

SPEE Software Symposium

Mark your calendar for the 2009 SPEE Software Symposium to be held in Houston, TX on Monday, April 20, 2009 at the Marathon Training Center (located at The Galleria) from 8:30 AM to 4:30 PM. The tentative program includes a presentation by Mr. John Wright of a comparative analysis of economics software problems; a panel discussion by software company representatives; and economic software vendor exhibits. The Symposium is open to Members of SPEE and all other interested parties. For further information contact General Chairman Kerry Pollard at kpollard@austin.rr.com. SPEE would like to thank Kerry Pollard, John Wright and Scott Stinson for organizing this event. Registration form enclosed.

President's Letter

We had an excellent Board of Directors meeting in Calgary in mid-January. Despite the calendar date and expected sub-zero temperatures, we enjoyed record high temperatures due to the warm chinook winds. The Board members also had an opportunity to meet and discuss local and international SPEE initiatives with the Calgary Chapter over lunch. Thanks to Past-President Frank Molyneaux for getting us out of our normal routine of having the Board of Directors meeting in Houston. In future years the January BOD meeting may eventually visit all the Chapter locations. Maybe in January 2010 we'll have the Board of Directors meeting in London, and hopefully we'll be awarding the London Chapter their Chapter Charter. We have four Members in London and need six more to form a Chapter.



*Back Row L to R: Rick Krenek, Tom Collier, Scott Stinson, Jim Patterson, Frank Molyneaux, Marshall Watson, Brian Walter. Front Row L to R: Stuart Filler, David Gold, B.K. Buongiorno, Barry Ashton
Not pictured: Samantha Meador, Ed Gibbon*

Speaking of Membership, SPEE now has 536 Members. Our median age is 57. I encourage all SPEE Members to recruit those colleagues they would recommend and sponsor for SPEE. With the applications being processed (a number from across the pond in London), plus 50 more and we could reach 600 Members by this time next year.

Our 2008 Annual Meeting at The Homestead ended up \$7000 in the black (whew!!). Mark your calendars for the 2009 Annual Meeting in Santa Fe at the La Fonda Hotel on June 13-16, 2009. Vice President Filler has an exciting program and excellent short courses already planned for the meeting.



**New SPEE
mailing address:**

**5535 Memorial Drive,
#F654
Houston, Texas 77007**

**Phones (same)
713-651-1639
713-951-9659 fax**

2009 Officers and Directors

Committee Chairmen and Individual Appointments

Officers

President David K. Gold (Bakersfield)
 Vice President Stuart L. Filler (Houston)
 Secretary-Treasurer Barry R. Ashton (Calgary)
 Past-President Frank Molyneaux (Calgary)

Directors

Thomas Collier (Midland)	Bruce Randall (Tulsa)
Edward Gibbon (Houston)	Scott H. Stinson (Denver)
Richard F. Krenek II (Dallas)	Brian Walter (Dallas)
Samantha Meador (Houston)	Marshall Watson (Midland)
James G. Patterson (Houston)	

Chair of the Council of Past Presidents E. Bernard Brauer

By-Laws Committees

Qualifications Jim Wilson
 Nominating Frank Molyneaux
 Grievance L. D. (Buddy) Sipes

Individual Appointments

Evaluation Parameter Survey Tom Collier
 Fair Market Value D. Russell Long
 Internet J. Brian Walter
 Membership James G. Patterson
 Newsletter Publisher Richard J. Miller
 Communications Bruce L. Randall
 Production Tax Summary and University Interface Marshall Watson
 Recommended Evaluation Practices Daniel R. Olds
 Annual Meeting Advance Planning Barry Ashton
 Professional Registration Marcus Snyder
 2009 Software Symposium Kerry Pollard
 Co-Chairs John Wright and Scott Stinson
 Evaluation of Resource Plays Russell K. Hall
 Reserve Definitions S. Tim Smith
 Journal of the Society of Petroleum Evaluation Engineers ... Richard J. Miller

