

**ORAL ARGUMENT OCCURRED ON OCTOBER 15, 2004**

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**No. 96-1062 and Consolidated Cases**

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**IN THE UNITED STATES COURT OF APPEALS  
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

**EDISON ELECTRIC INSTITUTE, et al.,**

**Petitioners,**

**v.**

**U.S. ENVIRONMENTAL PROTECTION  
AGENCY, et al.,**

**Respondents.**

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**ON PETITION FOR REVIEW OF A RULE OF THE  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

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**PETITIONERS' PETITION FOR PANEL REHEARING**

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## I. Introduction<sup>1</sup>

Petitioners' challenges to EPA's chronic Whole Effluent Toxicity ("WET") test methods centered on the extreme variability and unreliability of test results at low levels of toxicity (*i.e.*, the 1-3 TU<sub>c</sub> level most commonly imposed in Clean Water Act ("CWA") discharge permits). The Court rejected this point based upon its own statistical analysis of the precision of low-level WET testing. *See* Opinion at 7, Case No. 96-1062 (Dec. 10, 2004) ("Op."). The Court also declared that "[b]y computing the CV using toxicity units (TU<sub>c</sub>s)," Petitioners' precision calculations produced a "grossly inflated result." Op. at 7 n.4. According to the Court, this "error lies at the heart of petitioners' claims of extreme variability in the results of WET testing." Op. at 7. In substituting its own mathematical approach for the only one included in the record, the Court made two fundamental errors that warrant rehearing.

First, contrary to the Court's understanding, EPA unfailingly recommends the use of TUs for everything from reporting WET test results, establishing toxicity water quality standards, developing coefficients of variation ("CVs"), establishing WET permit limits, and assessing compliance. *Cf.* Op. at 7 *with infra* 5-7. EPA has nowhere asserted that evaluating WET test results as TU<sub>c</sub>s is inappropriate.

Second, the Court committed a fundamental statistical error in calculating a CV of 0.43 for the only data in the record regarding the precision of WET tests at low levels of toxicity.<sup>2</sup>

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<sup>1</sup> This Petition for Panel Rehearing is brought by WESTCAS and the WET Coalition (collectively, the "Petitioners").

<sup>2</sup> EPA conceded at oral argument that it only developed a low-toxicity data set for one of its chronic methods – *Ceriodaphnia*. *See* Oral Argument Tr. ("Tr.") at 26-27 (Oct. 15, 2004) ("in the *Ceriodaphnia* test, we accidentally tested at low levels...In the other ones they weren't [tested at low levels]") (emphasis in original). As admitted by EPA's counsel, regardless of any alleged statistical errors in calculating the *Ceriodaphnia* CV, EPA has no record data whatsoever regarding the precision of any other adopted chronic WET method at low levels of toxicity (Fathead minnow growth and reproduction and Green Alga). *See Id.* Thus, EPA has no data confirming the reliability of any chronic WET tests at low toxicity levels, or that the substitute approach to "detection limits" is proven effective in the low toxicity range. *Cf.* Op. at 10.

*See Op. at 7 n.4.* The Court assumed the low toxicity data, like the high toxicity data, were “normally distributed” (*i.e.*, formed a “bell-shaped” distribution). *See id.* However, it is a fundamental rule of statistical analysis that the distribution of a data set dictates which statistics should be performed on the data. *See* Affidavit of Dr. Robert F. Rockwell (“Rockwell Affid.”) at ¶6, attached hereto; *see also* EPA, *Technical Support Document for Water Quality Based Toxics Control* (“1991 TSD”) at E-3 (Mar. 1991).<sup>3</sup> These data are not normally distributed, but instead fit the “delta-log normal” distribution used by Petitioners. Rockwell Affid. at ¶10; 1991 TSD at E-10. This distribution may only be applied to data reported as TU. Rockwell Affid. at ¶¶’s 11, 13; 1991 TSD at E-10. Thus, EPA’s TSD confirms that Petitioners’ approach is proper and the Court’s analysis was incorrect.

Barring the Court’s errors, there was no basis in the record for finding that EPA had demonstrated the reliability of its chronic WET tests at the levels routinely imposed in permits. The available data confirm that the chronic WET tests are excessively variable at lower levels of toxicity. EPA failed to adequately address this variability in adopting the chronic WET methods. Consequently, rehearing is warranted to correct the errors in the Court’s analysis.

