DISCUSSION AND GUIDANCE ON ETHICS

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PREAMBLE

While ethics is a burning issue for most professional organizations, it is often difficult to address due to a lack of knowledge of what it is and why it is important. The National Society of Professional Engineers has published "Selected References and Resources on Engineering Ethics and Professional Practice". Some universities are requiring courses in ethics for certain degree plans. States are beginning to make ethics training a prerequisite to licensing. A superficial research on the subject reveals mountains of articles, courses to take and numerous web sites, illustrating the perceived need to upgrade engineers' knowledge and practical application of ethics.

Following the lead of NSPE, nearly all states have published their own code of ethics for engineers. There may be significant differences between states and it is imperative that SPEE members are familiar with the code of ethics in every state in which they are licensed and/or practice. (In many cases, the degree of reciprocity among the states is also important).

A part of being a professional engineer and adhering to a code of ethics entails practicing only in the engineer's area of competence. Continuing education is, therefore, necessary to be current on technology and common definitions to ensure accuracy in use and communication. SPEE, a leader, is active in promoting Recommended Evaluation Practices (REP) through workshops and publications. The REP program has gained wide acceptance since its introduction in 2002.

INTRODUCTION

The first duty of any ethical professional engineer is to place safety, health and welfare of the public above all else. In the usual perspective of engineers' relationship to the design of bridges, roads and buildings, the duty is easy to understand. However, the connection to petroleum engineers is more difficult to grasp, and even harder in relation to petroleum evaluation engineers. But the connection is there – by protecting investors and stockholders, by facilitating project financing and by preventing fraud. These are broader issues than the ones usually focused on by SPEE members, yet they are critical to professional conduct.

A substantial obligation of a professional in any field is staying current on technology and rules and regulations pertaining to his area of practice. For the petroleum evaluation engineer, continuing education is essential through the study of technical journals, attendance at seminars and industry programs and interaction with peers. The Society of Petroleum Engineers provides many opportunities to interact with peers and publishes many journals and sponsors meetings and conventions to make technical information available on critical subjects related to estimation of reserves and recovery rates.

Evaluation engineers, in addition to estimating reserves and recovery rates, must also be cognizant of current economic conditions and product prices as well as understanding the rules and regulations of the Securities and Exchange Commission if they provide services for public companies. The Society of Petroleum Evaluation Engineers sponsors conventions and seminars to provide opportunities for input and questions concerning these areas of interest. SPEE also publishes a list of best practices for guidance on certain issues. Local SPEE chapters present programs and encourage discussion of matters related to petroleum property evaluation.

PRINCIPLES OF ACCEPTABLE EVALUATION ENGINEERING

Article I Fundamental Canons

Engineers, in the fulfillment of their professional duties, shall:

- Hold paramount the safety, health and welfare of the public.

- Perform services only in areas of their competences.
- Issue public statements in an objective and truthful manner.
- Act for each employer or client as faithful consultants or trustees.
- Avoid deceptive acts.
- Conduct themselves honorably, responsibly, ethically and lawfully so as to enhance the honor, reputation and usefulness of the profession.

Article II General Practice

1. The Society may adopt and issue from time to time guidelines for the preparation of reserve estimates and evaluation reports.
2. Members will ascertain that their reports include a full disclosure of the reserve definitions used, either by reference to a known industry set of definitions or by actual inclusion of the definitions used. The reference or inclusion of the definitions shall be clearly presented so as to enable the reader to easily ascertain the definitions used.
3. If the member preparing the report has a vested interest in the properties being evaluated, the nature of this interest shall be disclosed.

Article III Relation of Members to the Public

1. Members will make oral and written statements that are honest and fair, avoiding exaggeration and sensationalism.
2. Members will control the use of maps and reports to assure they are used only for legitimate purposes. For example, limitations in the data relied upon or the method of analysis employed or the assumptions made must be explained. Also the specific use of the maps and reports will be defined.
3. Members will give professional opinions, prepare reports or give legal testimony only after adequate preparation. The extent of that preparation shall be disclosed.
4. Members will publish business and professional announcements, but shall not advertise their work or accomplishments in a self-laudatory or conspicuous manner. Members should not misrepresent their experience nor professional or academic qualifications.
5. Members shall report violations of this Code of Ethics to the appropriate professional bodies.