SPEE Delegates

SPE OGRC Oil and Gas Reserves Committee Observer Ron Harrell
 JCORET Joint Committee on
 Reserves Evaluator Training Stuart Filler, Dan Olds, E. Bernard Brauer
 COGEH Canadian Oil and Gas Evaluation Handbook Barry Ashton
 UNECE Ad Hoc Group of Experts on Harmonization of Fossil Energy
 and Mineral Resources Technology S. Tim Smith

Chapter Officers - 2009

Calgary

Chairman	Floyd Siegel
Vice Chairman	Attila Szabo
Secretary-Treasurer	Curt Labelle
Membership	Terry Nazarko

(3rd Tuesday each month except June/July/August)

California

Chairman	Tom Walker
Vice Chairman	Brad DeWitt
Secretary-Treasurer	Barry Evans

Central Texas

Chairman	Cary McGregor
Membership	Open

(Quarterly - Austin Country Club)

Dallas

Chairman	Dean Eiland
Vice Chairman	Paul McDonald
Secretary-Treasurer	Philip Crouse

(Bimonthly-September through May - Dallas Petroleum Club)

Denver

Chairman	Jerry Hertzler
Vice Chairman	Kevin Weller
Secretary-Treasurer	Pat Galuska
Membership	Mike White

(2nd Wednesday of first month of each quarter
 Hershner Room - One Norwest Center)

Houston

Chairman	Ronald Rhodes
Vice Chairman	Samantha Meador
Secretary-Treasurer	Mitchell Reece
Program	Jerry Blevins

(1st Wednesday of each month except June/July/
 August - Petroleum Club)

Midland

Chairman	Charles Gleeson
Vice Chairman (Program)	Tom Collier
Secretary-Treasurer	Russ Hall
Membership	Joe Neal
At Large Member ExCom	Charles Gleeson
At Large Member ExCom	Arlen Edgar

(1st Tuesday odd months-Petroleum Club)

Oklahoma City

Chairman	Jim Wilson
Vice Chairman	Ken Sigl
Membership	Bruce Heath
Secretary-Treasurer	Fletcher Lewis

(Every odd-numbered month)

Tulsa

Chairman	Ken Richison
Vice Chairman	Chris Jacobsen
Secretary-Treasurer	Bob Harmon

(1st Tuesday of each month - Petroleum Club)



5535 Memorial Drive, #F654
 Houston, Texas 77007
 713-651-1639
 fax 713-951-9659

Newsletter Editor www.spee.org
 Diane Pollard **password: speeweb**
 (512)263-8022
 dpollard@austin.rr.com

Administrative Secretary
 B.K. Buongiorno
 Bkspee@aol.com

The SPEE Newsletter is a quarterly publication of the Society of Petroleum Evaluation Engineers. News items, correspondence, address changes and advertising inquiries should be directed to SPEE headquarters in Houston, Texas.

Also coming up is the Software Symposium on Monday April 20th so mark your calendars. For more information, see the sidebar newsletter article by General Chairman Kerry Pollard.

I am pleased to announce that the 2008 Journal of the Society of Petroleum Evaluation Engineers was published last December. It has been almost 40 years since our last Journal. I've appointed Richard J. Miller to Chair the JSPEE Committee to keep the Journal alive for at least the next three years and hopefully for the foreseeable future. I would like to have JSPEE be the publishing vehicle of choice for our Members. Thanks to the authors and the Editorial Review Committee Richard J. Miller and Ron Harrell for their contributions.

The 2008 JSPEE includes the following:

- Proper Reservoir Integration (Volumetrics) by Dick Banks
- Interference Testing Applied to Proved Undeveloped Well Locations by Fred Goldsberry
- Implementation of the Two Distinct Deterministic Evaluation Philosophies by Rawdon J.H. Seager
- The Value of Oil and Gas Reserves Information by Richard J. Miller

In the course of B.K. moving offices, she discovered the rumored-but-never-verified Volume 2 JSPEE!! I'm not sure what year it was published, but when I get my hands on it I'll generate a pdf and get it posted on the web site.