## **II. Statement of Facts**

In denying the petitions for review, the Court primarily relied upon the criteria of precision to determine that EPA’s chronic WET test methods were sufficiently reliable to be imposed as mandatory requirements in CWA permits. *See Op. at 7* (finding that the chronic WET methods “exhibit a degree of precision compatible with numerous chemical-specific tests already in use”). Petitioners’ briefs contained the sole low toxicity Reference Toxicant data set

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<sup>3</sup> While the 1991 TSD is part of the record, Appendix E was not included in the Joint Appendix. For the Court’s convenience, the full document is *available at*: [www.epa.gov/npdes/pubs/owm0264.pdf](http://www.epa.gov/npdes/pubs/owm0264.pdf). Because the issues in this rehearing relate to those raised *sua sponte*, Petitioners also rely on record documents not previously cited and an expert affidavit on statistical issues. *See* Rockwell Affid.

developed by EPA (or specific citations to the source of that data),<sup>4</sup> and Petitioners calculated CVs for both the IC<sub>25</sub> and NOEC data. *See* January 30, 2004 Brief of Industry and Municipal Petitioners (“Pet’rs Br.”) at 31; July 19, 2004 Reply Brief of Petitioners and Intervenor (“Reply Br.”) at 25. Petitioners’ briefs and oral argument specifically asserted that the CVs for this low toxicity data were unacceptably high. *See, e.g.*, Pet’rs Br. at 30-32, (reporting an IC<sub>25</sub> CV of 0.9 and a NOEC CV of 1.7 [sic]); *Id.* at 38 n. 27 (CVs ranged “from 0.9 to 1.7[, which is] larger than the 0.35 CV at Comparison Memo 10”);<sup>5</sup> *see also* Reply Br. at 25-26 (reporting a NOEC CV of 179.3%); Tr. at 9, 51. Petitioners referenced that the statistical method used to perform their CV calculations was taken directly from EPA’s 1991 TSD. *See* Reply Br. at 25 n.28.

In turn, EPA never claimed in its Response Brief that 1) the reliability of WET test methods and its detection limit need not be demonstrated at the level and in the manner in which they will be applied in CWA permits, 2) that Petitioners’ method for calculating CVs on the data set at issue in terms of TUs was invalid, or 3) that the mathematics of Petitioners’ statistical analysis was incorrect. In response to Petitioners’ arguments, EPA’s brief merely recited the range of CVs determined for the *individual* WET test methods at *high* toxicity exposure levels. *See* June 8, 2004 Respondent’s Br. (“EPA Br.”) at 44 n.19. EPA specifically stated that it “did not report a CV” for the “accidental” data, despite that EPA’s Interlaboratory Study concluded these data were valid. *Id.* at 84-85; Reply Br. at 24-25. Thus, the only record evidence regarding the precision of the adopted chronic WET methods at the levels and manner in which they will

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<sup>4</sup> As Judge Edwards noted: “It was certainly the thing that bothered me most about this case as I looked at it...It appears that testing is done only in high-toxic areas, highly-toxic conditions...and most of what is really at issue is at the lower levels and you’re not testing there.” *See* Tr. at 26 ln. 5-16.

<sup>5</sup> The Court incorrectly believed this argument was only raised in Petitioners’ Reply Brief. *See* Tr. at 29 ln. 15.

most commonly be used (*i.e.*, the CV values provided by Petitioners on TU data) demonstrates that the CVs far exceed those of other comparable CWA test methods.

### **III. Standard of Review**

This petition is filed pursuant to Fed. R. App. Proc. 40 and D.C. Circuit Rule 35 which allow petitions for rehearing to be filed to correct “point[s] of law or fact that the petitioner believes the court has overlooked or misapprehended.” Fed. R. App. Proc. 40(a)(2).

### **IV. Relevant Legal Precedent**

#### **A. Permissible Scope of Judicial Review of Agency Actions**

“The scope of review under the ‘arbitrary and capricious’ standard is narrow and a court is not to substitute its judgment for that of the agency.” *Motor Vehicle Mfrs. Assoc. v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29, 43 (1983); *see also Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 416 (1971); *County of Los Angeles v. Shalala*, 192 F.3d 1005, 1021 (D.C. Cir. 1999) (we are “[f]oreclosed from substituting our judgment for that of the agency”). In addition, courts “may not supply a reasoned basis for the agency's action that the agency itself has not given.” *Motor Vehicle Mfrs. Assoc.*, 463 U.S. at 43 (citing *SEC v. Chenery Corp.*, 332 U.S. 194, 196 (1947)); *see also RKO Gen., Inc. v. F.C.C.*, 670 F.2d 215, 221 (D.C. Cir. 1981).

#### **B. Permissible Scope of Judicial Notice**

Federal Rule of Evidence 201 also provides limitations on the scope of facts which may properly be judicially noticed. As stated in Fed. R. Evid. 201(b):

A judicially noticed fact must be one not subject to reasonable dispute in that it is... (2) capable of accurate and ready determination by resort to sources whose accuracy cannot reasonably be questioned.

