BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
PROPOSED AMENDMENTS TO:	)	R04-22
REGULATION PETROLEUM LEAKING	)	(Rulemaking – UST)
UNDERGROUND STORAGE TANKS	)	
35 ILL. ADM. CODE 732	)	

IN THE MATTER OF :	)	
	)	
PROPOSED AMENDMENTS TO:	)	R04-23
REGULATION PETROLEUM LEAKING	)	(Rulemaking – UST)
UNDERGROUND STORAGE TANKS	)	Consolidated
35 ILL. ADM. CODE 734	)	

To: Dorothy M. Gunn, Clerk
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Ms. Marie E. Tipsord
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NOTICE OF FILING

PLEASE TAKE NOTICE that on June 7, 2004, I filed with the Clerk of the Illinois Pollution Control Board, via fax and an original and nine (9) copies via U.S. Mail the PRE-FILED TESTIMONY OF CINDY S. DAVIS, JOSEPH W. TRUESDALE, DUANE DOTY, JOSEPH M. KELLY, ROBERT J. PULFREY and BARRY SINK, copies of which are herewith served upon you.

Claire A. Manning, Attorney

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PROOF OF SERVICE

The undersigned, being duly sworn, states that a true and correct copy of the foregoing PRE-FILED TESTIMONY OF CINDY S. DAVIS, JOSEPH W. TRUESDALE, DUANE DOTY, JOSEPH M. KELLY, ROBERT J. PULFREY and BARRY SINK with the CLERK and the HEARING OFFICER of the ILLINOIS POLLUTION CONTROL BOARD, was served on the individuals as listed below, by mailing the same via the United States postal service, Springfield, Illinois on June 8, 2004:

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UNDERGROUND STORAGE TANKS	)	Consolidated
35 ILL. ADM. CODE 734	)	

TESTIMONY OF CINDY S. DAVIS ON BEHALF OF THE PROFESSIONALS OF ILLINOIS FOR THE PROTECTION OF THE ENVIRONMENT ("PIPE"), CSD ENVIRONMENTAL AND HEARTLAND DRILLING

My name is Cindy S. Davis. I am a licensed Professional Geologist in Illinois and I am the sole owner of CSD Environmental Services, Inc. and Heartland Drilling & Remediation Inc., both located in Springfield.

I am also the Acting Chairperson for the Board of Directors for the Professionals in Illinois for Protection of the Environment, referred to as "PIPE". PIPE is an organization of various businesses who perform remedial clean-ups of underground storage tank sites as well as businesses who provide services to the remediation process, such as landfills, laboratories, etc.

I am also a member of the Consulting Engineers Council of Illinois (CECI) and was a team member on the "Ad Hoc Work Group on LUST Reimbursement Reform," This is the group that the Agency, in their testimony, referred to as the "CECI" workgroup. The workgroup was actually comprised of members of the CECI and the

Illinois Petroleum Marketers (IPMA), an Illinois organization comprised of owners and operators of businesses who market and sell gasoline (primarily, gas station and convenience store owners). The "Ad Hoc Group's" purpose was to provide substantive input to the IEPA for changes to the LUST program.

Since the filing of this rule proposal, PIPE has continued to work closely with representatives of IPMA, CECI, IPMA, Illinois Society of Professional Engineers (ISPE) and the Illinois Association of Laboratories, to coordinate the common interests of the professional community regarding this proposed rule. We have also met three times with the Illinois Environmental Protection Agency in an effort to narrow the issues before the Board in this rulemaking. We hope to continue to meet after these hearings and, if possible, present the Board with alternative language that might narrow our dispute.

I have been self-employed since 1992 as the owner of CSD Environmental Services, Inc. I formed Heartland Drilling and Remediation, Inc. in 2002. Prior to forming CSD Environmental, I was employed by the Illinois Environmental Protection Agency from 1985 until 1992. From April of 1990 to June of 1992, I was employed in the LUST Section as a Sub Unit Manager. I have thirteen (13) years of experience in the LUST field and nineteen (19) years in the environmental field. My experience is unique since I have been both a regulator with the IEPA and a private consultant and owner of a remediation business. While I worked at the Agency, I hired many of the Project Managers in the LUST section, many of whom are still employed today, and I worked with many of the Agency representatives who have testified in this proceeding. I have an appreciation for their job of ensuring that those who access the fund are seeking reimbursement for the reasonable cost of a protective clean-up but, as the head of a

company who has performed about a substantial number of UST remediations in this state, I also have a special understanding of the cost of what's "reasonable."

In March of 2004, at the request of the IPMA, I called a meeting of the IPMA Associate Members, to discuss the IEPA's proposed changes to 35 Ill. Adm. Code, Part 732 and 734. The purpose of our meeting was to gather information from the IPMA Associate Members of their perceived impact to IPMA constituents, if the regulations as proposed were adopted. Consultants and Contractors at the meeting agreed that we all had a common cause and gave birth to the idea of either joining an existing organization or creating a new organization to formally voice our concerns and issues. After several meetings, the creation of PIPE emerged and was incorporated as a not for profit corporation in April of 2004. PIPE was formed to represent the Professionals in Illinois who provide environmental consulting and/or remediation services. Our member firms conduct or provide services on nearly all of the underground storage tank cleanups conducted in the State of Illinois.

I have several concerns regarding the proposed rules of which I will testify to today. Before I get into the specifics, I would like, though, to express to the Board our appreciation for the opportunity to be heard today. Also, while we have disagreements with the Agency about the specifics of these rules, we share the common goal of ensuring that the Underground Storage Tank fund is available for the purpose for which it was created: the safe and protective remediation of Illinois sites that have been contaminated by leaking underground storage tanks. Our major disagreements result from our knowledge that we cannot continue to perform these remediations pursuant to the conditions for reimbursement set forth in these rules.

1. Many of the rates set forth in the proposed regulations are below current market rates and do not reflect industry standards in Illinois. The Agency developed their proposed rates from an improper statistical method, or lack of statistical method, of their current database. The rates are not based upon a representative sample. Further, many of these rates were established in an internal rate sheet that, instead of being adjusted upward over the course of years to account for inflation, was in many cases adjusted downwards in an inappropriate and unfair approach to constraining costs. For example, the rates for reimbursement for professional services that the Agency would find "reasonable" has actually decreased over the course of the years, even though every one knows that the hourly or salaried cost of human services (and related health insurance, medicare, worker's compensation, etc.) has risen. Further, the proposal does not take into consideration that hourly personnel rates are determined by using a standard method of taking the employees direct wages plus company contributions of FICA, medicare and unemployment multiplied by a overhead and profit multiplier to establish an hourly rate. RS Means, which PIPE proposed to the Agency during discussions on their emergency rule proposal, uses this concept. We would ask that the Board look at the methodology contained in the following industry publications, which are specifically designed to establish reasonable rates for the costs of environmental remediation: RS Means Environmental Cost Handling Options and Solutions (ECHOS) "Environmental Remediation Cost Data – Unit Price," 10th Annual Edition, 2004, and ECHOS

"Environmental Remediation Cost Data – Assemblies," 10th Annual Edition, 2004. In meeting with the Agency concerning their desire to promulgate a rule on an emergency basis, we were able to successfully assert that the RS Means methodology presents a method for establishing reasonableness.

2. Subpart H. The rates proposed in Subpart H are proposed as "maximum payment amounts". The IEPA proposed during the "Ad Hoc Group" meetings, the concept of lump sum payments for some reports, with the understanding that if the report was completed for less than the lump sum the consultant would profit, if the report was completed for more, the consultant would lose money. The IEPA referred to this as "win some lose some." However, the proposed "maximum" payments in Subpart H are either break even or lose.

3. EPA's Proposed Rates. The IEPA implemented the proposed rates in Subpart H by distributing a "rate sheet" to their project managers. We have a unique situation, in that the IEPA actually implemented the same rates as are proposed in Subpart H. The IEPA enforced the use of these rates for approximately four months during which consultants and contractors found their budgets and subsequent reimbursement claims reduced by any amount over the price indicated on the "rate sheet". During this time frame, consultants and contractors lost significant amounts of revenue. In addition, some of our clients wrongly perceived that we were price gouging since the IEPA did not want to pay our current rates --- even though many of those very

rates had been approved in the past as reasonable. CSD with permission of the owner/operator challenged the IEPA's use of the rate sheet in PCB 03-214 *Illinois Ayers Oil Company v. Illinois Environmental Protection Agency*. The Illinois Pollution Control Board ruled in favor of Ayers on April 1, 2004, stating the use of a "rate sheet" was improper since the rate sheet was a rule that was not promulgated.