Article IV Relation of Members to Employer and Client

1. A member shall protect, to the fullest extent possible, the interest of his employer or client so far as it is consistent with the laws of the state, the public welfare, and professional obligations and ethics.
2. A Member will not use or divulge, directly or indirectly, any client's or employer's confidential information without express written consent To do so is unethical and may constitute a theft.
3. A Member retained by one client will not accept, without that client's consent, an engagement by another if the interest of the two is in any manner conflicting.
4. A Member who has made an investigation for any employer or client will not seek to profit economically from the information gained unless permission to do so is granted or until it is clear that there can no longer be a conflict of interest with the original employer or client.
5. A Member shall not seek or accept a contingent fee arrangement for preparing a report, giving a professional opinion or providing legal testimony. This destroys the credibility of the product.
6. Member shall not accept a concealed fee for referring a client or employer to a specialist or for recommending petroleum evaluation services other than his own. Such an undisclosed payment is a kick-back.

Article V Relation of Members to Peers

1. A Member will not falsely nor maliciously attempt to injure the reputation or business of another person.

2. A Member will freely give credit for work done by others, will refrain from plagiarism in oral or written communications and will not knowingly accept credit rightfully due another person.
3. A Member will endeavor to cooperate with others in his profession and will encourage the ethical dissemination of petroleum evaluation knowledge.

Article VI Duty to the Society

1. In making application to become a member or continuing as a member in the Society, a member agrees to uphold the NSPE Code of Ethics for Engineers and these Principles of Acceptable Evaluation Engineering Practice by precept and example.
2. A Member of the Society will aid in preventing the election of a person to membership in the Society who does not abide by the NSPE Code of Ethics for Engineers and these Principles of Acceptable Evaluation Engineering Practice or who does not have the required education and experience.

THE ETHICAL CONSIDERATIONS INVOLVED IN EXPERT WITNESSING

The *Code of Ethics of Engineers* and the *Principles of Acceptable Evaluation Engineering Practice* found in Appendices A and B, respectively, of the SPEE's By-Laws set a reasonable and comprehensive standard of conduct for engineers engaging in the various aspects of reserve evaluation. Are any other standards needed for an engineer serving as an expert witness in civil litigation? In theory no, but in practice yes. Both the logic and procedures involved in civil legal proceedings are foreign enough to the inexperienced engineer as to create numerous pitfalls even for the most conscientious person. Not only can an engineer unknowingly violate codes of conduct, but could be guilty of contributing to a miscarriage of justice. The connection between an evaluation engineer's normal activities and the public's welfare may often seem tenuous, but not when it involves the justice system. What greater indictment of an engineer's professionalism can there be than impeding the administration of fair, impartial justice, which is the very foundation of a free society.

This paper's focus is on the ethics of expert witnessing, not how to be an effective witness. However, there is considerable overlap between the two topics. The expert is being neither effective nor ethical if not fully prepared within the time and job scope constraints of the assignment. Understanding how the civil justice system works in America is crucial to being both an ethical and effective witness. In the simplest terms, the justice system allows each party in the dispute to bring forth through witnesses and the introduction of evidence all the facts and expert opinions that will help make their case. Each party is also allowed to examine and question all the evidence and witnesses from the other side. After all the facts and opinions have been presented and examined in open court, the impartial trier-of-fact (whether judge or jury), after careful deliberation, will decide which party has the "preponderance of the evidence" in their favor. Thus justice is served in an American court.

This adversarial approach to civil litigation creates a confrontational and at times hostile atmosphere that causes most of the pitfalls for expert witnesses. It is extremely important to understand the role of each character in the drama of a legal proceeding. The judge maintains order in the court, rules on points of law and procedure that arise and instructs the jury on what issues of fact that they are to decide. In a "bench" trial the judge also acts as the jury. Each party in the case will have one or more attorneys representing them. While attorneys are officers of the court and held to certain standards of conduct they are also hired to be advocates for their client's case. It is their job to bring forth every possible fact and opinion that could further their client's cause while questioning the validity of facts and opinions and the credibility of witnesses presented by the other side. **Attorneys are not impartial.**

In contrast, an expert witness brings some specialized skill, knowledge, experience, education, or training into the courtroom or hearing room to assist the trier-of-fact. **The expert should be impartial**, rendering independent opinions based on the facts. The expert is also human so being completely impartial and wholly independent are somewhat idealized concepts in the confrontational and often emotionally charged atmosphere of a trial. It takes a well-developed sense of professionalism to maintain objectivity and function as an ethical witness in these circumstances. The special circumstances of civil litigation raise issues that the engineer does not normally encounter, hence the justification for a presentation devoted to the ethics of expert witnessing.