Basing the fact-finding function of the court on its personal knowledge is effectively “taking judicial notice of extra-record, adjudicative facts.” *Gov’t of Virgin Islands v. Gereau*, 523 F.2d

140, 147 (3<sup>rd</sup> Cir. 1975) (“It is therefore plainly accepted that the judge is not to use from the bench, under the guise of judicial knowledge, that which he knows only as an individual observer outside of court”); *see also Mejia-Paiz v. I.N.S.*, 111 F.3d 720, 729 (9<sup>th</sup> Cir. 1997). If a court does take judicial notice of a fact, Fed. R. Evid. 201(e) grants a right to be heard as to the propriety of taking judicial notice. *See Reiner v. Washington Plate Glass Co., Inc.*, 711 F.2d 414, 416 (D.C. Cir. 1983) (explaining that “[a] party is entitled upon timely request to an opportunity to be heard as to the propriety of taking judicial notice and the tenor of the matter noticed” and allowing “[a]ny objection to the propriety of our taking notice...[to] be considered in the course of a petition for rehearing based thereon”).

## **V. Argument**

### **A. Petitioners’ Use of TUs Was Appropriate**

Petitioners’ use of EPA’s TU scale was appropriate and does not produce “distorted” results. EPA pervasively uses the TU scale throughout its WET program, and WET tests will be applied to measure compliance with TU limits. *See* Pet’rs Br. at 6; Op. at 8. The TU is EPA’s preferred unit for measuring toxicity, establishing water quality objectives, implementing and enforcing WET methods in permits, and performing statistical evaluations of the results. *See, e.g.*, 1991 TSD at 35 (water quality standards set in TUs); *Id.* at 52 (statistical analysis of need to impose WET limits in permits performed in TUs); *Id.* at 85 (for effluent toxicity modeling, “the percent effluent measurements should be converted to toxic units (TUs)”).

EPA emphasizes that it “must be understood” that “CV[s] [are] to be calculated using toxic unit (TU) values.” EPA, *Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the National Pollutant Discharge Elimination System* (“Variability Guidance”) at 6-1, (June 2000); J.A. 859; *see id.* at 6-4; J.A. 862

(“Calculations...should use TUs for WET data, *not effect concentrations (percent whole effluent)*”) (emphasis added); *id.* at Appendix C-7; G-3 (“data are expressed in toxic units (TU) before calculating the CV”). Statistical evaluations on WET data need to be performed in TUs, not percentages (data expressed in terms of the degree of effluent dilution required to produce an observable effect), because calculating averages on percentage data produces plainly erroneous results that have no relation to the amount of toxicity present.<sup>6</sup>

Contrary to the Court’s understanding, EPA recommends the conversion of percent data to TUs for CV analyses because, in their expert opinion, it avoids distorting effects. *Cf.* Op. at 7. EPA’s 1991 TSD explains that:

Since toxicity involves an inverse relationship to EC [effect concentration] (the lower the [effect concentration], the higher the toxicity of the effluent), it is more understandable to translate concentration-based toxicity measurements into toxicity units (TUs). In this way, the *potential confusion involving the inverse relationship* is overcome and the permit limit derivation process is better served.

1991 TSD at 6; J.A. 384 (emphasis added); *see also id.* at 94-95 (effluent data expressed in TUs fit relevant statistical distributions); *Id.* at 130-137 (listing examples of CVs calculated in TUs).<sup>7</sup>

In addition, all data in the Comparison Memo used to generate CVs are reported in the amount of pollutant present - a mass reading (*e.g.*, milligrams/liter). *See* Memorandum from Marion Kelly, EPA Engineering and Analysis Division (Oct. 16, 2002) (“Comparison Memo.”); J.A. 1814. However, as noted by the Court, percentage data “represents the level of dilution.”

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<sup>6</sup> The potential confusion associated with using percent data can be demonstrated by an example. Assume you have two test samples, one with a toxicity of 1 TU<sub>c</sub> (no toxicity) and another of 100 TU<sub>c</sub> (very high toxicity). If you mix the two samples, their average equals 50.5 TU<sub>c</sub>s, still a highly-toxic result. However, taking the average of those same samples expressed in terms of percentage-dilution gives an erroneous result. The average of a 100% (no toxicity) and 1% (very high toxicity) sample equals 50.5%. But when this answer is converted to TU<sub>c</sub>s, the result is 1.98 TU<sub>c</sub>s, which falsely indicates that the mixture is a minimally toxic sample. *See* Rockwell Affid. at ¶¶’s 13-14.

<sup>7</sup> EPA’s most recent WET guidance also requires that statistical calculations for deriving chronic toxicity permit limits be made in TUs. *See, e.g.*, EPA, *Draft National Whole Effluent Toxicity (WET) Implementation Guidance Under the NPDES Program* (“Draft WET Guidance”) at 7, 23-24, A-3 (Dec. 28, 2004); *available at*: [www.epa.gov/npdes/pubs/wet\\_draft\\_guidance.pdf](http://www.epa.gov/npdes/pubs/wet_draft_guidance.pdf); *see also id.* at xvii (“Chronic toxicity is defined as TU<sub>c</sub>”).