4. The proposed rules do not define a "scope of work" and the Agency's proposal does not take into consideration the level of work deemed necessary by a professional licensed professional engineer or licensed professional geologist. The Ad Hoc Group informed the Agency a lump sum price cannot be determined without a clear defined scope of work. Estimating in the consulting and contracting field is done following a specific method. First, we identify the tasks to complete a job (scope of work), second, we identify the personnel need to complete the task, and thirdly, the number of hours needed for each personnel required per task. Once all of these items are determined a cost estimate to complete the work can be prepared. The proposed Subpart H does not define the scope of work required for those items which they have assigned a lump sum cost. Without a clear definition of the work to be completed, a lump sum price cannot be fairly determined. Also, since the Act specifically requires that corrective action plans and budgets be certified by a licensed professional engineer or licensed professional geologist, it is difficult to accept that an agency reviewer who, in most cases, does not have this technical expertise, is in a position of rejecting what that professional has

determined to be a reasonable number of borings to do a particular job – or a reasonable number of hours to do it.

5. Requests for Payments from the Underground Storage Tank Fund are limited to a timeframe of every 90 days. Currently under the regulations, an owners or operator can submit a reimbursement request on the following intervals:

- At the end of early action (45 days)
- After approval by the IEPA of the Site Classification Completion Report or a Site Investigation Report; (greater than 450 working days)
- At approval of a Corrective Action Plan (at least 90 to 120 days); and
- On a 90 day basis after IEPA approval of a Corrective Action Plan (90 days).

The proposed regulations should be rewritten to allow reimbursement requests to be submitted on a more frequent basis. It is my recommendation to allow reimbursement requests as follows:

- At the end of early action (45 days)
- Upon completion and submittal of each Stage of Site Investigation – (breaking the Site Investigation into stages will allow money from the fund to be paid to the owner or operator quicker).
- Upon IEPA approval of a Corrective Action Plan; and
- Every 30 days after approval of the Corrective Action Plan.

6. The negative cash flow in the Underground Storage Tank fund has nothing to do with the fund being overcharged. In response to questioning from the Board at the last hearing, Doug Clay testified that while the number of UST incidents is declining on an annual basis, the number of reimbursement dollars is increasing. While that simple statement may be true, it has no relationship

to the actual cost of remediation -- or the number of remediations currently being performed and pending, in one stage or another.

Interesting, while we asked the Agency to present information regarding the actual liability out there (remediation actually being performed and costs associated with what aspects of that remediation), the Agency did not present that information. We believe that the Agency should be keeping track of the liability on the fund, as well as the actual dollars spent. There are other significant reasons why the fund is currently under stress.

- First, while there are indeed fewer incidents being reported the last few years (628 in 2003; 617 in 2002; 832 in 2001), the corrective action work that is currently being performed and yet to be reimbursed (in many cases the most expensive part of the remediation) generally involves sites that had incidents that were reported in the year 2000 and previously (1221 in 2000; 1729 in 1999; 1818 in 1998; 1279 in 1997).
- Second, when there *was* a significant balance in the fund, even though the balance represented "committed" dollars (waiting for Agency approvals or pending time frames for submittal of reimbursement requests), the money was transferred out of the fund in an effort to balance the budget.
- Third, the cost of doing business, especially in Illinois, has gone up – not down. That includes the business of performing remediations of leaking underground storage tank sites.

7. The IEPA's proposed Staged Site Investigation is too prescriptive in regards to placement of wells and location of soil samples. Each site is different and

the characterization of the extent of contamination must be tailored to the site. The IEPA should allow the Professional Engineer or Geologist to choose the placement of soil borings/samples and groundwater monitoring wells based upon their knowledge of the site conditions.

8. The UST reimbursement procedure which the Agency uses to deny or approve (with modifications) plans, budgets or reimbursement requests is seriously flawed. Currently, the Agency uses a variation of the permit procedure. The project manager sends a letter at the end of their 120 day review period (and generally not a day before) informing the owner or operator of, generally, the denial or reduction in the budget or reimbursement request. This letter generally represents the first (and only) communication that the requestor has with the Agency. The Agency provides very little detail as to what items were reduced or why, but relies on the statement, "exceeds the minimum requirement of the act."

The owner or operator then has three choices, which they generally make in consultation with the consultant they have hired to remediate the property:

- Resubmit, literally guessing at what the problem might be (and triggering a whole new 120 day review period).
- Appeal to the Board, which necessitates hiring an attorney and presents complications regarding proof, given that you're not sure what the denial was about in the first place – and you cannot present any new information to the Board because you have to rely on the "record" the Agency used to make its decision (See Todd's Service Station);
- Accept the decision and eat the lost cost.

The current procedures cause two problems 1) the owner/operator is never allowed the opportunity to provide additional information to the Agency before a final decision is made; and 2) the owner/operator must bear the legal costs if he/she is not in agreement with the Agency's decision. In the case of *Illinois Ayers v. the IEPA*, the legal fees were in excess of $40,000. The owner/operator must decide if the reductions made by the Agency outweigh the cost of hiring an attorney. In many cases, the owner doesn't appeal the reductions due to the costs of a hiring an attorney. This results in a disruption of the checks and balances system used in our government.

PIPE suggested to the IEPA during discussions held after the IEPA filed a motion for Emergency Rulemaking, that the procedures for denials or approvals be modified. In their amended emergency rule proposal, the Agency agreed and proposed to change the procedure to allow a draft denial letter be issued to the owner/operator allowing the owner/operator to provide additional information or justification prior to a final decision.

PIPE suggests to the IPCB that the same language be incorporated into the proposed regulations. As to the legal costs, the owner/operator must incur to bring an appeal before the IPCB, PIPE suggests that a mediation or possibly an arbitration step be introduced into the regulations which will allow the owner/operator and the IEPA an opportunity to resolve the issues prior to coming before the Board.

9. The proposed rules under 732.855 and 734.855 allow an owner or operator who incurs unusual or extraordinary expenses that exceed the payments of

Subpart H to request the Agency consider the expenses on a site specific basis. The Agency has the authority to make this decision. The Agency in their testimony stated, they feel very few sites will be evaluated under the rule. PIPE disagrees with the Agency, especially when the Agency failed to list the scope of work required for each lump sum task, nor did they define a "typical site" in the regulations. PIPE suggests a definition of an "atypical" site be identified in the proposed rule. The Ad Hoc Group provided the Agency with an "atypical site form", or a change order form per say to be used when the consultant determines the conditions at the site warrant extra expenses. PIPE also suggests a peer review committee be formed with designated Agency LUST supervisors and at least two members who are not Agency employees with a background in engineering or consulting or contracting and have experience in determining reasonableness of costs. In the original discussions regarding the UST fund, I understand that such a cost containment panel was contemplated. When the Agency was asked by ISPE at the last hearing how the reimbursement dollars of the fund are distributed, the Agency indicted that (beyond the final amount) they do not keep track of how reimbursement dollars are distributed. We believe that they should. We have indicated to the Agency the importance of developing a database where they could monitor the cost of the various different projects related to UST site remediation and develop a proper methodology for determining the reasonableness of that cost. Instead of telling us (or the Board) how reimbursement dollars have been spent for the last several years, the Agency

has focused on giving the Board old information, and selected non-representative sites, in support of this proposal. We suggest that we are more informed on the costs of remediating UST sites in Illinois and we urge the Board to listen – without falling victim to the Agency's finger pointing. We are not the cause, but we certainly hope to be part of the solution.

Thank you.

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35 ILL. ADM. CODE 734	)	

PIPE TESTIMONY OF JOSEPH W. TRUESDALE, P.G., P.E., REGARDING THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY'S PROPOSAL TO AMEND 35 ILL. ADM. CODE 732 AND 35 ILL. ADM. CODE 734

My name is Joseph W. Truesdale. I am a senior project manager and managing agent for CSD Environmental Services, Inc. (CSD) located in Springfield, Illinois. I am a licensed Professional Engineer (P.E.) and a licensed Professional Geologist (P.G.) in the State of Illinois. I hold B.S. degrees in environmental engineering and applied geology / hydrogeology, as well as, an Associate degree in surveying and construction management. I have worked in the civil and environmental consulting industry since 1993, and have been employed by CSD since 1998.

Subpart 1

In the matter of: Regulation of Petroleum Leaking Underground Storage Tanks (Proposed new 35 Ill. Adm. Code 734 and amended 35 Ill. Adm. Code 732) (Consolidated: R04-22 and R04-23); the Illinois Environmental Protection Agency (Agency) initially proposed, that "soil samples shall not be collected from soil below the

groundwater table" during the various stages of site assessment. United State Environmental Protection Agency, Office of Underground Storage Tanks (OSWER) publication EPA 510-B-97-001 (March 1997), *Expedited Site Assessment Tools For Underground Storage Tank Site: A Guide For Regulators* states that "the site assessment process is critical to making appropriate corrective action decisions. When site assessments are complete, they provide accurate information about the presence and distribution of contaminants, thereby facilitating cost-effective and efficient remediation. When they are incomplete, they can provide inaccurate or misleading information which can delay effective remediation, increase overall corrective action costs, and result in an increased risk to human health and the environment." This same publication goes on to state that some of the most significant limitations noted historically with conventional site assessments are that "the results of the assessment are usually focused on mapping the boundaries of the groundwater plume rather than the source areas or locating the most significant contaminant mass. In addition, the approach to mapping generally ignores the 3-dimensonal nature of contaminant migration."

