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STATE OF ILLINOIS
Pollution Control Board

ILLINOIS POLLUTION CONTROL BOARD

ORIGINAL

IN THE MATTER OF:)

PROPOSED AMENDMENTS TO)
REGULATIONS OF PETROLEUM)
LEAKING UNDERGROUND STORAGE)
TANKS (35 ILL. ADM. CODE 732))

R04-22
(Rulemaking - Land)

TESTIMONY OF MICHAEL W. RAPPS ON BEHALF OF
THE ILLINOIS SOCIETY OF PROFESSIONAL ENGINEERS REGARDING
THE ENVIRONMENTAL PROTECTION AGENCY'S PROPOSAL
TO AMEND 35 ILL. ADM. CODE 732

1. Background

My name is Michael Rapps. I am a licensed professional engineer and the president and CEO of Rapps Engineering & Applied Science, Inc., a Springfield based consulting firm. I am testifying on behalf of the Illinois Society of Professional Engineers (ISPE), an association of more than 2000 Professional Engineers (P.E.'s), Engineers-in-training (EIT's) and engineering students. Apart from my association with ISPE, I am a member of a number of other professional associations and trade associations, including most notably, as pertains to the instant matter, the Illinois Petroleum Marketers Association (IPMA).

In 1994 I testified before the Illinois Pollution Control Board, on behalf of IPMA, in support of a proposed interim risk-based cleanup standard for leaking underground storage tanks (LUST's). This was done in connection with a sub-docket (Docket B) created by the Board when it adopted the initial Part 732 regulations. The risk-based cleanup standard, designed by myself, and proposed by IPMA as a means of cost containment for the Illinois LUST Fund, was adopted by the Board, and remained in use for LUST cleanups until the Board amended Part 732 in 1997 (re: R 97-10). I testified on behalf of IPMA in that proceeding as well. The 1997 Board amendment of Part 732 coincided with adoption of the companion Part 742 (R 97 - 12), Tiered Approach To Corrective Action Objectives (i.e., TACO). Methodology imbedded in the latter replaced the 1994 interim LUST cleanup standard.

In addition to being active in LUST-related rulemaking, I have designed and implemented numerous LUST (and Brownfield) investigations and cleanups. Underground storage tank work is not the principal thrust of my company, but it does represent approximately ten percent of our professional service billings. Consequently, I am familiar with the practical elements of LUST remediation and the practices of the Illinois Environmental Protection Agency (IEPA, Agency) as they relate to the administration of the Agency's LUST program.

2. Observations

A. State of the Program

The early years of the Illinois LUST program were plagued by inadequate funding and a lack of formal cleanup standards. Both problems have been corrected. As with the administration of any large program there undoubtedly exists aspects of the LUST program that might be improved. However, on balance, I believe that the program is functioning smoothly, particularly in comparison to its early years. This is evident at a glance in Figure Nos. 1 and 2, which follow. Figure No. 1 shows that the number of LUST Fund claims processed and paid has steadily increased from only a few hundred claims per year in the early 1990's to approximately 1,400 claims per year in 2002, the last year for which published data are available. During the same period the average cost per claim has steadily diminished. Figure No. 2 shows that the average dollar amount per claim has dropped from roughly \$100,000 per claim in the early 1990's to approximately \$40,000 per claim in 2002. Both Figure Nos. 1 and 2 were constructed from data listed in the IEPA 2003 LUST Fund annual report