And speaking of the website, have you seen the website lately? In January, Internet Committee Chairman Brian Walter completely revamped the web site. It is very impressive. Nice work, Brian!! Please pass on comments to Brian for changes/improvements you would like to see. Brian's contact information is brian@walterx.com or call 214-369-4564.

One of the "powers" of the SPEE President is "The President ... shall appoint, within the limitations prescribed by the By-Laws, such committees as are required for the purpose of the Society." Russ Long suggested that we bring the "Reserve Definitions" Committee out of retirement. The Board of Directors thought that was a great idea. So I've appointed outgoing Past-President Tim Smith to Chair the committee. Tim is a good fit for this position given his past work on the PRMS and at the United Nations. In addition to serving as an in-place quick-response team to address reserve questions and issues on behalf of SPEE, the committee has a longer-horizon plan to update the SPEE Monograph I "Guidelines for Application of Petroleum Reserves Definitions (1988, Revised 1998)."

Also, the "Production Tax Summary" committee has been renamed "Production Tax Summary and University Interface" committee. Committee Chairman Marshall Watson has contacted 22 universities that have a petroleum engineering program and is offering them the FMV Monograph, the most recent Parameters Survey, and the Ethics Monograph. He has

already received very positive feedback on the REPs which were sent in the offertory e-mail. Generally, the comments are that the REPs are a tremendous teaching aid as classes are in need of updated information pertaining to property evaluation. This endeavor will get the virtually unknown SPEE organization in front of the students while in college, thus encouraging web site usage, future local chapter participation, and potential SPEE Associate Member candidates in five years.

I would like to thank the outgoing Director Jim Wilson for his service on the Board during 2006-2007-2008. The good news is Jim still chairs the Qualifications Committee and I hope to keep him busy this year processing all those new Member applications. I also would like to welcome the newly elected Directors to the Board - Thomas Collier, Edward Gibbon, and Samantha Meador.

Thanks also to the outgoing President Frank Molyneaux as he moves to Past-President. President Molyneaux was our first President from Canada, our first President to write letters to the SEC, and the first President to have our January Board of Directors Meeting outside the State of Texas. It was a pleasure serving under him as his Vice President. I have benefited greatly from his advice and will surely rely on him even more during the next twelve months.

A final thank you to outgoing Past-President Tim Smith for his service to SPEE working on PRMS, revising the By-Laws, and our new logo. He brought closure to several issues that the Board had been dealing with for several years. Again, I've already solicited his advice on a number of issues and as stated above he's not going far as Chairman of the Reserve Definitions Committee.

And finally, a huge round of applause for Richard J. Miller and Diane Pollard on the redesign of the SPEE Newsletter, very nicely done!!

We'll see you in April at the Software Symposium.

David K. Gold
SPEE President



**PLAN
AHEAD**

SPEE Annual Meetings

June 5-8, 2010 Victoria, B.C.
The Fairmont Empress

June 4-7, 2011 Jacksonville, FL
Amelia Island Plantation

**Contact Barry Ashton to provide input
on locations and venues for future meetings.**

Chapter News

California

The California Chapter met on January 21st in conjunction with the WSPA/CIPA/PSAC joint meeting (Western States Petroleum Association, California Independent Petroleum Association, and Petroleum Standards Advisory Committee of the California Assessors Association). Presentations at the WSPA/CIPA/PSAC meeting were geared towards oil and gas price forecasting in an effort to provide knowledge to the PSAC for use in preparation of the 2009 tax rolls.



Barry Evans, 2009 Sec-Treas; Bill Hunter; Russ Bertholf, 2008 Chapter Chairman; Tom Walker, 2009 Chapter Chairman; Brad DeWitt, 2009 Chapter Vice Chairman; and David Gold, National SPEE President.