The Illinois State Geological Survey, Bulletin 95, *Handbook of Illinois Stratigraphy* states that "deposits of Pleistocene age are the surficial materials in virtually all of Illinois. Nearly 80 percent of the state was covered at least once by continental glaciers that left characteristic deposits (drift)." Tank systems at many Leaking Underground Storage Tank (LUST) sites in Illinois extend to near or below shallow groundwater tables. Since petroleum based contaminants consist primarily of hydrophobic organic molecules, a vast majority of the contaminant mass (often times more than 90%) can become adsorbed to the aquifer solids beneath the water table or

within the seasonal smear zone, if water table fluctuations are common. This phenomenon is most prevalent in unconsolidated fine-grained aquifers, and / or aquifers with significant natural organic material both typical of glacial drift. Failure to reasonably attempt to quantify the total mass of contaminants in the subsurface and their relative distribution (both above and below the water table) during site investigation can severely inhibit subsequent implementation of effective corrective action and / or risk management strategies as described in: Water Resources Research, Vol. 30, No. 8, Pages 2413-2422, August 1994, *Effects of rate-limited desorption on the feasibility of in-situ bioremediation,* V.A. Fry and J.D. Istok; Water Resources Research, Vol. 27, No. 4, Pages 547-556, April 1991, *Analytical Modeling of Aquifer Decontamination by Pumping When Transport is Affected by Rate-Limited Sorption,* Mark N. Goltz and Mark E. Oxley; and Water Resources Research, Vol. 29, No. 9, Pages 3201-3208, September 1993, *An Analytical Solution to the Solute Transport Equation With Rate-Limited Desorption and Decay,* V.A. Fry and J.D. Istok;

I applaud and whole heartedly support the Agency in their current position of proposing some sort of more comprehensive site investigation including collection of a sufficient number of samples for laboratory chemical analysis necessary to map or otherwise determine the magnitude and location(s) of the most significant contaminant mass, including samples from below the water table. The result of any such laboratory chemical analysis should then be compared to their appropriate objectives, depending on their relative location in the subsurface.

Subpart 2

In the matter of: Regulation of Petroleum Leaking Underground Storage Tanks (Proposed new 35 Ill. Adm. Code 734 and amended 35 Ill. Adm. Code 732) (Consolidated: R04-22 and R04-23); the Illinois Environmental Protection Agency (Agency) is proposing that a 5% increase in volume, or "fluff" factor as described in the prefiled testimony of Harry A. Chappel, for excavated soils and replacement fill material will be allowed for purposes of determining the quantity eligible for payment. Although it is common engineering knowledge that the volume and relative density of soils and / or rock change when excavated or compacted, the 5% increase proposed by the Agency is not consistent with values commonly used in engineering practice. The technical book titled Construction Planning, Equipment, and Methods, published by McGraw Hill Book Company states that "when the volume of earth increases because of loosening, this increase is defined as swell." The associated Table 5-1 in this book illustrates that percent swell for "earth and rock" ranges from 12 to 60 % and the typical value for earthen material (soil) is 25%. However, the backfill material used following UST removal typically consists of sand or gravel which has a lower percent swell ranging from only 12 to 15 %. Given the inherent variability of swell for various geologic materials, it is unreasonable to assume a single allowable percentage swell for purposes of these regulations.

As I see it, it is part of the responsibility of the licensed Professional Engineer (or licensed Professional Geologist) to select the appropriate design variables, in light of site specific criteria, in order to obtain a reasonable estimate for which they are consequently required to certify. During the process of this rulemaking, it may be more prudent to

evaluate these costs relative to their appropriate units independently (ie. disposal per. ton, trucking per. mile or hour, backfill per. ton and excavation per hour or cubic yard), rather than attempting to perform numerous conversions and trying to lump items of inconsistent units together into one unit cost.

Subpart 3

In the matter of: Regulation of Petroleum Leaking Underground Storage Tanks (Proposed new 35 Ill. Adm. Code 734 and amended 35 Ill. Adm. Code 732) (Consolidated: R04-22 and R04-23); the Illinois Environmental Protection Agency (Agency) is proposing that maximum payment amounts be established in Subpart H for various activities conducted in association with LUST sites; however, in Subpart H and throughout the remainder of the proposed regulations, the Agency routinely uses the terminology "shall include, but not be limited to." It is unreasonable to assume that fixed maximum payment amounts can be established for activities that do not have a clearly defined, fixed, scope of work that can be readily identified without significant variability.

Subpart 4

During the May 25, 2004 hearing there was discussion regarding the number of sites receiving NFR letters vs. the number of new incidents vs. the amounts being reimbursed from the LUST fund. One observation I've made is that essentially all the easily remediated sites that environmental contractors could dig out of have NFR letters issued already. There is far less "dig and haul" conducted now in comparison to the 1990's. What we have left are the more technically challenging sites where the contaminant mass is less easily accessible, and/or sites with extensive groundwater

impact. As a result, a tremendous amount of data is needed to determine where contaminants are located and how best to remediate them (EPA 510-F-97-004).

As the number of new incidents decreases, and the easily addressed sites continue to drop out of the program, this trend should continue such that the majority of the costs reimbursed through the LUST fund will be allocated to fewer and fewer more technically challenging sites that would subsequently require higher costs to effectively address.

Subpart 5

During the March 15, 2004 and subsequent hearings there was discussion regarding allowing sites which have received NFR letters to retain eligibility under the LUST fund to address future, previously unidentified, impacts or risks associated with prior releases. The question was posed why an owner / operator would elect to obtain an NFR letter despite of a denial for access to off-site property suspected to be impacted as a result of the release. In Doug Clay's testimony on page 216 from the March 15, 2004 hearings he stated that "the reason someone would do this is because they need their NFR letter to sell their property". Mr. Clay goes on to say on page 217 that "I think the owner / operator is making a business decision."

Several of the owner / operators that I deal with are apprehensive about leaving undisclosed contamination or employing multiple environmental land use restriction on properties to manage future risks associated with known contamination since the NFR letter in and of it self does not serve to protect the owner / operators from any potential future liability associated with that contamination.

I think that that line of argument can be extended to include NFR letters obtained using TACO, and that many savvy business owners would be more apt to employ the

many options available under TACO to obtain an NFR letter if a mechanism existed to address, and provide financing through the LUST fund, for future, previously unidentified, impacts or risks associated with prior releases. The Agency has continually presented their position that they have in no way attempted to overlook or otherwise limit the use of TACO, and in fact have routinely suggested their desire to see TACO utilized more often.

It is my position that one of the most significant reasons that TACO is not utilized more frequently is that the owner / operator are in fact making a business decision which will limit their potential future financial obligations should a previously unidentified impact or change to site conditions present additional financial liability and / or other risks. It is also my position that a mechanism allowing for continued future eligibility to address these potential financial liabilities and / or other risks would serve to promote use of TACO. In addition, it is my position that it is likely that a large majority of the site receiving NFR letters via this approach would never need to access the LUST fund again to address future concerns; however, the availability would surely make the business decision of the owner / operators to use risk management strategies available under TACO much less uncertain and more frequently used.

I believe that the additional degree of security that the owner / operator (or potential buyer) would not be faced substantial future financial obligations associated with undisclosed contamination or employing multiple environmental land use restriction on properties to manage future risks associated with known contamination since the NFR letter in and of it self does not serve to protect the owner / operators from any potential future liability associated with that contamination. In my opinion, this would almost

certainly also make property transfers involving sites with environmental land use control restrictions much more marketable and would facilitate more frequent use of TACO.

Subpart 7

American Heritage Dictionary of the English Language, Third Edition defines *reasonable* as "**1.** Capable of reasoning : RATIONAL. **2.** Governed by or in accordance with reason or sound thinking. **3.** Within the bounds of common sense. **4.** Not extreme or excessive : FAIR"

Thank you.

