of certainty to statistical analyses in other disciplines,  
 23 such as epidemiology. In *Merrell Dow Pharmaceuticals, Inc. v. Havner*, 953 S.W.2d 706, 723-724 (Tex.  
 24 1997), the Court, finding the testimony of plaintiffs' experts unreliable under *Daubert*, emphasized that an  
 25 expert witness should not be permitted to offer an opinion by employing standards of statistical significance  
 26 lower than those generally accepted in the relevant scientific community: "The generally accepted  
 27 significance level or confidence level in epidemiological studies is 95%, meaning that if the study were  
 28 repeated numerous times, the confidence interval would indicate the range of relative risk values that would  
 result 95% of the time. . . . Although one of the [plaintiffs'] witnesses, Dr. Swan, advocated the use of a 90%  
 confidence level (10 in 100 chance of error), she and other of the [plaintiffs'] witnesses conceded that 95% is  
 the generally accepted level. . . . We think it unwise to depart from the methodology that is at present  
 generally accepted among epidemiologists. Accordingly, we should not widen the boundaries at which courts  
 will acknowledge a statistically significant association beyond the 95% level to 90% or lower values."  
 (citations omitted.)

Department of Justice recently tried before the honorable Marilyn Hall Patel in this very courthouse, *United States v. Harkonen*, No. C 08-00164 MHP, 2010 WL 2985257 (N.D. Cal. July 27, 2010) (copy attached at Healy Decl. Exh. G). The Government in that case successfully proved that, because a drug study did not yield results statistically significant at the 95 percent level, statements in defendant's favorable press release were criminally fraudulent.

Defendant *Harkonen*, a physician and CEO of a pharmaceutical company, approved a press release that claimed in its headline that the double blind study had demonstrated a statistically significant reduction in the death rate of patients suffering from an incurable lung disease. In fact, the p-value of the test results (the probability that the result occurred by chance) exceeded .05 and the results were thus unreliable.<sup>8</sup> Based on that false statement, among others, in the press release, the Government prosecuted Harkonen and the jury convicted him of wire fraud.

In denying *Harkonen's* post-conviction attack on the sufficiency of the evidence, Judge Patel described the Government's statistical evidence, in pertinent part, as follows:

To establish the falsity of statements made in the August 28, 2002 press release, the government called Thomas Fleming ("Fleming"), a Professor of Biostatistics at the University of Washington, and Michael Crager ("Crager"), the former Senior Director of Biostatistics at InterMune who was the principal biostatistician working on the GIPF-001. Both witnesses had substantial and impressive experience in biostatistics....

...The jury heard substantial testimony from Crager and Fleming regarding how investigators analyze and interpret the data from clinical trials. The significance of a trial's results is primarily expressed through what is known as a "p-value," which is a number between 1 and 0. *Id.* at 2185-86 (Crager testimony); *id.* at 674 (Fleming testimony). The p-value is a "measure of how likely the result you saw would have been to occur by chance alone" *Id.* at 2186 (Crager testimony); *see also id.* at 674 (Fleming testifying that "[a] p-value is an analytical tool that we use to present how unlikely the events would be by chance alone"). The lower a p-value is, the greater probability that the result perceived in the data is not due to chance. Both Crager and Fleming testified that in the world of biostatistics, a p-value of 0 .05 is somewhat of a magic number. *Id.* at 2186 (Crager testifying that 0.05 is a "standard cutoff"); *id.* at 674 (Fleming testifying that "by tradition, [statisticians] define 'success' to be a two-sided p-value of .05"). A p-value of 0.05 indicates that the data obtained in the trial would occur by chance less than 5 percent of the time. *Id.* As a general matter, if the p-value is less than 0.05, a study's results are considered statistically significant; if greater, than 0.05, the results

<sup>8</sup> A p-value of .05 or less is necessary to reject the null hypothesis. Reference Guide at 320, Healy Decl. Exh. E.

1 *are generally considered unreliable and not statistically significant.* 2010  
 2 WL 2985257 at \*5 (emphasis added)

3 Judge Patel denied acquittal on a number of grounds, the first of which was that “the jury could  
 4 have found that the headline of the press release was objectively untrue. The jury heard uncontroverted  
 5 testimony from Crager and Fleming that any p-value greater than 0.05 indicates that the results of a  
 6 study are not statistically significant.” *Id.* at \*9.

7 The upshot of *Harkonen* is that the Government deemed the statement mischaracterizing a study  
 8 with a p value (the probability of occurring due to chance) over .05 as statistically significant to be  
 9 feloniously fraudulent. The jury and Judge Patel agreed.