Figure No. 1: UST Claims Paid Per Year

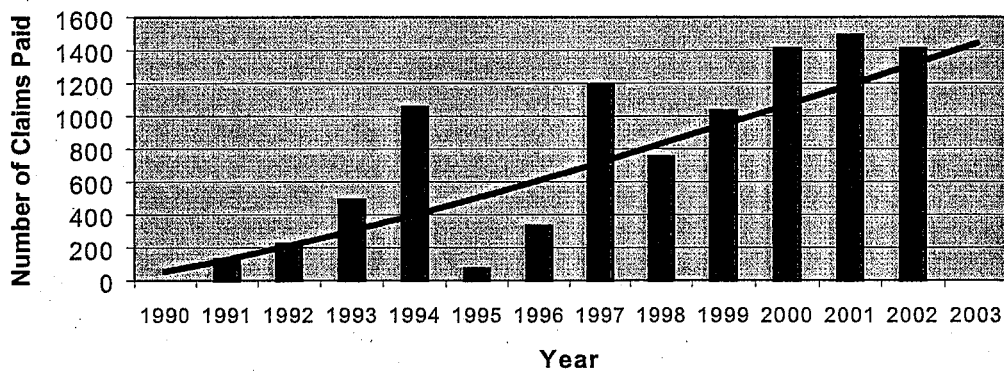
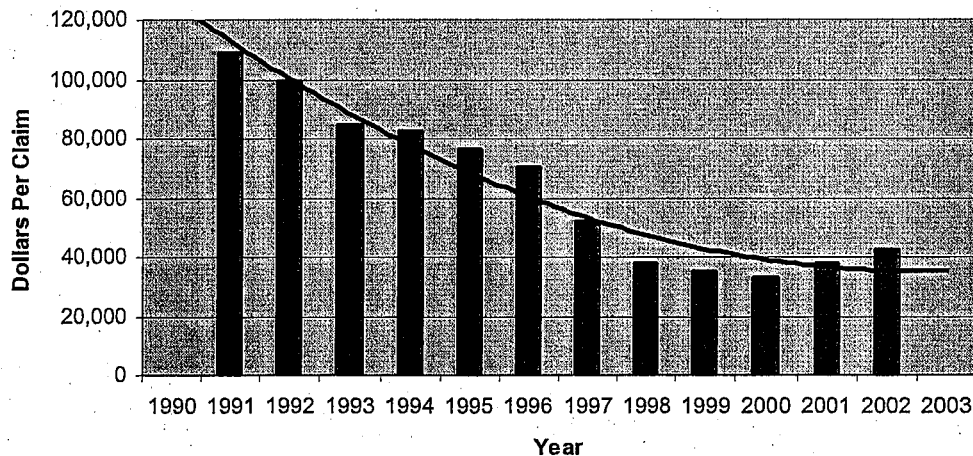


Figure No. 2: Dollars Per Reimbursed Claim



B. IPCB LUST Appeals

LUST appeals have apparently become very common. Review of the Environmental Register, the Board's monthly newsletter, suggests that LUST related appeals have actually become a significant portion of the Board's case load. A tally of new cases filed before the Board, gathered from the Board's (on-line) Environmental Register, indicates that in a typical year roughly 300 new cases are filed (see Figure No. 3). In 2003 more than one third of all new cases filed with the Board were LUST related appeals, up from less than 15 percent in 1991 (see Figure No. 4). New cases include enforcement actions, rulemakings, permit appeals, variance petitions and other such matters. Of the new cases filed in 2003 that were appeal cases, more than 80 percent were LUST related (see Figure No. 5).

During the past thirteen years the annual number of LUST appeals filed with the Board has increased, leveled off, then, in recent years, increased again. A record number of LUST appeals were filed in 2003 (see Figure No. 6). Trends displayed in Figure No.'s 4, 5, and 6 do not of themselves support the need for the rulemaking, but they do clearly suggest that there is steadily increasing disagreement among the Agency and participants in the LUST program. To the extent that it may reduce disputes and expedite environmental cleanups, ISPE supports this rulemaking.