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
PROPOSED AMENDMENTS TO:	)	R04-22
REGULATION PETROLEUM LEAKING	)	(Rulemaking – UST)
UNDERGROUND STORAGE TANKS	)	
35 ILL. ADM. CODE 732	)	

IN THE MATTER OF:)		
	)	
PROPOSED AMENDMENTS TO:	)	R04-23
REGULATION PETROLEUM LEAKING	)	(Rulemaking – UST)
UNDERGROUND STORAGE TANKS	)	Consolidated
35 ILL. ADM. CODE 734	)	

PIPE TESTIMONY OF DUANE DOTY, P.G. REGARDING THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY'S PROPOSAL TO AMEND 35 ILL. ADM. CODE 732 AND 35 ILL. ADM. CODE 734

My name is Duane Doty. I am the General Manager for United Science Industries, Inc. (USI) located in, Woodlawn, Illinois. I am a licensed Professional Geologist in the State of Illinois. I have consulted underground storage tank (UST) Owners and Operators in regard to compliance issues associated with releases from underground storage tanks since 1988.

In regard to Section 734.845, Professional Consulting Services, the basis for reimbursement in half-day increments does not appear to allow for several variations commonly encountered during the performance of the field work and field oversight activities addressed in this section. In addition, I question the rational used to determine a half-day equals five (5) hours.

I feel it's generally accepted that a business day consists of eight (8) hours. Therefore, a half-day equals four (4) hours, not five (5). Further, it's not uncommon for many businesses to operate during more than one eight (8) hour shift in a 24-hour day.

Should the Illinois Pollution Control Board (IPCB) determine the reimbursement of professional consulting services for field work and/or field oversight on half-day increments is a reasonable approach, I respectfully suggest that the IPCB consider the unit of measure (whether it's termed a "half-day" or a "half-shift" or similar) be modified to equal four (4) hours and not limit the Owner/Operator's reimbursement to only two units per calendar day. I feel consultants, contractors, etc., should feel confident they have the latitude to maintain or improve productivity as needed by remaining on-site to work long days in an effort to maintain a schedule, avoid weather delays, backfill excavations prior to weekends and/or holidays, take advantage of seasonally extended day light hours, etc., without jeopardizing the Owner/Operator's eligibility in regard to reimbursement. Doing so will increase the efficiency of the project and, therefore, reduce overall project costs. This opportunity is lost if the number of reimbursable hours worked on-site is directly or indirectly limited by limiting the number of half-days (or similar unit of measure) permissible per calendar day.

In Mr. Bauer's testimony filed prior to the March 15, 2004, hearing he explains that, "Based on conversations with former members of the Agency's drill rig team", the half-day rate relative to the consultant oversight of the advancement of four (4) soil borings "....allows an additional hour of field time that should account for travel time and/or any other incidental time that is needed.". Mr. Bauer again makes reference to the one (1) hour of travel time in his testimony regarding the groundwater sample collection events required as part of Low Priority Corrective Action. Although I concur with Mr. Bauer's acknowledgement that travel time is necessary and, therefore, should be considered a reimbursable task critical to the performance of field work and/or field

oversight, I question the assumption that all, or even the majority, of project sites will be located within a 30 minute radius of the consultant. It is my recommendation that the issue of travel time be revisited to determine how the half day rate should be adjusted to better represent the typical costs to be incurred as part of a "half-day" inclusive of travel and oversight, or, remove travel time from the half day unit of measure and determine reasonable travel costs separate from field work or field oversight (i.e., actual hours of travel time multiplied by the applicable personnel rate).

I also suggest the Agency revisit the conclusion that the half-day rate of $500 is reasonable and sufficient if this rate is to include all instrumentation used by the professional, transportation, lodging, etc. It's not uncommon for a professional to require various types of instrumentation including a photoionization detector (PID), water level indicator, combustible gas indicator, surveying equipment (conventional or GPS), oil/water interface meter, peristaltic pump, data logger and transducers, etc. throughout a typical scope of work associated with LUST compliance.

For example, according to the Agency's proposed Subpart H, Appendix E, the Agency suggests a reasonable hourly rate for a Project Manager with 8 years or less of work related experience and/or college level education with significant coursework in the physical, life, or environmental sciences is $90/hr. Such a Project Manager that travels 30 minutes to a job site, oversees four (4) hours of field work, and returns in 30 minutes from the job site, accounts for $450 of the $500 half-day rate. For years the Agency has determined, and reimbursed, reasonable daily rates for the use of each of the instruments described above (and others) and recognized the standard industry practice of charging this instrumentation on a daily basis. The generally accepted standard daily rates relative

to each of these instruments range from less the $50/day to more than $100/day. Obviously, after considering the five (5) hours of work and/or oversight by the Project Manager, it is not reasonable to conclude the remaining $50 is a reasonable amount inclusive of any and all instrumentation. Furthermore, to consider this $50 remainder is also inclusive of all transportation, expenses, lodging (if necessary), etc., is even more unreasonable.

Performance of field work and/or oversight by personnel identified in Appendix E with rates greater than that of Project Manager (Sr. Project Manager, Engineer III, Professional Engineer, Sr. Professional Engineer, and Sr. Professional Geologist) or travel time beyond a 30 minute radius only further supports the need to re-evaluate the $500/half day rate proposed by the Agency.

Mr. Bauer's pre-filed testimony also states that "Based on conversations with underground storage tank removal contractors it appears that consultants are not always present when the USTs are actually being removed." In support of Mr. Bauer's conclusion, I recognize that consultants are not always present during UST removal. Often times, a release from an underground storage tank is not discovered until during the removal of the UST and/or supportive system (i.e., product lines, dispensers, etc.). It is unlikely a consultant would be present prior to the discovery of a release. However, during the removal of a UST known to have had a release (a very common scenario), it is common practice for a consultant to be present during the removal of the UST(s) in an effort to document the event, evaluate the condition of the UST system, determine the source of the release, prepare a site map, sample the excavation, and collect the data necessary to comply with the Agency reporting requirements. To disadvantage an

Owner/Operator by limiting his/her reimbursement of costs incurred in regard to professional consulting services to one half-day increment regardless of how many USTs were removed and/or how long it took the contractor to remove it/them is not reasonable. Instead, the Owner/Operator should remain eligible to receive reimbursement for as many half-day increments (or alternative unit of measure) as were required to complete the UST removal activities and perform the required data collection and professional oversight.

In regard to costs associated with report preparation, the Agency's proposal to reimburse the Owner/Operator for various plans/reports, such as a Corrective Action Plan (CAP) proposing conventional technology, on a fixed rate basis does not appear to accommodate variations in the scope of work. Scope of work has a direct effect on the effort dedicated to a plan or report. For example, the preparation of a CAP to address a small plume of on-site soil contamination does not require the same level of effort as the preparation of a CAP to address widespread soil and groundwater contamination that has migrated onto several off-site properties. I feel that the Agency's rationale in support of the proposed UST removal or abandonment costs (Section 732.810) may also be applicable in determining the reasonable costs associated with report preparation. In his pre-filed testimony, Mr. Bauer explained the Agency's rationale supporting their 732.810 proposal as follows: "....it was determined that smaller tanks (110-999 gallons) cost less and that larger tanks (15,000 gallons or more) cost more to remove or abandon than medium-sized tanks (1,000 gallons to 14,999 gallons).". It is reasonable to conclude that CAPs proposing remedial action to address a small volume (i.e., 1,000 cubic yards or less) of on-site soil contamination cost less and CAPs addressing a large volume (i.e.,

greater than 5,000 cubic yards) of contaminated soil and widespread groundwater contamination, both of which have impacted the site and one or more off-site properties, cost more to prepare than a CAP addressing on-site soil and groundwater contamination. Another factor in regard to costs associated with report preparation that I feel is of great concern is the requirement of Agency review and approval, and the authorization to modify both the scope of work and/or the proposed budget. The Owner/Operator has little to no control in regard to the Agency's adequacy, efficiency, interpretation, competency, or timeliness in regard to the review/approval/modification of reports, plans, budgets, reimbursement request, etc. The potential for human error is just as real for the Agency as it is for the Owner/Operator. The Agency's proposal to refuse additional compensation for the preparation of amended plans, reports, clarify an Agency misinterpretation, etc., does not appear to relieve the Owner/Operator in the event such activities are necessary as a result of Agency involvement (directly or indirectly). As a result, the Owner/Operator becomes burdened with additional costs that are ineligible for reimbursement as a result of an Agency error.

Also, it is not uncommon for unforeseen conditions discovered after the execution of an Agency approved plan to require the submittal of amended plans and/or budgets. It does not seem reasonable to refuse an Owner/Operator reimbursement for costs associated with the preparation of an amended plan and/or budget required as a result of conditions unforeseen by both the Owner/Operator and the Agency.

I concur with the Agency that some of the proposed regulation revisions exhibit a potential to streamline the reporting process for both the Owner/Operator and the Agency. However, the 120-day Agency review timeline remains unchanged. It seems

appropriate that the 120-day review period should be reduced to reflect the benefit of the Agency's effort to streamline this process.