10 But, in this case, the Government seeks to rely on Dr. Leffler’s overcharge analysis which has  
 11 only an 89 percent level of confidence—a p value of .11. Under the reasoning of *Harkonen*, inclusion of  
 12 Dr. Leffler’s overcharge analysis in a stock prospectus would render him guilty of securities fraud.  
 13 While the AUO defendants do not assert that Dr. Leffler’s overcharge analysis amounts to criminal  
 14 wrongdoing, there can be no question that the analysis is so unreliable as to be inadmissible.

15 **B. This Court Should Join the Myriad Courts That Have Rejected Dr. Leffler’s**  
 16 **Opinions and Flawed Methodology.**

17 As explained above, Dr. Leffler’s overcharge coefficient is not statistically significant and, as a  
 18 result, his opinions based on that analysis are fatally unreliable. Therefore, this Court should follow the  
 19 lead of the many courts, dating back a generation, that have rejected Professor Leffler’s defective  
 20 methodology.

21 In a recent antitrust case in the District of Delaware, Dr. Leffler was retained by plaintiff indirect  
 22 purchasers of computer microprocessors to estimate damages against Intel. *In re Intel Corp.*  
 23 *Microprocessor Antitrust Litigation*, July 28, 2010 Report and Recommendation (copy attached at Healy  
 24 Decl. Exh. H). The plaintiffs alleged that Intel abused its monopoly power in the domestic market for  
 25 microprocessors by forcing major customers into exclusive agreements, conditioning rebates to original  
 26 equipment manufacturers to prevent OEMs from purchasing the microprocessors from Intel’s  
 27 competitors, and forcing its technical standards on the industry to handicap competitors. Dr. Leffler  
 28 performed a regression analysis to measure the rate of the overcharge passed on to the indirect



1 purchasers. After extensive briefing, permitting the plaintiffs to submit an additional declaration by Dr.  
 2 Leffler, and permitting Intel to re-depose Dr. Leffler, in a detailed report and recommendation, the  
 3 Special Master recommended excluding Dr. Leffler's testimony because his regression analyses to  
 4 measure Intel's overcharge was unreliable. *Id.* at 28. The Special Master concluded that "Dr. Leffler's  
 5 testimony should be excluded under the *Daubert/Kumho* standard because it is not based on 'methods  
 6 and procedures of science,' but rather upon unreliable analyses that fail to measure the alleged Intel  
 7 overcharge and fails to 'regress out' important factors." *Id.* at 48. The Special Master found that Dr.  
 8 Leffler failed to "take into account a myriad of relevant factors that influence the price of personal  
 9 computers" and "fail[ed] to account for differences in microprocessor quality." *Id.* at 31, 34.

10 In a price fixing case in the Northern District, Dr. Leffler served as the expert for plaintiff  
 11 indirect purchasers who alleged a 15-year conspiracy to fix the price of methionine, an amino acid used  
 12 as a dietary supplement. *In re Methionine Antitrust Litigation*, 2003 WL 22048232 (N.D. Cal. Aug. 26,  
 13 2003) (Breyer, J.). The court certified a class of Wisconsin indirect purchasers who did not resell the  
 14 product based in part on Dr. Leffler's proposed methodology "to calculate the overcharge pass-on rate  
 15 for the class using multiple regression analysis." *Id.* at \*2. Dr. Leffler did not, however, perform his  
 16 "proposed analysis upon which the Court relied" in certifying the class. *Id.* at \*4. Instead, Dr. Leffler  
 17 changed and simplified his methodology. The Court held that "Dr. Leffler's new—and much  
 18 simplified—method of computing the extent of the antitrust injury [was] unreasonable." *Id.* The court  
 19 concluded that Dr. Leffler's method was "so insubstantial as to amount to no method at all." *Id.* at \*5  
 20 (quoting *In re Potash Antitrust Litig.*, 159 F.R.D. 682, 697 (D. Minn. 1995)). This is not the first time  
 21 Dr. Leffler's unreliable expert opinion resulted in the decertification of a class action. *See Kelley v.*  
 22 *Microsoft Corp.*, 2009 WL 413509, at \*6 (W.D. Wash. 2009) ("Plaintiffs' evidence fails to establish  
 23 class-wide causation because it does not attempt [to] identify a specific shift in the demand for Vista  
 24 Capable PCs. [Plaintiffs' expert] Dr. Leffler did not attempt any regression analysis, much less an  
 25 econometric analysis of the impact of 'Vista Capable' on demand.").