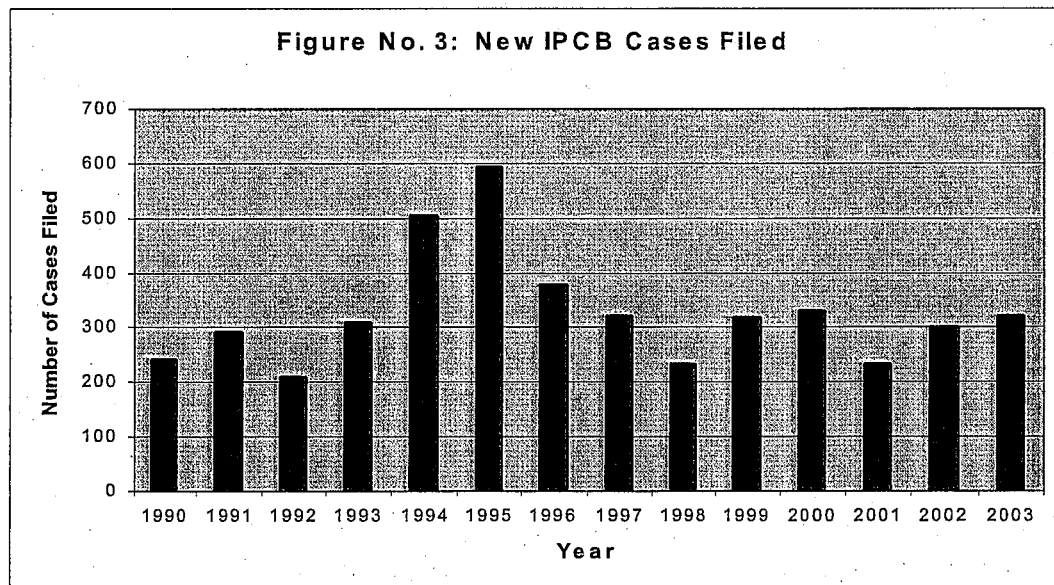


Figure No. 4: Portion of IPCB Cases That Are UST Cases

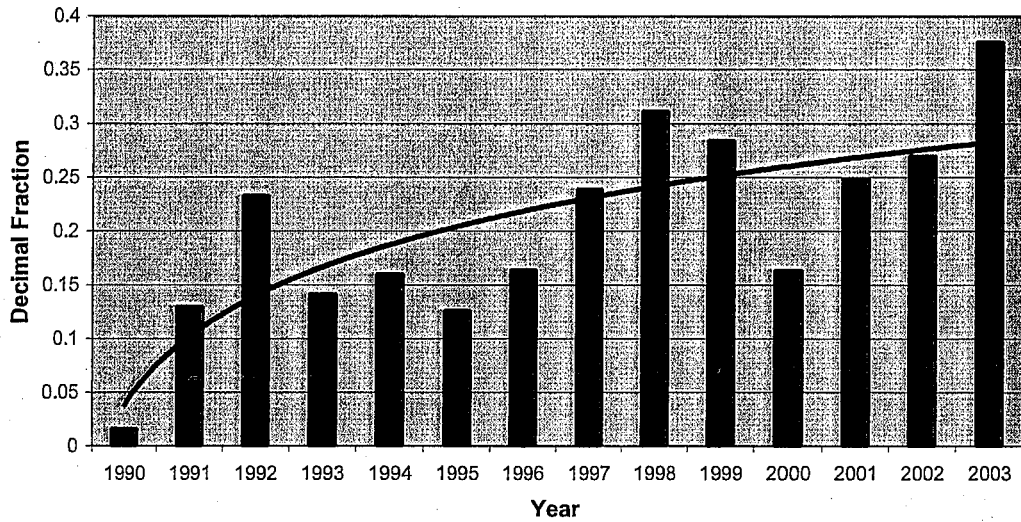


Figure No. 5: Portion of IPCB Appeals that are UST Related

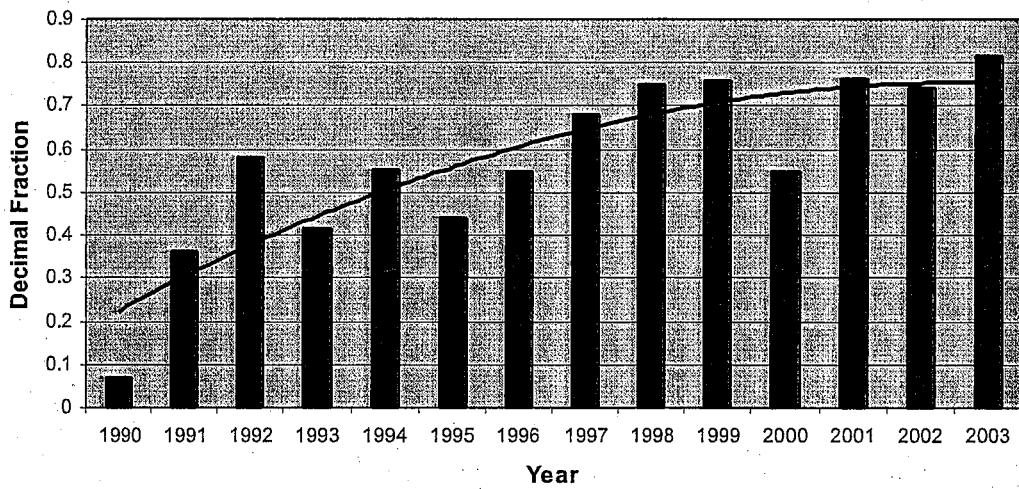
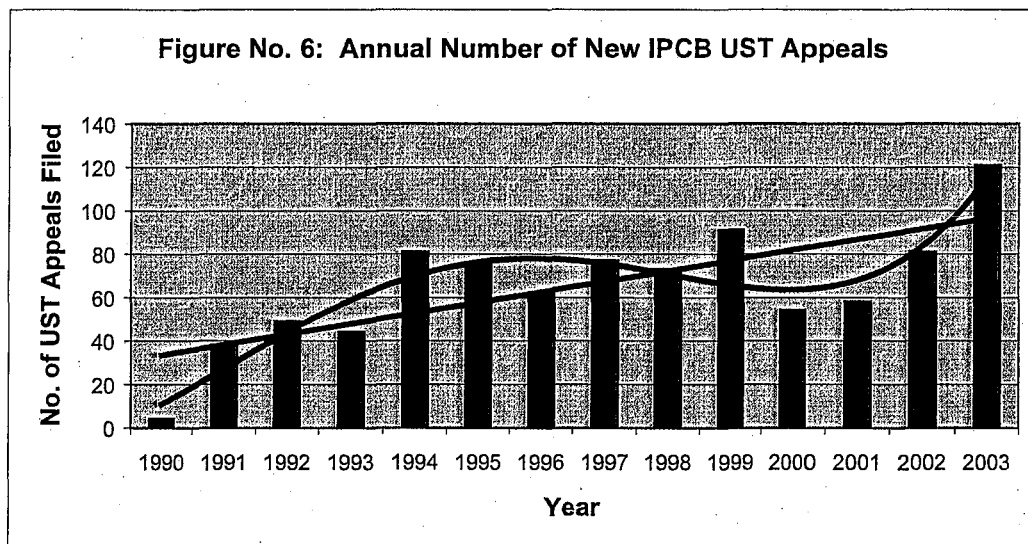


Figure No. 6: Annual Number of New IPCB UST Appeals



C. Statement of Reasons, Facts in Support, Purpose, and Effect

The preamble to the rulemakings states that changes to Part 732 and the proposal for Part 734 have been proposed in order to “streamline the process for obtaining payment from the UST Fund” (p.2, R04-22). Pre-filed testimony by Agency witnesses parrots that rationale but adds that there is a “need to reform the current reimbursement procedures.” Yet, considering the discussion within the preamble, the Agency’s pre-filed testimony, testimony given by all parties to date, and apart from the suggestion that this proposal will “streamline” the process, a clear statement of the problems that this rulemaking is intended to address has not been advanced. Consequently, it is difficult to project just how the rulemaking will fix those problems.

That said, one need not be clairvoyant to suspect that the underlying bases for this rulemaking include, but are not limited to:

- 1.) The Agency’s belief that the LUST Fund is in danger of being over-taxed by claims,
- 2.) The suspicion that contractors may be removing excess volumes of soil in connection with “dig and haul” cleanups,
- 3.) The suspicion that some tank owners are engaging in near endless “pump and treat” groundwater controls,
- 4.) The Agency suspicion that some consultants may be padding their hours in the performance of LUST program cleanups,
- 5.) The suspicion that inefficient methods (e.g., using very small trucks to haul LUST soils) are being used to raise costs,