As several participants expressed in the March 15, 2004, hearing, the manner in which the Agency elected to research historical costs appears to be questionable. As a result, several of the Agency's conclusions are also in question. Regardless of the validity, or invalidity, of Attachment 9 as referenced in Harry Chappel's pre-filed testimony, reimbursement of conventional excavation and off-site disposal of petroleum contaminated soil using the cubic yard as a standard unit of measure can provide a streamlined and potentially reasonable means to reimburse the Owner/Operator. Although its methods may be questionable, the Agency has determined that petroleum contaminated soil can be excavated and transported to a landfill at a rate of 500 cubic yards per day from almost every current, and future LUST site located in the State of Illinois. Although there has been discussion in regard to extraordinary circumstances, it is my experience that the Agency does not consider remote locations or small volumes of contaminated soil extraordinary. These conditions can significantly increase the cost per cubic yard for excavation and/or transportation. However, the environment, human health and safety, and the Owner/Operators responsible for small plumes of contaminated soil at sites remotely located can greatly benefit from the timeliness and effectiveness of conventional technology. To indirectly limit the benefit of conventional technology by directly limiting the Owner/Operator's ability to receive reimbursement for costs incurred based solely on remote location and/or a small volume of soil to be abated is unreasonable. This situation could be addressed by either recognizing these conditions as

extraordinary or by offering a scale reflecting extended transportation requirements or less than average volumes of soil requiring abatement.

Subpart C: Site Investigation and Corrective Action, in my opinion, includes the revisions with the greatest potential to improve current regulations. The Agency should be commended for proposing this Subpart. The benefits of a pre-determined initial scope of work (Stage 1) and the ability for an Owner/Operator to request reimbursement throughout the investigation instead being required to wait until the Agency approves a completion report are two revisions that will allow a far more streamlined process than that required of current regulations. However, I recommend the Agency consider some minor modifications. It appears that depending upon the layout of the UST system, borings advanced in accordance with 734.315(a)(1)(A-C) could result in the advancement of multiple borings in virtually the same location. This would be the case especially when investigating a release from a UST system constructed such that product lines include one or more 90-degree angles (a very common situation). Advancing borings perpendicular in both directions and at equal distances (15') from both sides of a 90-degree angle can result in placing two borings at the same location. UST systems including multiple pump islands parallel to one another can also cause a similar result. This may be resolved if the regulation included direction explaining that the borings advanced in accordance with these regulations maintain a specified minimum interval between borings (i.e., 15'). Depending upon the number of USTs located in the tankhold, borings advanced in accordance with 734.315(a)(1)(B) could also result in an interval between borings of less than 15'. Requiring a minimum distance between borings could resolve this concern as well.

Also, in an effort to avoid unnecessary Agency denials or modifications of Stage 2 and Stage 3 plans, it would be helpful if the Agency provided some explanation regarding the rationale that will be used when reviewing these plans.

I also have concerns regarding the experience requirements proposed in Appendix E. I strongly disagree that it is necessary for the Agency to attempt to impose experience requirements on personnel employed by private businesses. Current regulations require that the work be performed by, or under the supervision of a licensed Professional Geologist (PG) or Professional Engineer (PE). These licensed professionals must certify to this and this should be sufficient. There is no good reason to disadvantage or disqualify young professionals capable of providing quality work.

In conclusion, it is my observation that the majority of the consulting community recognizes that cost containment is a necessity. It is also my observation that the consulting community will require that any cost containment measure be reasonable and fair. With modification, the Agency's proposed revisions could achieve this.

Thank you.

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
PROPOSED AMENDMENTS TO:	)	R04-22
REGULATION PETROLEUM LEAKING	)	(Rulemaking – UST)
UNDERGROUND STORAGE TANKS	)	
35 ILL. ADM. CODE 732	)	

IN THE MATTER OF :	)	
	)	
PROPOSED AMENDMENTS TO:	)	R04-23
REGULATION PETROLEUM LEAKING	)	(Rulemaking – UST)
UNDERGROUND STORAGE TANKS	)	Consolidated
35 ILL. ADM. CODE 734	)	

PIPE TESTIMONY OF JOSEPH M. KELLY, P.E. REGARDING THE ENVIRONMENTAL PROTECTION AGENCY'S PROPOSAL TO AMEND 35 ILL. ADM. CODE 732 AND 35 ILL. ADM. CODE 734

My name is Joseph M. Kelly. I am a licensed Professional Engineer (PE) in Illinois and have been licensed since 1984 as a civil engineer. I am the Vice President of Engineering for EcoDigital Development Group, LLC (EDG) and the Senior Professional Engineer for United Science Industries, Inc. (USI). I have been involved in engineering for twenty-four years and have been working strictly in the environmental industry since 1991.

I have been employed by USI since 1994 whereupon I was hired as a certifying PE and Project Manager. I had prior involvement in site investigation, sampling, remediation, closure, and other applicable environmental and engineering experience. At that time USI was working on a number of LUST projects under the guidance of the Illinois Environmental Protection Agency, Bureau of Land, LUST Section (Agency). 35 IAC 732 was in the process of being implemented and most, if not all, of the projects were under 35 IAC 731. Both USI and the Agency were smaller and worked well

together to resolve technical issues. Because USI worked to only perform work that was approved or in coordination with Agency guidance, USI was very successful in obtaining reimbursement for their clients and built a reputation they built on. At that time the Agency was very consistent in its approach and how they wanted to review technical and fiscal data and information.

Over the past several years USI has tried to work with the Agency and follow the policies and procedures outlined in the regulations as well as the Agency's interpretation of those regulations. Up until about 2001, USI and the Agency seemed to work well in conjunction while trying to investigate, remediate and close a number of client's LUST sites. For approximately the last three years the Agency has taken a different stance and has begun to shift its focus. Before 35 IAC 742 (TACO), the focus seemed to be to clean up the environment, including all soil and groundwater contamination, until protection of human health and the environment was assured. TACO allowed for a more site-specific approach and helped to allow closure of sites where contamination remained, but there was not an apparent threat of human exposure. This allowed for what many considered a more common sense or middle of the road approach. Unfortunately, the focus now seems to have shifted. The "protection of the Fund" outweighs protection of human health and the environment. The pendulum has swung far to one side with no consideration of the owner/operator's concerns and liability. The Agency would prefer everyone "TACO out" to save the Fund regardless if the landowner wants a clean site. In many instances engineered barriers and institutional controls do not provide an owner/operator opportunities for economic development. If we want to turn all LUST sites into parking lots, then this approach would work across the state.

I know of no one who advocates abusing the LUST fund for charges not performed or over priced rates or other abuses, at least within our organization. Yet, there are evidently firms, according to the Agency, who are not ethical in the performance of or at least how they charge for their work. So, the Agency decided to initiate rate reductions in 2001, even though these rates had been previously reimbursed and considered reasonable. The reductions were made retroactive regardless of when the work was performed. Also, there was no warning or document sighting a change in Agency policy. As a result, consulting and engineering firms and contractors were forced to decide if they would reduce rates or allow clients to pay for current rates and make up the difference.

The Agency decided to enforce even more drastic cuts in rates and scopes of work that they considered "reasonable" for purposes of reimbursement in the last three years. Personnel cuts and cuts in other areas of a budget have been noted with increasing frequency. Scopes of work in light of technical requirements are even in question. The Agency has cited that costs are "unreasonable" with no provision for explanation or the detail that might explain the budgeted costs on existing Agency budget forms. Additional information and explanations of what it takes to do the work often falls on deaf ears. Even though the Agency says "we're not the consultants" the plans and budgets are often modified or rejected based on what they deem as acceptable. Acceptability is based more on what it will cost rather than what is deemed necessary based on documented practices and logical courses of action based on engineering principals and common sense. Once again, firms are faced with the decision to take it or pass on the reduced reimbursement and allow clients to make up the difference.

USI works with the Agency to resolve technical issues despite inconsistencies within the Agency. Denials or rejections on the 119th day, requests for extensions or more information, modified budgets for worked needed to complete the project and other obstacles often require us to perform additional work and amend budgets for extra personnel hours in order to comply with Agency requests. Therefore, appeals to the Illinois Pollution Control Board (IPCB) are for budget amounts and not technical issues.

During the March 15, 2004 hearing before the IPCB and others, the Agency stated that there is a lot of time reviewing budgets and reimbursement. They also stated that "the majority of plans and report denials, amendments to plans and reports submitted by consultants and appealed before the IPCB are related to budget and reimbursement issues as opposed to technical issues." USI works through the technical issues with the Agency only to have budgets cut, modified or denied or amended budgets denied after supplying additional information for technical approval. This is partially due to changes in what the Agency deems as appropriate technical information, especially with alternative technology and also due to differences in Agency reviewers. So, the technical issues get resolved only to have cuts in budgets after cost estimates were increased dealing with re-submittals after rejections on the 119th day or requests for more information.