See Op. at 6. Only data expressed as TUs represent the mass of pollutant present. See 1991 TSD at 85 (TU are “directly related to mass”). Therefore, it is more appropriate to compare mass-based TUs to other mass-based results in EPA’s Comparison Memo. Rockwell Affid. at ¶14.

Petitioners’ calculations and virtually every discussion regarding WET method performance focused on TUs, not percentage data.<sup>8</sup> See Pet’rs Br. at 6, 29-33, 42-44, and 53. EPA never disputed Petitioners’ use of TUs in their opening brief because it is the scale created and repeatedly referenced by EPA. Consequently, there was no record or other factual basis for the Court to reject the use of TUs for evaluating test precision. Therefore, the Court’s unilateral decision to reject Petitioners’ use of EPA’s TU scale exceeded the proper scope of judicial review of agency actions. See *Motor Vehicle Mfrs Assoc.*, 463 U.S. at 43; *City of Waukesha v. EPA*, 320 F.3d 228, 247 (D.C. Cir. 2003) (deference given to agency’s interpretation of technical data). This error warrants rehearing.

**B. Petitioners’ Followed EPA’s Statistical Methodology for Analyzing WET Data**

Often, data generated by repeat testing of a sample produce normally distributed results. EPA applied this assumption to the high toxicity data sets it evaluated in its Interlaboratory Study. For those data sets, that assumption was reasonable and was unchallenged by Petitioners. EPA, however, never determined that the low level data set was normally distributed or that all non-detect data, for this low toxicity data set, should be treated as actual measurements. As discussed below, it is not. Rockwell Affid. at ¶¶’s 9-10, 12. The Court committed a

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<sup>8</sup> If EPA’s TU scale indeed produces a “distorting” effect and “grossly inflated result[s],” then it cannot validly be used as EPA’s preferred method for imposing toxicity permit limits and reporting compliance with those same limits. See Op. at 7; cf. 1991 TSD at 106-07 (discussing the need to perform TU-based CV calculations during the permit limit derivation process). The TU-based CV statistics required to be run as part of assessing WET variability and determining permit compliance would then produce similarly distorted results. This conclusion, if correct, *bolsters* the need for rehearing and remand of the methods to EPA because EPA expressly intends to use WET methods to monitor and report in TUs.

fundamental statistical error in assuming the low toxicity data was normally distributed.

Therefore, the calculated 0.43 CV was incorrect. *See Op. at 7 n.4; cf. Rockwell Affid. at ¶12.*

EPA's 1991 TSD provides a comprehensive guide as to how it intends statistical calculations on WET (or any other) data to be performed. *See* 1991 TSD, Appendix E. As explained by EPA, "[t]he shape of the observed data is the key factor in evaluating a distribution model... The **critical question** in a given situation is how well a particular distribution models the shape of the observed data." 1991 TSD at E-3 (emphasis added). In essence, the data must fit a certain statistical "picture." Determining the proper fit is crucial because the distribution determines which, if any, mathematical adjustments (such as taking the log of the data) must be made in order to properly perform the statistical calculations to estimate precision.<sup>9</sup> Potentially applicable here are the normal (the familiar "bell-shaped" curve), log-normal (skewed bell), or delta-log normal distribution (truncated and skewed bell). *See* 1991 TSD at E-3-4 (discussing normal distributions), E-6-7 (discussing log-normal distributions), E-10-11 (discussing delta-log normal distributions). The following graphs provide model examples of these distributions:

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<sup>9</sup> Standard Methods, the authoritative technical guidance manual for wastewater analysis relied upon by EPA (*see* 40 C.F.R. 136.3, Table IA), reiterates this position:

In many cases, the results obtained from analysis of environmental samples will not be normally distributed, i.e., a graph of the data will be obviously skewed... To obtain a nearly normal distribution, convert the results to logarithms and then calculate  $\bar{x}$  and  $s$ .

*Standard Methods for the Examination of Water and Wastewater*, 20<sup>th</sup> Ed. (1998) at 1-2 ("Standard Methods").