- 6.) The suspicion that excessive field staff are being assigned to LUST cleanups,

- 7.) The suspicion that high priced staff are being employed to perform tasks that can be performed by lower priced staff and,
- 8.) The Agency suspicion that consultants are avoiding TACO based cleanups in favor of the more expensive "dig and haul" cleanups.

It is not clear whether foregoing are perceptions or reality (no direct evidence has been presented in this regard). However, if these concerns are driving the rulemaking then they should be addressed head on.

D. Audits

The legislative language of the Act, Section 57.8, was carefully crafted as a means to streamline reimbursements from the Underground Storage Tank Fund. I participated in the formulation and negotiation of that language as part of a group that included the Agency, the Illinois Environmental Regulatory Group (IERG), the Illinois Petroleum Council (IPC), and the Illinois Petroleum Marketers Association (IPMA). I believe that it was the clear and understood intention of those participants that the review of reimbursement packages for corrective action measures would be limited to random audits as in the fashion of the Internal Revenue Service when it audits income tax filings. That is, provided a reimbursement request is for an amount less than or equal to the amount budgeted, the request should be summarily approved for payment, subject only to the occasional audit. The language of Section 57.8 (a)(1) states in part:

"... The Agency's review shall be limited to generally accepted auditing and accounting practices. In no case shall the Agency conduct additional review of any plan which was completed within the budget, beyond auditing for adherence to the corrective action measures in the proposal..."