Assuming the engineer has at least a general understanding of the civil legal system procedures, the ethical considerations start with the decision on whether to accept the engagement as an expert witness. Are you qualified by training and experience to evaluate and opine on the technical issues that are involved? Do you have any conflicts

of interest with parties in the case? There are direct conflicts such as having worked for the opposing party on issues involved and your participation in the case could place that party at a disadvantage. There can be potential conflicts that arise out of established relationships that may require a business or personal rather than ethical decision. As with any consulting assignments where independent opinions are given, compensation should not be based on the outcome of the lawsuit.

Do the deadlines involved and your work schedule allow sufficient time to prepare properly? Remember that few events in a lawsuit, particularly the trial date, occur as originally scheduled. Successful litigation lawyers are smart, a quick study and often workaholics. They normally have several cases pending at once and sometimes exhibit a lack of regard for another person's schedule by contacting experts just days before the deadline to name witnesses. Sometimes the case has been pending for months and much of the discovery already done. It is the expert's responsibility to be sure he understands the technical issues and the time factors involved before accepting the assignment regardless of pressure for an immediate commitment.

There are other less tangible issues to be considered before accepting the assignment. Are you comfortable with the reputation of the party you would be representing? An expert can be a completely ethical witness even working for someone of questionable repute. In America everyone has the right to hire the best available legal counsel and technical assistance for their "day in court." **But if you lie with dogs you're liable to get fleas**. There can be undue pressure to slant your opinions and less than full disclosure of all the facts and data. At best it is an uncomfortable situation and can become a quagmire, particularly for the inexperienced witness.

When considering a litigation assignment the issues involved in the lawsuit are a legitimate concern. This is a gray area. It is the court's, not the expert's, responsibility to pass judgment on the issues. However, if you are uncomfortable with the prospective client's legal or factual position to the extent that it could impact your performance or compromise your principles then it does become an ethical decision. Similarly the job scope assigned to the expert can have ethical ramifications. Normally the expert is not given carte blanche to study all the issues involved that pertain to his area of expertise. Logically the client and its legal counsel will request the expert to investigate and opine in certain areas only. If the charge is so narrowly focused that it could distort the issues, it's the expert's professional responsibility to discuss his concern with counsel and render a decision as to accepting or continuing the assignment.

On the other side of the coin, if during the course of his investigation the expert develops information or forms opinions that could be detrimental to the client's position, he has the obligation to **verbally** inform counsel. Depending on the circumstances, the decision may then be made not to use the expert's services. If so, the expert has the duty to maintain the usual client confidentiality, even though he is no longer involved in the case. Often a prospective expert witness is requested to do a preliminary review up front on the important issues to see if he thinks the facts will lead to conclusions and opinions supportive of the client's position. Keep in mind that once such a review has been done you are ethically obligated to maintain confidentiality even if you do not get the assignment and can not work for other parties in the lawsuit.

The law in Texas classifies experts either as **consulting** or **testifying** experts. This allows the client and attorney to freely consult with an expert and obtain his or her true opinion. If not favorable, they may drop the case, modify their position or change experts. The work product of a **consulting** expert is protected from disclosure. On the other hand, all of a **testifying** expert's work product and most of the written communications with the client and legal counsel are subject to discovery by other parties in the lawsuit. Often an engineering expert serves in both capacities, consequently all of his work product is discoverable. It is illegal to not disclose or to destroy information that has been requested through discovery. You may also be cross examined under oath during deposition or trial about what you have investigated and concluded in the course of your assignment. It is very important not to write reports, conclusions or opinions without specific instructions from the client's legal counsel.

Expert witnesses get into questionable ethical positions unknowingly by not clearly understanding their role in relation to the attorneys' role. Remember that attorneys are advocates for their clients. Short of knowingly putting on false testimony attorneys are largely free to explore every alleged fact, conceivable theory or half-baked opinion that would support their client's position, while questioning the credibility of every aspect of the opposition's case. Intuitively an expert views the opposing attorney as the enemy who will question his competency and opinions

through trick questions. In truth, if a qualified expert has done his homework and is not trying to withhold facts or play mind games, the opposing attorney is no threat.

The main danger an expert faces is from his client's attorney who may pressure you about your opinions or suggest revisions in your testimony to be more "responsive." You may be asked to stretch your expertise into areas where you aren't fully qualified. There is nothing necessarily illegal or unethical about attorneys doing this. They are fulfilling their advocate role, but the expert as an unbiased, independent party has the professional responsibility to decide what subjects he can opine on and to state his opinions clearly and fully. If you are not able to withstand the power of suggestion from an aggressive attorney, it would be wise not to serve as an expert witness.