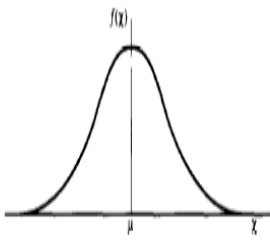


Figure E-1. Normal Probability Distribution

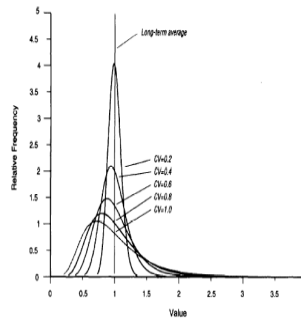


Figure E-2. Examples of Lognormal Densities

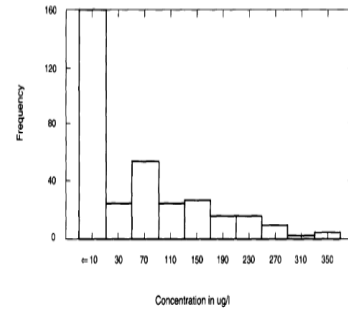


Figure E-4. Organic Priority Pollutant Frequency Distribution—Plant B

1991 TSD at E-4, E-7, E-11.

As can be seen from the following graph of the low toxicity data set, the TU data at issue fit a delta-log normal distribution while the percent data do not fit any distribution, let alone a normal distribution. The IC<sub>25</sub> data are similarly distributed. See Pet’rs Br. at 31.

Table 9.8 - Ceriodaphnia chronic test method (reproduction) performed on reference toxicant samples

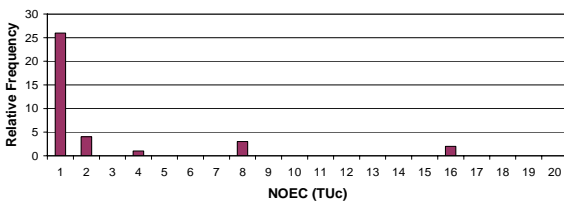
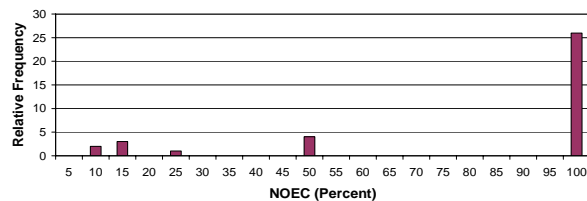


Table 9.8 - Ceriodaphnia chronic test method (reproduction) performed on reference toxicant samples



EPA’s TSD further explains why the low-level toxicity data at issue fits the delta-log normal distribution used by Petitioners:

The delta-lognormal distribution may be used when the data contain a mixture of nondetect values and values above the detection limit...The delta-lognormal distribution often provides an appropriate and computationally convenient model for analyzing such data.

See 1991 TSD at E-10.<sup>10</sup> As explained in Petitioners’ briefs, the low toxicity data set has various “nondetect” values (*i.e.*, no toxicity was detected in the test sample). See Pet’rs Br. at 31 (nondetect values are listed as “100” in percent or “1” in TU). Such data are also skewed (*i.e.*, it

<sup>10</sup> EPA’s recent Draft WET Guidance mirrors the TSD. See Draft WET Guidance at 24 (discussing that the delta-lognormal method described in the TSD is appropriate for censored data points).

is not distributed in a bell shape curve) and truncated. Therefore, the delta-lognormal distribution was the appropriate choice for evaluating the data set at issue. *See* Rockwell Affid. at ¶10. Petitioners’ use of a logarithmic distribution to evaluate analytical precision (CV) is consistent with EPA’s Comparison Memo. *See* Comparison Memo. at 3, Attachment A (“The CVs were calculated using the concentration at the center (*on a log scale*) of the concentration range...”); J.A. 1816 (emphasis added).

From a practical standpoint, the choice between calculating CVs in either TUs or percentages at higher toxicity levels is usually a non-issue.<sup>11</sup> However, for certain statistical distributions (those used to evaluate “censored” or “truncated” data sets, such as the “delta lognormal” distribution), the CV analysis *cannot* be run on percentage data because the detection level must occur at the left end of this distribution. 1991 TSD at E-10 (“These detection limit measurements are observations that are censored at the detection limit and are represented by the *left-most bar* in the histogram”) (emphasis supplied).<sup>12</sup> Figure E-4, *supra* at 8, presents a picture of this distribution. Thus, Petitioners’ use of TUs for their CV calculations was appropriate. *See* Rockwell Affid. at ¶ 14; *see also id.* at ¶¶s 8, 10-11, and 13.

Using the proper statistical distribution, EPA’s chronic *Ceriodaphnia* method has a NOEC CV of 1.7 and an IC<sub>25</sub> CV of 0.9. *See* Pet’rs Br. at 31, 38 n. 27; Reply Br. at 25-26, 28-29.<sup>13</sup> This is far worse precision than publicly asserted by EPA for the WET methods in general

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<sup>11</sup> If all data were true detect values, the lognormal distribution would provide identical CVs for either the TU or percentage data. *See* Rockwell Affid. at ¶15.

<sup>12</sup> The detection limit must be the lowest value recorded (*i.e.*, the left-most value), not the highest value recorded (*i.e.*, the most right-hand value). For EPA’s Comparison Memo., the detection limits of all the methods compared to the chronic WET methods were at the lowest value. *See* Comparison Memo.; J.A. 1814.