Based on Agency testimony (Clay, Tr. P-86, 20) it is unclear as to whether the Agency is adhering to the statutory intent. It would be helpful if the Board would add language to Part 732 to clarify the meaning of audit as it pertains to the review of reimbursement packages that fall within previously approved budgets. Surely this would streamline the reimbursement process and reduce the burden on Agency resources. Suggested language is as follows:

Per Section 57.8 (a) (1) the Agency shall audit, by a full and complete review, one percent (1/100) of all applications for reimbursement from the Underground Storage Tank Fund that are made pursuant to an approved budget. Audited applications shall be selected by a process that insures that the selection is random, such that each application has an equal chance of being selected for a full review.

3. Agency Proposal – Methods and Outcomes

A. Published Costs vs. the Free Market

The Agency proposes to streamline reimbursements by reducing reliance on time and materials reviews in favor of lump sum payments. As an example, the Agency proposes to reimburse a lump sum of up to \$57.00 per cubic yard for the excavation, transportation, and disposal of LUST impacted soil. In support of this proposal the Agency presents actual data (re: Chappel Testimony, Attachment 9, E+T+D) which for 25 data points has a mean value of \$47.58 with a standard deviation of \$8.22. The Agency proposes that the maximum reimbursement for excavation, transportation, and disposal be computed as the average plus one standard deviation (i.e., $\$47.58 + \$8.22 = \$55.80$) rounded to \$57.00.

Because E+T+D expenses represent a significant part of all “dig and haul” cleanups, it is reasonable to ask whether the change to a published cost of \$57.00 will save money and help to preserve the LUST Fund, or deplete it more rapidly. Moreover, E+T+D data presented by the Agency doesn't, on its face, suggest that any of the E+T+D rates are unreasonable. In fact, the data tends to suggest what one might expect in the free market, in a geographically diverse state, a fairly broad spread of rates (\$23.89-\$60.00) centered about the mean (\$47.58). So, the Board is faced with a very fundamental and philosophical dilemma. Is it better to maintain the status quo and seek a process that will flag “unreasonable” reimbursement requests or should a published “bright line” test be structured in order to create a cost ceiling.

B Unintended Consequences

It is recognized that the Chappel E+T+D data may not be “randomly” drawn and may represent too small a sample for what is intended to represent. Yet it is actual data. Using this example, one of two things will happen if the Board adopts the proposal. The first possibility is that contractors will continue charging as they always have but that the Agency will flag costs which exceed the \$57.00 figure, and reduce the errant charges to the allowed figure. The other possibility, which seems more likely, is that all contractors will charge the same amount, the maximum allowed \$57.00. Using the E+T+D data as an example, and assuming that only the rates that exceed \$57.00 per cubic yard are altered (i.e., reduced to \$57.00 per cubic yard), I have computed that the Agency's proposal will result in a cost savings of 0.33%. On the other hand, if all costs are either increased or reduced so as to equal the \$57.00 per cubic yard figure, I compute that the LUST Fund will see a cost increase of 19.78%.

A reported \$73,742,453 was paid out of the LUST Fund between April 2003 and April 2004. If it is assumed that the portion of this sum paid out for E+T+D (i.e., dig and haul) is between fifty percent (50%) and seventy-five percent (75%), it can be estimated that a 0.33% cost reduction will save between \$ 121,675 and \$182,512 per year. However, if all contractors charge the published cost cap of \$57.00 per cubic yard, which seems more likely, the 19.78% cost increase will additionally tax the Fund by \$7,293,128 to \$10,939,692 per year. In this case the downside of posting a cost cap greatly exceeds the upside. This is an unintended consequence.