While in theory an expert is an unbiased, independent party, it is human nature to invest in your own credibility and to want your side to win with you contributing to their success. After all you are part of the "team". This is particularly true in complex cases where you have spent many long hours in the presence of clients and attorneys, serving both as consultant and testifying expert. The team spirit can really thrive under these conditions, but an ethical expert cannot let this impair his professional judgment even if it strains relationships. You are not really a member of a support team in the sense that a purely consulting expert who is not testifying would be. While a consulting engineer is always held to a professional code of conduct, he can qualify his opinions by disclaimers, disclosures and limited usage clauses in the report. The lack of such a safe harbor, places a special burden on a testifying expert witness to evaluate information, interpret facts and render opinions in an impartial manner that will help the court understand technical issues. **The dual role of consulting and testifying expert along with aggressive advocacy by the client's lawyer create the major pitfalls for a would-be ethical witness.**

In the area of reservoir engineering and reserve evaluation, the subject matter often tends to be more gray than black and white, requiring varying degrees of subjective judgment by the practitioner. How does the expert reconcile this subjectivity with the duty to help the court understand technical issues? Opposing attorneys love to play to the jury by expressing "shock" at an expert's admission that reserve volumes are estimates rather then exact measurements. This response conveniently overlooks the fact that industry uses such estimates to conduct its' normal business. It's up to the expert to convey this to the court without over or understating the accuracy involved.

Subjectivity also requires that the expert stick to procedures generally accepted by industry as opposed to utilizing some nonstandard approach for the occasion of the litigation. The growth of the contingency fee litigation industry in the 1980's gave rise to hundreds of lawsuits claiming certain products caused harm to the plaintiffs. Often these claims were based on little more than junk science. This resulted in a number of court decisions about the acceptability of expert scientific testimony, most notable of which was the Daubert decision upheld by the U. S. Ninth Circuit court in an opinion issued January 1995. Several states have adopted the Daubert approach, which can be illustrated by the Supreme Court of Texas' reasoning for excluding an expert's testimony:

1. was not grounded upon careful scientific methods and procedures,
2 was not shown to be derived by scientific methods or supported by appropriate validation,
3. was not shown to have a reliable basis in the knowledge and experience of the witness' scientific discipline,
4. was not based on theories and techniques that had been subjected to peer review and publication and
5. was not based on a procedure reasonably relied upon by experts in the field.

A more detailed treatment of the ramifications of the Daubert decision can be found in an article written by Harvey G. Brown, Jr. for the 25th Annual Advanced Civil Trial Course, entitled **"**UPDATE ON *DAUBERT* CHALLENGES EXPERTS". Brown elaborates on the eight gates that must be passed to make an expert's testimony admissible in court.

The subdiscipline of reservoir engineering is based on valid scientific principles and industry accepted practices that are the subject of continuous peer review and publication. It requires more subjective judgment than most other engineering disciplines due to the lack of sampling from the object, i.e. the reservoir, being analyzed. The difficulty this presents depends on the quantity and quality of the information in relationship to the heterogeneity of the reservoir. Daily, engineers successfully analyze reservoirs and evaluate reserves using training, experience and

sound judgment. Expert witnesses unable to apply these attributes competently tend to demonstrate a " *the exact answer isn't known so my opinion is as good as your opinion*" attitude which does not help the court to understand technical issues. Certainly two competent, unbiased engineers can look at the same set of facts and derive different conclusions, but they would also understand and be able to verbalize where and why the differences occur. This gives the court a basis for making a decision rather then being faced with two intractable opinions. There are many engineers evaluating reserves that have never advanced beyond the "cookbook" approach. They may be able to function quite capably within restricted conditions, **but they do not belong in court as expert witnesses.**

Since the civil justice system is based on the opposing parties confronting each other in open court after a discovery process, the experts have the opportunity to "peer review" each others' opinions both during deposition and in court room testimony. Weaknesses or apparent inconsistencies in the testimony can be pursued by direct testimony and particularly during cross examination. On occasions both sides may not be equally represented by capable experts, which can remove the "peer review" constraint. Obviously it is not the opposing expert's duty to make the case for the other side. Each party is responsible for being adequately represented. However it would be unethical to take advantage of the lack of "peer review" in such a situation by offering questionable or unintelligible testimony.