26 Dr. Leffler's expert opinion has been frequently criticized, discounted, and rejected by federal  
 27 and state courts in antitrust cases across the country for over 25 years.  
 28

- 1       ▪ *Rebel Oil Co., Inc. v. Atlantic Richfield Co.*, 146 F. 3d 1088, 1095 (9th Cir. 1998) (affirming  
2       summary judgment for defendant) (“But where, as here, the expert **[Dr. Leffler]** offers an  
3       **opinion that courts have rejected as a matter of law**, that opinion is not enough to create  
4       an issue of material fact that survives summary judgment. ‘In the context of antitrust law, if  
5       there are undisputed facts about the structure of the market that render the inference [to be  
6       drawn from expert affidavits] economically unreasonable, the expert opinion is insufficient to  
7       support a jury verdict.’”);
- 8       ▪ *The Coca-Cola Co. v. Omni Pacific Co., Inc.*, 2000 U.S. Dist. LEXIS 17089, at \*25-26 (N.D.  
9       Cal. 2000) (Illston, J.) (concluding that Dr. Leffler’s expert opinion regarding the adverse  
10      effect on the U.S. market was improperly limited and granting summary judgment in part  
11      where exporter lacked evidence of antitrust injury in the relevant market) (“Omni’s economic  
12      expert **did not quantify** or otherwise demonstrate the level of impact [The Coca-Cola Co.]’s  
13      policy has had on U.S. exports.”);
- 14      ▪ *J.B.D.L. Corp. v. Wyeth-Ayerst Laboratories, Inc.*, 2005 U.S. Dist. LEXIS 11676, at \*56-57  
15      (S.D. Ohio 2005) (Leffler’s opinion regarding antitrust injury was “**fatally flawed**”);
- 16      ▪ *A&M Supply Co. v. Microsoft Corp.*, 252 Mich. App. 580, 638-39 (2002) (reversing trial  
17      court’s certification of class of indirect purchases due to the plaintiffs’ failure to establish  
18      pass-on of overcharge to indirect purchasers based on Dr. Leffler) (“Bluntly put, the absence  
19      of any meaningful details in Dr. Leffler’s affidavits make these statements **slogans, not**  
20      **methods of proof**. We appreciate that Dr. Leffler did not have all the data necessary to put  
21      forth the evidence he might be able to present at a trial following further discovery. We also  
22      appreciate that it is unlikely that A & M has the same financial resources as Microsoft with  
23      which to secure preliminary studies. Nevertheless, these broad, nonspecific references fail to  
24      describe a method or formula by which a court could determine that Microsoft’s conduct  
25      caused actual damages or injury to each class member, even when the assertions are read in  
26      context.”);

- 1       ▪ *Exxon Corp. v. Superior Court*, 51 Cal. App. 4th 1672, 1683 (1997) (finding Dr. Leffler's
- 2       opinions on the "effect of Exxon's practices on the entire retail market are **purely**
- 3       **speculative**");
- 4       ▪ *FTC v. Freeman Hospital*, 69 F. 3d 260, 266 (8th Cir. 1995) (concluding that Dr. Leffler's
- 5       use of the test to analyze consumer patterns to determine the market was **less "economically**
- 6       **sound"** than the defendant's expert use of the same test);
- 7       ▪ *Howerton v. Grace Hospital, Inc.*, 1995 U.S. Dist. LEXIS 21123, at \*40-41 (W.D.N.C.
- 8       July 7, 1995) ("In short, the opinion of Dr. Leffler concerning market power and
- 9       monopolization is **unreliable** because such is refuted by Plaintiff's evidence and is not
- 10      supported by the record.").

11       **C. In the Alternative, the Court Should Exercise its Discretion under**  
 12       **Federal Rule of Evidence 403 to Exclude Professor Leffler's**  
 13       **Unreliable Overcharge Analysis.**

14       Should the Court conclude that Dr. Leffler's opinions regarding overcharge are sufficiently  
 15       reliable to satisfy Rule 702, there is an alternative reason why that proposed testimony should be  
 16       excluded.

17       Pursuant to Federal Rule of Evidence 403, the Court should exercise its discretion to exclude  
 18       Dr. Leffler's proposed testimony on overcharge and gross loss because the potential for misleading or  
 19       confusing the jury outweighs the limited probative value of the evidence.