C. Homogeneous Products and Services

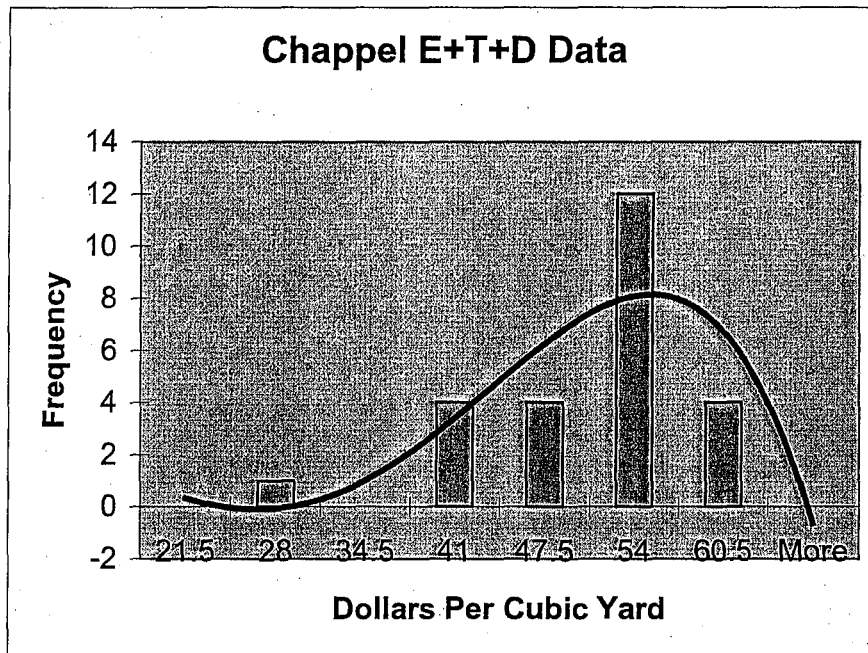
Products and services that are very similar are said to be homogeneous. Examples are soft drinks, milk, gasoline, haircuts, shoe shines, and similar goods and services where there is little variation between prices charged by vendors. Some services used in LUST remediation may fall within the category of homogeneous services. Other services may be homogeneous or semi-homogeneous for some but not all work related to LUST remediation. Examples are tank removals and early action activities. However, some services do not fall under the homogeneous heading. Non-homogeneous services include the intellectual work products devoted to site investigation and remedial design. ISPE is concerned that a by-product of this rulemaking could be the enactment of arbitrary constraints that would discourage professional engineers from engaging in legitimate problem solving. Hence, ISPE has asked the Agency to identify the magnitude of consulting fees (and others) as a relative proportion of LUST reimbursement costs. That question has gone unanswered.

4. A Process

The need for a "process" to determine the reasonableness of a budget or reimbursement request might very well be fulfilled, in whole or part, by published cost caps. However, as already shown this method may yield unwanted consequences. But, the bright line test is not the only way to define reasonableness. In proposing the \$57.00 per cubic yard E+T+D cost cap Agency witness Chappel described that he arrived at the figure by computing an average value and adding to it one standard deviation. The use of a statistical approach for determining "reasonableness" has merit.

The standard normal distribution can be represented by a symmetrical bell-shaped curve with three standard deviations on either side of the mean. Per the Chappel proposal the inclusion of all reimbursement requests within one standard deviation on the right side of the mean (average) would include all but approximately 16% of the requests. The question then becomes whether it is appropriate to reject 16% of the requests, nearly one in five, as being "unreasonable". Had the Chappel proposal used two standard deviations, then only about 2% of the requests would fall outside of the acceptable region. But, the point is that it is mathematically possible, using properly drawn statistics, to compute a value that represents an excursion beyond some acceptable limit. But, it is necessary to establish the limit. For example, were the Board to declare that "reasonable" should be defined as being inclusive of 95% of the submitted reimbursement requests, the Agency could then compute the value that represents 95% of the pool of data for a given category, be it for E+T+D costs, man-hours, or other such data. The burden of proof in an ensuing appeal would belong to the Agency but it would be easily met with sound data. As such, the number of appeals would quickly diminish.

The process just described requires normally distributed data. Although scientific and economic data is often non-normal, data transforms can be used to convert to normality. The histogram and fitted curve that follow illustrate a typical distribution, in this case, the Chappel E+T+D data.




The Chappel E+T+D data is skewed to the left and somewhat truncated on the right. The data is most likely non-normal. It could be converted to normality with a data transform.

5. Summary Opinion

I have struggled in this rulemaking to get a handle on the nature of the problem at hand so as to be able to help devise solutions. While this testimony doesn't offer a crystal clear solution, I am hopeful that it proves useful to the Board in its deliberations. Unfortunately, I believe that more information may be needed in order to project the possible impact of the proposal.

Respectfully submitted,

Illinois Society of Professional Engineers



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