On March 15, 2004 during the hearing before the IPCB, the Agency stated that "more and more administrative time is being spent, not on the oversight of LUST cleanup activities, but on the oversight of budget approvals." This is because they have decided to dictate to consultants and other firms what is "reasonable". Yet, based on their testimony, their evaluation and decisions are based on review of documents and not on actual experience. The Agency stated, "About a year ago we began the process of

developing a new system..." This system seeks to try and fit all LUST projects into a mold in which "one size fits all."

The Agency admitted during the hearing cited above, that the rates they used for the proposed rules were developed in-house. Yet, there is no provision for variation. Assuming USI rates are in the data set, it would seem those rates, being previously reimbursed, assuming they have not changed, would now be "reasonable".

The Agency has also admitted that there is no list or specific work breakdown structure in order to create consistency. Yet, USI proposed such a structure over a year ago and this was ignored. The breakdown was based on phases, tasks and subtasks so that the Agency could collect consistent data and force consultants and others to fill out budgets and billing packages the same way and take out the guesswork. The Agency has stated before that everyone charges differently and it is hard, if not impossible, for them to make comparisons. USI personnel cuts have many times been due to the fact the Agency is not used to seeing consulting and contracting man-hours listed within the same budget. So, for Site Classification or Corrective Action, large cuts were made by the Agency that USI considered as inappropriate and unsubstantiated. As a result, appeals get filed.

The Agency also stated "But I would say the numbers that we're approving for reimbursement and budgets and reimbursement packages are consistent with the proposed rules." I think this is because the rate sheet they have been using over the past several years consists of the same dollar amounts proposed in Subpart H. If owner/operators can only get specific amounts for personnel, unit rates for drilling or soil remediation, equipment rates, and other costs, approved in budgets set by the Agency, it

only makes sense that reimbursement packages will be at or below the budget amounts. If the budgets and reimbursement packages are being dictated by the Agency internal rate sheet or guidance documents, the logical conclusion is that the numbers would match the proposed rules that use the same comparative documents. They have been in essence forcing the data for the last three years to fit their model. It should be noted that the costs being approved are in line with what is being proposed, it does not mention how the proposed rates are in line with what has actually been submitted by owner/operators and cut.

One person in attendance, as written in the hearing transcripts, stated that they did not understand how all of the information collected was applied, reimbursed and then in April 2002 everything changes. I agree it appears as stated above that the Agency has changed in its perceived role in the regulatory process. Making sure costs that are submitted for reimbursement are reasonable and necessary is good, but collecting raw data and then deriving a one-size fits all lump sum payment schedule without noting what is in the scope of work is detrimental.

The Agency stated in the proceedings more than once that they relied on 15 years of experience and review of budgets and reimbursement processes of invoices, etc. It seems that Agency is dictating what is reasonable and necessary without taking into consideration the owner/operator, consultant or Professional Engineer certifications.

The Agency continues to state that there are abuses or attempted abuses, so the Agency wants the Board to adopt Subpart H. Drastic changes in how costs are reimbursed serves to punish an entire industry instead of singling out those who have committed the infractions. The Agency in its review of costs and what is reasonable has

been playing consultant and requests more information, which requires more plans, more reviews, more budgets, more personnel time, more time, etc. The Agency on more than one occasion has requested more work without adequate compensation or budget approval.

The Agency has contended that the IPCB has upheld the proposed rates. Then, the testimony changed to state that they were unsure if any of the rates had been upheld. Based on the Illinois Ayers decision, I don't think their rates would be upheld.

The Agency has stated that there is nothing preventing owner/operators from proceeding with site investigation work without approved budgets. In reality, most, if not all, of the LUST sites will not proceed without an approved budget. Yet, the way the proposed rules read, if you did not plan for every contingency, and you have to submit a revised plan and budget it will not get reimbursed.

The Agency has stated that there are no standard rates, methodology and submittals. Yet, this does not take into consideration that each site is different; each owner/operator may be using a turn-key firm or a consultant that puts together various subcontractors to complete the work. There are, therefore, many variables and cost considerations. It seems the Agency looks at the money first and then decides if the scope of work is adequate. The way the current regulations are written, such as, 732.505 (a) the full technical review "*shall consist of a detailed review of the steps proposed or completed to accomplish the goals of the plan and to achieve compliance with the Act and regulations. Items to be reviewed, if applicable, shall include, but not be limited to, number and placement of wells and borings, number and types of samples and analysis, results of sample analysis, and protocols to be followed in making determinations. The*

overall goal of the technical review for plans shall be to determine if the plan is sufficient to satisfy the requirements of the Act and regulations and has been prepared in accordance with generally accepted engineering practices. The overall goal of the technical review for reports shall be to determine if the plan has been fully implemented in accordance with generally accepted engineering practices, if the conclusions are consistent with the information obtained while implementing the plan, and if the requirements of the Act and regulations have been satisfied." The technical review should be based on its own merits. Then the financial review looks to determine if the costs associated with the technical plan are in line.

Based on 732.505 (c), "*A full financial review shall consist of a detailed review of the costs associated with each element necessary to accomplish the goals of the plan as required pursuant to the Act and regulations. Items to be reviewed shall include, but not be limited to, costs associated with any materials, activities or services that are included in the budget plan. The overall goal of the financial review shall be to assure that costs associated with materials, activities and services shall be reasonable, shall be consistent with the associated technical plan, shall be incurred in the performance of corrective action activities, and shall not be used for corrective action activities in excess of those necessary to meet the minimum requirements of the Act and regulations.*" It seems that financial review is trying to figure out how to cut out costs or reduce rates below some ceiling the Agency has set state wide. If the budget needs to be reduced, then the scope of work is reduced or cuts are made leaving the plan intact but not enough money to perform the work. So, the contractor is faced with notifying the owner/operator that the proposed work cannot be completed as budgeted.

Another area I would like to address is conversion rates for excavated soil and backfill. The Agency states that the conversion factor should be 1.5 tons per cubic yard although it may be closer to 1.2 or less. A higher conversion factor decreases the yardage they will reimburse. According to the Civil Engineers Handbook (1983, page 7-77) soils vary between 1.15 (loose) to over 1.6 (compacted) tons/ cu yd. Yet, the loose (excavated) sands, clays, silts, silty clay, etc. vary between 1.15 to 1.2 tons/ cu yd. This results in a 24% to 30% reduction in the volume that should be paid for. Soils are less in weight due to excavated yardage not compacted. Therefore, if an owner/operator uses the actual weight of soil disposed at a landfill from scales that indicate the weight in tons, they can convert to yards. The conversion factor the Agency prescribes is closer to compacted soils and not excavated soils. There is no bulk density soil numbers from across the state.

The swell factor the Agency prescribes is 5% which is below what is typical in calculating soil volume due to expansion after excavation. Generally accepted engineering practices dictate that 15% to 20% is more common. Besides, the swell factor is being used to calculate a budget volume. It is better to slightly over estimate soil volume so that an amended budget does not have to be submitted if the volume is underestimated. The other use of swell factor might be used to convert the "loose" soil volume, calculated from the weight conversion factor, to compute a compacted volume to compare to the excavation dimensions.

During the hearing on March 15, 2004 the topic of sample number, sample set and other statistics terminology was discussed. EPA SW-846 was cited as a reference for statistical analysis. Despite the fact that the document refers to accurately collecting

samples for chemical analysis, the need for a representative number of samples, sample accuracy and precision are still the same. Quoting from SW-846, "Statistical techniques for obtaining accurate and precise samples are relatively simple and easy to implement. Some form of random sampling usually achieves sampling accuracy. In random sampling, every unit in the population has a theoretically equal chance of being sampled and measured. Consequently, statistics generated by the sample are unbiased estimators of true population parameters. In other words, the sample is representative of the population. In the case of determining statewide lump sum payments and time and material rates, the sample set does not appear sufficient for accurately determining these numbers. SW-846 also states, "Sampling precision is most commonly achieved by taking an appropriate number of samples from the population." The document goes on to say, "Increasing the number or size of samples taken from a population, in addition to increasing sampling precision, has the secondary effect of increasing sampling accuracy." Also, "Sufficient precision is most often obtained by selecting an appropriate number of samples."

The hope is that the true mean and sample mean will be accurate, precise and in alignment. The standard deviation or statistical measure of dispersion is defined as "a statistical measure of the amount by which a set of values differs from the arithmetical mean, equal to the square root of the mean of the differences squared."' Arithmetic mean is defined as "the average of a set of numbers, calculated by adding them together and then dividing their sum by the number of terms." The confidence interval is defined as, "expected range of outcome: a range of statistical values within which a result is expected to fall with a specific probability." Precision and accuracy are the expected outcome assuming the appropriate number of values is obtained and they are representative of the entire population. Otherwise, the confidence level or

reliability measure as defined as "a measure of how reliable a statistical result is, expressed as a percentage that indicates the probability of the result being correct." is diminished.