<sup>13</sup> At oral argument, EPA questioned Petitioners’ use of NOEC data to calculate CV statistics. *See* Tr. at 29-30. However, without such calculations, there would be no record data regarding the precision of this distinct and commonly-implemented endpoint, and therefore, no evidence supporting its adoption.

and, no longer “well within the range” of the methods. EPA Br. at 44 n.19; Op. at 7.<sup>14</sup> See Comparison Memo.; J.A.1814; cf. Op. at 7. In addition, accepting Petitioners’ CV values means that the error band also jumps to 200-300%. See Pet’rs Br. at 25 n.11, 32-33. This error band is so great that the method cannot meaningfully distinguish any reported value between 1-3 TU<sub>c</sub>. EPA has never determined whether or not an IC<sub>25</sub> CV of 0.9 or NOEC CV of 1.7 and the associated error bands are acceptable for chronic WET tests. EPA, not the Court, must make this determination. Accepting Petitioners’ calculations, the only record data confirms that the chronic WET tests are dramatically less reliable at testing low levels of toxicity. The Court therefore incorrectly rejected Petitioners’ calculations. See *Motor Vehicles Mfrs Assoc.*, 463 U.S. at 43. Accordingly, this Petition for Rehearing should be granted.

**C. The Court Conducted An Independent, “Extra-Record” CV Analysis and Provided a Justification for EPA’s Action That EPA Had Not Provided**

The Court’s refusal to consider TU data effectively substituted the Court’s judgment for EPA’s expert findings that TUs are appropriate, and in fact, recommended for performing CV calculations. In addition, the Court’s development of an independent statistical CV analysis of the low-level WET data provided a rationalization for EPA’s action that was not provided in the record by the Agency itself. This exceeded the permissible scope of judicial review of agency actions. See, e.g., *Motor Vehicle Mfrs. Assoc.*, 463 U.S. at 43; see also *supra* at 4. Petitioners’ CV analysis was otherwise uncontroverted by EPA. As the Court put the propriety of this calculation in issue only at oral argument, neither party had the opportunity to specifically

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<sup>14</sup> A 0.9 CV is higher than all but 2 (99.3%) of the 263 Part 136 test methods examined in EPA’s Comparison Memo. See Comparison Memo. at 9; J.A. 1822 (listing a 1.04 CV for Dimethyl phthalate Method 625 and a 0.93 CV for δ-BHC Method 625 – two procedures adopted in 1984). However, where a low detection level is an issue for these pollutants, EPA also published much less variable methods. Cf. Comparison Memo. at 9; J.A. 1822 (listing the series 625 test methods evaluated at a 81µg/l concentration) with *id.* at 5 (listing a CV of 0.48 for Dimethyl phthalate at a 9 µg/l concentration) and 6 (listing a CV of 0.26 for δ-BHC at a 7µg/l concentration); J.A. 1818-19. Thus, unlike the adopted WET methods, permittees are not required to use highly variable methods for monitoring low pollutant levels.

address the concerns of the Court during briefing. Barring the errors of the Court, all record evidence in this matter would demonstrate that the adopted chronic WET tests have CVs that far exceed those of other adopted CWA test methods. Accordingly, rehearing is warranted.

Recently, this Court ordered remand on rehearing of an EPA rule originally upheld on the basis of information outside the rulemaking record. *See Safe Food and Fertilizer v. EPA*, 365 F.3d 46, 48 (D.C. Cir. 2004). The court agreed it exceeded its review authority because its “original opinion made certain connections that ought to have been made – assuming they can properly be made – by the agency.” *Id.* This “went further than any express language relied upon by EPA.” *Id.* As explained by the court:

We are mindful of the *Chenery* rule that we can uphold an agency decision only on the basis of arguments and evidence provided by the agency during the rulemaking proceedings. And we recognize that...we put the results of the TFI study to a use that EPA appears not to have considered in its explanation of the rule. The record contains all the necessary pieces, but we put them together in a way that the agency had not.

*Id.* at 50. Consequently, the court concluded that it “erred” in doing so and remanded the matter to EPA accordingly. *Id.*

This matter presents a similar situation. However, in this case, while EPA’s data was part of the record, EPA specifically stated that it “did not report a CV” for the low toxicity data. EPA Br. at 84-85. The only calculated conclusions regarding the precision of the adopted chronic WET methods at the levels they will most commonly be implemented were those submitted by Petitioners. *See supra* at 3-4. EPA never contested Petitioners’ use of TUs or statistical method for calculating CVs of the TU data. EPA never asserted that a normal distribution must be applied to assess the low toxicity data, that non-detect values should be treated as actual toxicity levels, or that valid results are only possible by analyzing percentage data. The Court made these scientific determinations for the low toxicity data set. Thus, the Court improperly upheld EPA’s

WET methods on the basis of its own assessment of how this record evidence should be analyzed, instead of the allowable methodologies established by EPA itself. *See Safe Food and Fertilizer*, 365 F.3d at 50. Lastly, because this issue would not have arisen but for the Court's own analysis of the low toxicity data, Petitioners had no "opportunity or incentive" to specifically brief this matter. *Safe Food and Fertilizer*, 365 F.3d at 50. Granting rehearing in this matter would therefore not provide Petitioners with "another bite at the apple." *Id.* at 50.