20       In *Daubert*, 509 U.S. at 595, the Supreme Court advised district courts to use their Rule 403  
 21       discretion with focused attention in considering the admissibility of expert testimony:

22               Rule 403 permits the exclusion of relevant evidence "if its probative value  
 23               is substantially outweighed by the danger of unfair prejudice, confusion of  
 24               the issues, or misleading the jury...." Judge Weinstein has explained:  
 25               "Expert evidence can be both powerful and quite misleading because of  
 26               the difficulty in evaluating it. Because of this risk, *the judge in weighing*  
 27               *possible prejudice against probative force under Rule 403 of the present*  
 28               *rules exercises more control over experts than over lay witnesses."*

29       *Id.* (citing Weinstein, "Rule 702 of the Federal Rules of Evidence is Sound; It Should Not Be  
 30       Amended," 138 F.R.D. 631, 632 (1991) (emphasis added)).

31       Heightened judicial scrutiny of proposed expert testimony applies in criminal prosecutions, as  
 32       well as in civil litigation. In *United States v. Rincon*, 28 F. 3d 921 (9th Cir. 1994), defendant sought to

offer expert testimony to question the accuracy of eyewitness identifications. The district court excluded the testimony. *Id.* at 923. On appeal, the Ninth Circuit evaluated that ruling under *Daubert* and Rule 403, affirming the several bases of the district court's decision. As pertinent here, the court held that the district court acted within its Rule 403 discretion in deciding that the proposed expert testimony "would likely confuse or mislead the jury." *Id.* at 925.

In *United States v. Frazier*, 387 F.3d 1244, 1264-66 (11th Cir. 2004), the Eleventh Circuit affirmed a decision to exclude proposed expert testimony of a crime scene investigator that it found to be lacking a reliable foundation, was unlikely to assist the jury and "easily could serve to confuse the jury, and might well have misled it." The *Frazier* court explained (*id.* at 1263):

Simply put, expert testimony may be assigned talismanic significance in the eyes of lay jurors, and, therefore, the district courts must take care to weigh the value of such evidence against its potential to mislead or confuse.

In keeping with the Supreme Court's directive in *Daubert*, heightened scrutiny of Dr. Leffler's proposed overcharge testimony is appropriate. First, Dr. Leffler's \$439 overcharge coefficient is of marginal benefit. With a reliability of only 1.61 standard deviations and an 89 percent confidence level, that result is, at best, teetering over the extreme edge of what statisticians and courts consider to be a *marginally* reliable finding. It is therefore of marginal relevance to proving the actual amount of overcharge, if any. On the other side of the balance, the Rule 403 factors provide multiple reasons to exclude this testimony. The regression results are confusing, likely to mislead the jury, and will consume significant testimonial time to address in an already lengthy trial. Further, it is unduly prejudicial to accuse the AUO defendants of having caused a \$12.3 billion worldwide overcharge and a \$3+ billion loss on U.S. sales, when, in fact, that conclusion rests on a methodology that, statistically, comports with the absence of any overcharge or, even, the presence of an undercharge.

**D. If Permitted To Testify At All, Professor Leffler Should Not Take The Stand Until After Argument On This Motion Is Heard.**

The AUO defendants respectfully request that their underlying motion to exclude Dr. Leffler's testimony be heard on Monday, February 13, 2012 at 8:30 a.m. before Dr. Leffler takes the stand and that trial start later on Monday morning to provide sufficient time for argument. This will provide the



1 government with enough time to respond to this motion and the Court with enough time to review the  
2 parties' briefing.

3 On Saturday, February 4, 2012, counsel for the government informed the defendants that Dr.  
4 Keith Leffler, the government's economist, would be its next witness after C.C. Liu. Mr. Liu is  
5 currently on the stand. On Tuesday, February 7, 2012, counsel for the government changed its witness  
6 line-up and informed the defendants that Praveen Rathore of Apple would be its next witness after Mr.  
7 Liu, rather than Dr. Leffler. Counsel for the government also stated that it may change this witness  
8 order and put Dr. Leffler on first. AUO defendants currently expect the government to call Mr. Rathore  
9 after CC Liu and request that Dr. Leffler not take the stand until argument is heard on this underlying  
10 motion.

#### 11 IV. CONCLUSION

12 For the foregoing reasons, the AUO defendants respectfully request that the Court enter an order  
13 excluding any opinion testimony from Dr. Leffler regarding the amount of overcharge or gross loss  
14 purportedly caused by the conspiracy.

15 DATED: February 7, 2012

NOSSAMAN LLP

17 By: /s/ Christopher A. Nedean  
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