It is not known if the samples are representative of the entire population. The question of the number of sites that were analyzed was brought up in the hearing and was never answered. Therefore, based on the questions and probable continued questioning, it is apparent that there is doubt about how well the proposed numbers accurately represent the costs to perform the various phases and do not take into account the various scopes of work, let alone regions of the state.

The Agency has stated previously that they use the National Construction Estimator (Craftsman Book Company). This may contain some data that is applicable to sites but it is mainly for new construction and does not necessarily compare to environmental work. Picking a $\$/ft^2$ for asphalt and then expecting the same price for concrete is not realistic. Concrete prices vary, as does asphalt depending on where the site is located. By comparison the RS Means, Environmental Remediation Cost Data contains a variety of data for comparison for unit rates or lump sum amounts. This data is more accurate than picking and choosing specific sites to match the data set in order to create state wide acceptable costs. Based on a comparison of the published personnel rates, equipment rates, and materials vs. what the Agency deems reasonable, in their proposed rules, are far below those documented in this pricing guide.

Thank you.

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
PROPOSED AMENDMENTS TO:	)	R04-22
REGULATION PETROLEUM LEAKING	)	(Rulemaking – UST)
UNDERGROUND STORAGE TANKS	)	
35 ILL. ADM. CODE 732	)	

IN THE MATTER OF :	)	
	)	
PROPOSED AMENDMENTS TO:	)	R04-23
REGULATION PETROLEUM LEAKING	)	(Rulemaking – UST)
UNDERGROUND STORAGE TANKS	)	Consolidated
35 ILL. ADM. CODE 734	)	

PIPE TESTIMONY OF ROBERT J. PULFREY REGARDING THE ENVIRONMENTAL PROTECTION AGENCY'S PROPOSAL TO AMEND 35 ILL. ADM. CODE 732 AND 35 ILL. ADM. CODE 734

My name is Robert J. Pulfrey. I am a Geologist by profession and have been employed as such for almost thirty years graduating with a B.S. in Geology from St. Joseph's College in, IN and an M.S. in Geology in 1971 from Oklahoma State University OK. I am currently a Senior Project Manager for United Science Industries, Inc. having been involved in the environmental investigation and remediation field for fifteen years. Three of the fifteen years was given to public service as a Hydrologist for USEPA Region IV in the RCRA Branch. In years prior to USEPA, I was also employed as a geologist for the Department of Interior, both Bureau of Land Management and US Geological Survey. I state this for the reason that I have firsthand knowledge of what responsibility a public agency has and how the public sector system is supposed to work.

The entire authority and function of a public agency is given by legislation, i.e., by law and, in this particular case, the Statutory Authority of Protection of Human Health

and the Environment. All rules, regulations, policies, guidelines, either proposed or promulgated are supposed to benefit the public health and the environment. These rules, regulations, policies, and guidelines are also to provide a standard so that both the regulated community and regulating authority have a basis on which to proceed. When these standards are not followed by either community, chaos and confusion result. For instance, requiring a budget for free product removal when the current rules clearly do not require such brings confusion between the two parties because two different standards are being followed. Often times, the only resolution is through the filing of an appeal. There is a process for Administrative Rule Making and it must be followed. Usurping the rule-making process by enforcing or applying rules or regulation or standards before they are published or promulgated will, and has caused a rift between the regulating and regulated communities given the application of two different standards. In addition, as a public agency, there has to be free and open disclosure of what standards the Agency is following. The regulated community has a right to know. Nothing is to be kept secret. It goes with the function of being a "public agency". It galls me as a former public servant to see the system ignored or misused.

Having said that, I turn next to address the Agency's Subpart H proposed basis for drilling rates. Having been in mining exploration for approximately fourteen years and the environmental field for fifteen years, I have contracted and supervised most types of drilling and am familiar with the basis of what drillers charge. The basis on which drillers charge is highly dependent on the type of lithologies that are encountered and the type of drilling employed. The cost of drilling unconsolidated materials will be one cost versus the cost of drilling bedrock due to the type of material involved and the type of

drilling method required. So too is the type of unconsolidated material, for instance, drilling in a silty sand is far different than in highly variable materials of clay, silt and sand and mixtures thereof. This if often the case in Illinois where glacial till is predominant with thick clay layers interspersed with some sand, possibly gravels, and silty clay. To compare drilling rates from the State of Texas, Colorado, Oklahoma, and Arizona with their predominantly uniform lithologies of sand and silt is not at all comparable to Illinois. Drilling rates from the States of Indiana, Ohio and Michigan are much more comparable because of the presence of glacial till.

I now turn to address an issue of primary importance, i.e., protection of human health and the environment. Whether a regulator or an environmental consultant, the protection of human health and the environment is our purpose and our function by what we do. As a former regulator, I can safely say that the primary statutory authority of the Environmental Protection Agency is for the protection of human health and the environment. Somehow, along the way, this has been replaced by protection of the LUST fund, which has taken precedence over protection of human health and the environment. What I see as a former regulator, and currently as an environmental consultant, is the scope of projects now driven by monetary factors rather than protection of human health and the environment. In my professional opinion, the Agency lately seems to be "minoring on the major points and majoring on the minor points." Take for instance, on a number of projects that I am managing which includes sites with significant levels of soil contamination, the Agency has rejected several Corrective Action Plans on minor points rather than conditional approval while ignoring the high levels of soil contamination that need to be removed by excavation. In three separate

incidents, these sites over time developed free product during the time of Agency indecision and rejection thereby making a bad situation worse.

I also would like to remind the Agency of the time in 1998-99 when the Superfund Division of USEPA was brought before Congress to be chastised in "studying the problem to death" rather than getting the CERCLA sites cleaned up. As an environmental consultant, I have a fiduciary responsibility of protection of human health and the environment with the added responsibility of recommending using the most feasible method(s) available at a reasonable cost depending upon the site conditions and the preference of the tank and property owner.

Thank you.

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF :	)	
	)	
PROPOSED AMENDMENTS TO:	)	R04-22
REGULATION PETROLEUM LEAKING	)	(Rulemaking – UST)
UNDERGROUND STORAGE TANKS	)	
35 ILL. ADM. CODE 732	)	

IN THE MATTER OF :	)	
	)	
PROPOSED AMENDMENTS TO:	)	R04-23
REGULATION PETROLEUM LEAKING	)	(Rulemaking – UST)
UNDERGROUND STORAGE TANKS	)	Consolidated
35 ILL. ADM. CODE 734	)	

PIPE TESTIMONY OF BARRY F. SINK, P.E., REGARDING THE ENVIRONMENTAL PROTECTION AGENCY'S PROPOSAL TO AMEND 35 ILL. ADM. CODE 732 AND 35 ILL. ADM. CODE 734

My name is Barry Sink. I am a Professional Engineer for United Science Industries, Inc. located in Woodlawn, Illinois. I have been at United Science Industries, Inc. since April of 2002. Prior employment includes 20 years as a Project Engineer in the mining industry with Old Ben Coal Company in Franklin County, Illinois and 5 years experience as a Project Engineer in the cement industry with Lafarge Corporation, Joppa Plant in Grand Chain, Illinois. I received a B.S. degree in Mining Engineering in 1977 from the University of Missouri-Rolla. I have been a Licensed Professional Engineer in the State of Illinois since 1980.

Section 734.135(d) of Subpart A of Part 734 requires all plan, budgets, and reports submitted to contain the following certification from a Licensed Professional Engineer or Licensed Professional Geologist:

I certify under penalty of law that all activities that are the subject of this plan, budget, or report were conducted under my supervision or were conducted under the supervision of another Licensed Professional Engineer or Licensed Professional Geologist and reviewed by me; that this plan, budget or report and all attachments were prepared under my supervision; that, to the best of my knowledge and belief, the work described in the plan, or budget, or report has been completed in accordance with the Environmental Protection Act [415 ILCS 5], 35 Ill. Adm. Code734, and generally accepted engineering practices or principles of professional geology; and that the information presented is accurate and complete. I am aware that there are significant penalties for submitting false statements or representations to the Agency, including but not limited to fines, imprisonment, or both as provided in Section 44 and 57.17 of the Environmental Protection Act [415 ILCXS 5/44 and 57.17].

It is the Licensed Professional Engineer's duty to embrace the Engineer's Creed and to work diligently under the Code of Ethics for Engineers. The above certification acknowledges that members of the Profession are expected to exhibit the highest standards of honesty and integrity. Licensed Professionals should hold paramount the safety, health and welfare of the public, avoid deceptive acts, and conduct themselves honorably, responsibly, ethically, and lawfully so as to enhance the honor, reputation and usefulness of the profession. As a Licensed Professional Engineer in the State of Illinois, I do my best to uphold the integrity of the Profession, act for each employer or client as a faithful agent or trustee, and abide by the applicable laws and standards of the State of Illinois. That is not an easy task; however it is an honorable and worthy standard and goal.