Similarly, the Court's independent statistical analysis of the low-level WET data amounted to judicial notice of the proper method for reporting WET data and performing statistical analyses for Part 136 methods. This exceeded the permissible scope of judicially-noticed facts and blocked Petitioners from their procedural right under Fed. R. Evid. 201(e) to a hearing as to the propriety of taking judicial notice. At a minimum, if the Court took notice that its statistical analysis was proper (*i.e.*, performing normal statistics on the data at issue in percent effluent, not delta-lognormal statistics on TUs), Petitioners should have been provided an opportunity to be heard regarding this approach. *See* Fed. R. Evid. 201(e); *Washington Plate Glass Co., Inc.*, 711 F.2d at 416.

Finally, only facts that are "not subject to reasonable dispute" and "capable of accurate and ready determination by resort to sources whose accuracy cannot reasonably be questioned" may be judicially noticed. Fed. R. Evid. 201(b). Here, the Court itself created a factual dispute over CV calculation methodology where there was none. *See supra* at 3-4. Moreover, as EPA's own guidance and *Standard Methods* state that the proper selection of a statistical method depends upon the data distribution characteristics, this was inappropriate subject matter for judicial notice. *See* Fed. R. Evid. 201(b); *U.S. v. Boyd*, 289 F.3d 1254, 1258 (10<sup>th</sup> Cir. 2002) (court improperly took notice of facts outside

the record to determine that a potential scientific cause for the deterioration of crack cocaine over time had occurred). Nonetheless, Petitioners were given no opportunity to brief the Court as to whether the Court's method of calculating CVs was incorrect. *Cf. General Elec. Capital Corp. v. Lease Resolution Corp.*, 128 F.3d 1074, 1083 (7<sup>th</sup> Cir. 1997) (“...the effect of taking judicial notice under Rule 201 is to preclude a party from introducing contrary evidence and, in effect, directing a verdict against him as to the fact noticed”). This calls the fairness of the Court's actions into question. *See U.S. v. Boyd*, 289 F.3d at 1258 (“...[i]f a court takes judicial notice of a fact whose application is in dispute, the court removes the[ ] weapons [of rebuttal evidence, cross-examination, and argument] from the parties and raises doubt as to whether the parties received a fair hearing”). Therefore, rehearing should be granted.

### **Conclusion**

As stated by the Court, the issues regarding the proper calculation of WET method precision at low toxicity levels went to the “heart of petitioners’ claims regarding variability.” *Op.* at 7. Therefore, the consequences of any error in these calculations determined this matter’s outcome. As discussed, Petitioners’ use of TUs to calculate CV statistics was appropriate, based on EPA’s consistent endorsement of TUs throughout its WET program. The Court’s conclusion therefore entirely contradicts EPA’s technical opinion. Finally, the Court’s use of “normal” statistics to calculate the CV for the low toxicity data, assuming all data were real measurements, were fundamental mathematical errors as the data clearly fit a “delta-lognormal” distribution, thus producing a CV as calculated by Petitioners. But for the Court’s extra-record actions, which created a rationale and substituted its judgment for EPA’s, Petitioners uncontested facts should have resulted in remand of EPA’s adopted chronic WET methods per *Portland Cement*.

*Portland Cement Assn v. Ruckelshaus*, 486 F.2d 375, 401 (D.C. Cir. 1973), *cert. denied*, 417 U.S. 921 (1974). Because of the fundamental nature of the statistical errors in the Court's decision, as well as the fact that these errors exceeded the proper scope of judicial review and judicial notice, rehearing of this matter should be granted.

WHEREFORE, Petitioners respectfully request that this Court:

- 1) Grant this Petition for Panel Rehearing and vacate the December 10, 2004 order of this Court; and
- 2) Grant the relief sought in Petitioners' January 30, 2004 Brief.

In the alternative, Petitioners respectfully request that this Court:

- 1) Appoint a special master to determine the proper statistical method for calculating the CV of the low toxicity data pursuant to Fed. R. App. Proc. 48.
- 2) Any and all other relief as this Court deems just and appropriate.