The number and nature of ethical considerations involved in expert witnessing may be surprising to some. Yet all the issues discussed arise directly out of the responsibility that a professional engineer has toward protecting the public health, safety and welfare. For an engineer to accept an expert witnessing assignment without being fully aware of the ethical issues and responsibilities involved is unprofessional and unethical.

In summary, **it is the expert's responsibility to help the court understand technical issues.** However the expert offers his testimony in response to questions asked initially by his attorney (direct) followed by questions from the opposing attorney (cross). Expert testimony is not an opportunity for extemporaneous speaking.

ILLUSTRATIONS

These are not hypothetical cases. They are disguised situations based on actual experiences encountered. The answers to some of the questions posed are relatively easy. The others are more difficult. To some questions there is probably not a simple "right" answer. Perhaps these cases will lead to a heightened awareness of ethical dilemmas and the need to approach same with caution and a sense of doing what is right.

First Situation involves a partnership comprised of an engineer and a geologist. They specialize in evaluating oil and gas properties and prospects. They are approached by a promoter who packages producing properties for sale. The promoter makes a proposal along these lines, "let's join forces to sell this deal. You two do the geology and engineering involved in an evaluation report, we'll sell the deal and split the promotion." While not verbalized, there's a hint, (very thinly veiled) that an evaluation containing the highest possible value is expected.

The engineer and geologist explain why their proposed role would be a conflict of interest and decide not to accept the proposal. The promoter doesn't understand why conflict of interest would be an issue, as opposed to the concept of aggressive salesmanship.

What do you think? Did the consultants act properly or were they overly cautious?

Suggested Answer - The consultants acted properly, assuming their primary business objective is to provide evaluation services. In some cases, it may be proper for an evaluator to participate in preparation of a sales package but only if his role and compensatory participation are completely disclosed to potential buyers.

Second Situation involves a registered professional engineer named Cook. He specializes in property evaluations for estate tax filings. He has the reputation of being very thrifty with his own and his clients' money. Furthermore, he's biased against the Internal Revenue Service, believing strongly that estate tax laws are grossly unfair and confiscatory. Mr. Cook has been engaged by representatives of a very wealthy deceased person to evaluate the estate's oil and gas interests. These representatives make it clear to Cook that the estate's tax bracket will be a very high one. There is subtle, but strong "encouragement" to keep the appraised value low so as to minimize the tax bite. Cook is faced with a tempting thought with two advantages to be gained by slanting the appraised value as low as possible:

One – he gains favor with his client

Two- he can strike a blow against the IRS

What Do You Think? Does Cook yield to temptation? If challenged by the IRS and a higher value is derived, is he a loser or a hero for making a valiant effort? Is his reputation damaged? Who's to know what transpired outside the IRS and those associated with the estate?

Suggested Answer - Cook should play it straight. Whether his work product is never known to the public or his other clients is immaterial. If he's truly professional and his ethics are high, he will conduct this evaluation, just like any other on a strictly unbiased basis.

Third Situation involves a conscientious evaluation engineer named Davis. He has concerns about one of his consulting clients. The client wants Davis to do a reserve and evaluation study. Davis is not sure as to how the client will utilize the report or what representations he will make about it. Davis is willing to provide the client with a verbal account of the study, but is very reluctant to put his findings in writing.

What Do You Think?

(1) Should Davis prepare a written report and protect himself with the usual language concerning restricting use
   (a) by client or
   (b) only upon Davis's approval

(2) If Davis does not prepare a written report as requested, has he done the client a disservice?
or

(3) Should Davis refuse to do the study at all?

Suggested Answer - If Davis has serious concerns about the character and ethical behavior of the client, he should refuse to do the study and avoid involvement with the client.

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ETHICS: POST REGISTRATION (LICENSING) OF ENGINEERS AND GEOLOGIST

All states, Guam and Puerto Rico have registration or licensing of engineers and many also license geologists. Every SPEE member, by requirement, is registered or licensed in their home state. Members are urged to keep abreast of registration and licensing requirements and Code of Ethics of their home state as well as those states in which they practice and to fully comply with same. The following oil-producing states have published a Code of Ethics:

Arkansas, New York, Alabama, Ohio, California, Oklahoma, Colorado, Pennsylvania, Kansas, Texas, Kentucky, Utah, Mississippi, Wyoming, and New Mexico

WEBSITES

National Institute for Engineering Ethics: www.niee.org
National Society of Professional Engineers: www.nspe org/ethics/sh1-code.asp
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