It is my testimony that Subpart H: Maximum Payment Amounts; Section 734.845 Professional Consulting Services will make the ethical Professional hesitant to perform professional services associated with LUST projects. The Subpart H maximum payment amounts force the Professional Engineer and/or Professional Geologist to carefully evaluate the financial ability of the owner/operator to pay professional fees which exceed

the "one time lump sum" reimbursement. Only then can the professional provide professional services designed to protect the safety, health and welfare of the public. Professionals are "normal" members of society who have families to support and lives to live. The one time lump sum payment approach for reimbursement of professional services associated with the preparation and submittal of plans, reports, and budgets is an over-simplification of the professional process associated with the remediation of LUST sites. The Agency's assumptions associated with this "lump sum approach" suggest the following:

- That the process of remediation is strictly a "cook book" process. That each LUST site is "typical" in nature and can be easily matched to a remediation strategy that is 100% effective when obtaining remediation objectives. All the professional has to do is "plug and chug".
- That each owner/operator is "typical" with the same personality, goals, and objectives for every LUST property. That an owner/operator is relatively "detached" from the remediation process and that communication between the Professional and owner/operator is an "insignificant" cost factor. That the professional guidance for an individual owner/operator who owns one LUST site in a rural setting is the same as for the corporation who owns multiple LUST sites.
- That the extent and the magnitude of the associated contamination do not affect the amount of work required to develop a remediation strategy with the owner/operator and then to design the plans. That the professional effort takes

exactly the same effort no matter the size of the property, size and magnitude of the associated plume, number of offsite properties, or site specific complexities.

- That environmental remediation design is a perfect science in which the end result of each corrective action activity proposed and approved in a plan will perform as intended, always meeting the stringent objectives necessary for closure. The assumption is that an amended plan should never be necessary to meet the objective and satisfy the goals of the owner/operator.
- The assumption is that the site investigation based upon the site specific information provided by the owner/operator; the FOIA information, the intermittently spaced soil borehole logs, the monitoring wells, and modeling provides a "perfect" picture of the LUST site. The assumption is that analytical results from the closure samples collected during Corrective Action phase are always consistent with the site investigation and that they never provide any "new data" which could affect the remediation plan. Unknown tanks, utilities, geologic conditions are never discovered during the remediation process. The site investigation provides an accurate representation of the LUST site for the professional.
- That each owner/operator, offsite property owner, municipality, and highway authority readily embraces the tools of TACO to raise the remediation objective.
- That the language and potential financial liabilities dictated by IDOT within a Highway Authority Agreement are acceptable to an owner/operator.
- That the geology of each site is always "typical" and easily interpreted.

- That the location of the LUST site is not a significant factor in the cost of professional services. That the cost for professional design for a LUST site in downtown Chicago is identical to a LUST rural site located on the banks of the Mississippi River.

The assumptions associated with the "one size fits all" lump sum approach to professional services, as proposed by the Agency in Subpart H, places any Licensed Professional of integrity in a serious dilemma. The options for the Licensed Professional are limited:

- Accept a contract to provide professional services only after evaluating the financial condition of the owner/operator. Perform the professional services necessary in an ethical and responsible manner passing on any fees that exceed the Agency "lump sum" to the owner/operator.
- Perform the professional services in a responsible manner and donate the excess fees which are not reimbursable to the owner/operator as a gift. Don't worry about making a profit, feeding the family, or paying the bills.
- Limit the hours dedicated to a LUST site, hope for the best, and be prepared to terminate professional services when the owner/operator's money runs out.
- Get out of the LUST business all together and leave it for those of less integrity.

The unacceptable options for the Licensed Professional are:

- Coerce the owner/operator who has limited financial resources to accept institutional controls in order to save money, laying aside the real desire of the owner/operator, the future use of the property, the environment, and public safety.

- Use deceptive practices in order to make a profit.

The testimony given by Mr. Harry Chappel that the size of the LUST site has no effect upon the "Scope of Professional Services" is not true and exemplifies the failure of the lump sum fees proposed in Subpart H to provide the equitable reimbursement for Professional Services.

I would also like to offer testimony concerning engineered barriers. Section 742.200 (Definitions) of Subpart B (General) of Part 742 (Tiered Approach to Corrective Action Objectives) defines an engineered barrier as follows:

> "Engineered Barrier" means a barrier designed or verified using engineering practices that limits exposure to or controls migration of the contaminants of concern.

This definition is very clear that any barrier utilized to protect the human health and environment by preventing the completion of an appropriate exposure pathway must be "designed or verified using engineering practices". The utilization of an engineered barrier as provided within TACO is an important tool to owner/operators who seek to effectively remediate their LUST site.

Section 742.1100 (Engineered Barriers)(d) and (e) of Subpart K (Engineered Barriers) of Part 742 (Tiered Approach to Corrective Action Objectives) requires the effective maintenance of an engineered barrier as follows:

> d) Any no further remediation determination based upon the use of engineered barriers shall require effective maintenance of the engineered barrier. The maintenance requirements shall be included in an

institutional control under Subpart J. This institutional control shall address provisions for temporary breaches of the barrier by requiring the following if intrusive construction work is to be performed in which the engineered barrier is to be temporarily breached:

1) The construction workers shall be notified by the site owner/operator in advance of intrusive activities. Such notification shall enumerate the contaminant of concern known to be present; and

2) The site owner/operator shall require construction workers to implement protective measures consistent with good industrial hygiene practice.

e) Failure to maintain an engineered barrier in accordance with that no further remediation determination shall be grounds for voidance of the determination and the instrument memorializing the Agency's no further remediation determination.

Section 734.630 (Ineligible Corrective Action Costs) (tt) of Subpart F (Payment From the Fund) of Part 734 limits eligible costs associated with and engineered barrier as stated:

"Costs associated with the installation of concrete, asphalt, or paving as an engineered barrier to the extent they exceed the cost of installing an engineered barrier constructed of asphalt four inches in depth. This subsection does not apply if the concrete, asphalt, or paving being used as an engineered barrier was replaced pursuant to Section 734.625(a)(16) of this part."

It seems possible that this reimbursement rule was drafted by individuals associated with the asphalt industry. The engineering characteristics of asphalt and concrete are not identical. Site specific conditions dictate the design of engineered barriers including the construction materials. This reimbursement rule will limit the utilization of engineered barriers as a remediation tool based upon the owner/operators out-of-pocket expenses associated with a properly designed engineered barrier. The construction material and thickness of an engineered barrier are determined by the property use, traffic conditions, and maintenance issues associated with the engineered barrier. An engineered barrier for a LUST site which will see only pedestrian traffic will be designed to handle pedestrian traffic. An engineered barrier for a LUST site at commercial property which will see passenger car traffic will be designed to handle the wheel loading of the passenger car. An engineered barrier for a LUST site at a property which will see semi trailer traffic must be designed to handle the wheel loading of a loaded semi trailer. Other factors to be considered include the type of heavy equipment utilized to unload a semi trailer and the long term durability/maintenance cost for the engineered barrier. The barrier must be designed to meet the site specific conditions.

Section 734.840 (Replacement of Concrete, Asphalt, or Paving....) (a) of Subpart H (Maximum Payment Amounts) limits the maximum payment for four inches of concreted, asphalt, or paving to $ 2.18 per square foot. Owner/Operators who would like to consider an engineered barrier at many sites will have two options:

- Pay any additional engineered barrier costs over $2.18 per square foot out of pocket. (The cost a 6" thick concrete engineered barrier for an industrial site in Southern Illinois is reasonable at $4.18 per square foot, of which only $2.18 per

square foot would be eligible for reimbursement. The total cost a typical 30' X 50' barrier would be $6,270. The reimbursable cost would be $3,720 and the out of pocket expense to the owner/operator for would be $3,000.)

- Choose an alternative method of remediation which will be eligible for full reimbursement even thought it may be much more costly to implement. (Utilization of conventional technology for excavation, disposal, and backfill of the same 30' X 50' area to a depth of 10 feet would be $115,500. The cost would be 100% reimbursable with no out of pocket expense to the owner/operator.

My testimony is that the maximum payment for reimbursement of engineered barriers will limit the utilization of TACO by owner/operators and will result in poor stewardship of the LUST fund. The "cookie cutter" approach to reimbursement for engineered barriers as proposed by the Agency is not consistent with the definition of an "engineered" barrier which is to be designed to be protective of human health and the environment. The Agency has falsely assumed that four inches of asphalt will always provide a properly engineered barrier.

Thank you.