Dated January 21, 2005

Respectfully submitted,

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**ORAL ARGUMENT OCCURRED ON OCTOBER 15, 2004**

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**No. 96-1062 and Consolidated Cases**

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**IN THE UNITED STATES COURT OF APPEALS  
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

**EDISON ELECTRIC INSTITUTE, et al.,**

**Petitioners,**

**v.**

**U.S. ENVIRONMENTAL PROTECTION  
AGENCY, et al.,**

**Respondents.**

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**ON PETITION FOR REVIEW OF A RULE OF THE  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

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**D.C. CIRCUIT RULE 35(c) ADDENDUM TO PETITIONERS'  
PETITION FOR PANEL REHEARING**

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**CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES**

Pursuant to Rule 28(a)(1) of the Circuit Rules of the United States Court of Appeals for the District of Columbia Circuit, counsel for the Petitioners, who join in this Petition, certify this 21<sup>st</sup> day of January 2005, as follows:

**A. Parties and Amici.** The parties are the following:

Petitioners: WESTCAS and the WET Coalition, and the Utility Petitioners

Respondents: Environmental Protection Agency

All Petitioners that are parties in this matter have previously made the disclosure required by Circuit Rule 26.1. Nevertheless, pursuant to Federal Rule of Appellate Procedure 26.1(b), the Petitioners joining in this Petition for Panel Rehearing disclose the following:

Corporate Disclosure Statement of WESTCAS

The Western Coalition of Arid States (“WESTCAS”) avers that it is a not-for-profit association, whose voting members are municipalities or other governmental entities that have no parent corporation. WESTCAS has not issued stock.

Corporate Disclosure Statement of the WET Coalition

The WET Coalition is an unincorporated trade association currently composed of the Alliance of Automobile Manufacturers and the Utility Water Act Group. The purpose of this association is to participate in Environmental Protection Agency (“EPA”) rulemakings relating to the use of whole effluent toxicity (“WET”) test methods. The goals of the association are to ensure that WET test methods are used successfully as one tier of evaluation in the regulation of toxic discharges into the nation’s waters, and that the methods themselves have been properly validated and based on sound science. The trade associations that are members of the WET Coalition have members that are impacted by the challenged WET regulation because many of their members own and operate facilities with National Pollutant Discharge Elimination System permits which will be affected directly by the use of the EPA-approved WET methods. The WET Coalition is a trade association within the meaning of this Court’s Rule 26.1(b) and is not a parent, subsidiary, or affiliate of any corporation or other entity which has issued shares or debt securities to the public.

The Alliance of Automobile Manufactures (the “Alliance”) is a trade association composed of 10 car and light truck manufacturers who account for more than 90% of U.S.

vehicle sales. Member companies employ more than 600,000 employees at 250 facilities in 35 states. The Alliance is especially committed to improving the environment and motor vehicle safety. The Alliance of Automobile Manufacturers is a trade association within the meaning of this Court's Rule 26.1(b) and is not a parent, subsidiary, or affiliate of any corporation or other entity which has issued shares or debt securities to the public.

The Utility Water Act Group ("UWAG") is an unincorporated trade association composed of 158 individual electric utilities and national trade associations of electric utilities. The individual utility companies own and operate power plants and other facilities that generate, transmit, and distribute electricity to residential, commercial, industrial, and institutional customers. UWAG's purpose is to participate on behalf of its members in EPA's rulemakings under the Clean Water Act. UWAG is a trade association within the meaning of this Court's Rule 26.1(b) and is not a parent, subsidiary, or affiliate of any corporation or other entity which has issued shares or debt securities to the public.

**B. Rulings Under Review.** The ruling at issue is this Court's December 10, 2004 denial of review of EPA's ratification of several whole effluent toxicity (WET) test procedures, published at 67 Fed. Reg. 69,952 (November 19, 2002), promulgated December 3, 2002, effective December 19, 2002.

**C. Related Cases.** These cases have been consolidated per this Court's Order dated April 9, 2003:

- No. 96-1062, *Edison Electric Institute v. EPA* (consolidated with No. 96-1124, 96-1217, 96-1215, 96-1116, 96-1157), reopened by this Court;
- No 03-1087, *Western Coalition of Arid States (WESTCAS) v. EPA*;
- No 03-1091, *AMSA et al. v. EPA*; and
- No. 03-1094, *WET Coalition v. EPA*.

Case No 96-1062 was originally before this Court in 1996. The parties to that litigation negotiated a settlement. Upon promulgation of the final rule, the Petitioners concluded that EPA had not fully complied with the agreement reached during settlement negotiations. Accordingly, the parties to the original litigation requested that the Court reopen the original litigation appealing the rule. By Order dated April 9, 2003, the Court granted the motion to reopen the proceedings.

**PANEL OPINION**: Pursuant to D.C. Cir. Rule 35(c), a copy of this Court's December 10, 2004 opinion in this matter is attached.

Respectfully submitted,

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## CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of Petitioners' Petition for Panel Rehearing and Addendum was served this 21<sup>st</sup> day of January 2005 by first class mail, postage prepaid, on the following:

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