Six members were present at the SPEE meeting, which focused on the selection of executive positions and scheduling future meetings for 2009. Tom Walker will serve as Chairman, Brad DeWitt as Vice Chairman, and Barry Evans will continue on as Secretary-Treasurer. Future events for the California Chapter tentatively include a joint SPEE/SPE meeting in Bakersfield in March, attendance at the SPEE Annual Conference in Santa Fe in June, and a general meeting in Southern California (possibly Huntington Beach) in October.

Dallas

The Dallas Chapter is having an outstanding year. With the approval of the membership, the 2007-08 group of officers has agreed to serve a second term. The officers are:

Dean Eiland – Chairman
Paul McDonald – Vice Chairman
Philip Crouse – Secretary-Treasurer

The chapter meetings have been outstanding both in attendance and program content. Our September meeting was **Richard Spears** presenting “North American Oilfield Service Bottlenecks: Where to Invest for 2008 and 2009.” For our November meeting we were honored to have **T. Scott Hickman** present an ethics program *The Ethical Considerations Involved in Expert Witnessing*. January we hosted **Rehan Rashid** with a very well-attended program “How Wall

Street Evaluates E&P Companies.” We have averaged 35 in attendance, an outstanding number for the Dallas section.

With shale plays having an increasing significance in the Dallas/Fort Worth area, for our March meeting we have asked **Russ Hall** of Midland to speak on “How to Evaluate Resource Plays.”

For May we will once again have **Ken Golden**, Senior Energy Advisor - Corporate Planning of Exxon/Mobil, give us an update on how they are looking at the current economic trends and how this situation is affecting the major oil companies.

Denver

The Denver Chapter held its first quarterly meeting on January 14th at conference room facilities made available courtesy of Chapter Member Darien O'Brien and Forest Oil Corp. **Mr. Kon Wyatt** of Surtek, Inc. in Golden, Colorado, made a presentation on an Alkaline Polymer flood of the Thompson Creek Field in Crook County, WY. Some 37 chapter members and guests were in attendance.

The schedule for the remaining 2009 Denver Chapter meetings is:

Tuesday, April 7th

Speaker: **E. Russell Braziel**, Bentek Energy:
“Drivers Affecting Natural Gas Prices”

Thursday, July 16th

Speaker: **Dr. John Lee**, Texas A&M University:
“New SEC Rules and Regulations”

Thursday, October 15th - Speaker TBA



Kon Wyatt (center) of Surtek, Inc. - January speaker. With him are 2009 Chapter Chairman Kevin Weller (left) and Program Chairman Pat Galuska

Abstract of Kon Wyatt's Presentation:

The Thompson Creek field is located in Crook Co. Wyoming and produces heavy oil (19° API and 400 cp) from the Recluse (Muddy) sandstone formation at a depth of about 1600 ft. The field produced under primary condi-

tions beginning in July 1987, and by 2002 there were 16 wells producing, including 4 horizontal wells. Limited injection into two wells began in August 2001, which by October 2003 was only about 300 MBBL, whereas oil production was about 710 MSTBO and oil rates were about 90 bbl/day. For a low GOR reservoir without appreciable aquifer support, the primary drive mechanism is fluid and rock expansion. As the pressures had dropped to less than 100 psi in much of the field by November 2002, the new owner/operator, Dakota Gas Co., was considering various alternatives to increase production. Several analyses estimated waterflood recovery in the field to be approximately 17% to 22% OOIP. A laboratory program focusing on Alkaline-Surfactant-Polymer flooding was performed in 2003 to develop a solution that could improve this recovery efficiency. The laboratory work showed average total oil recovery in radial corefloods using actual reservoir rock and fluids of 77.8% OOIP, considerably greater than was obtained by waterflooding. Based on the laboratory results, surfactant provided no economic benefit, so an alkaline-polymer (AP) flood was recommended.

Numerical simulation was used to develop the field patterns for either waterflooding or ASP flooding, though the optimum development patterns were different for the two flooding processes. The operator elected for AP development which included additional wells, for a total of 20 injecting alkaline-polymer solution, 37 productive wells, 3 dry holes, and an alkaline-polymer blending and injection plant capable of ~ 3,000 bbl/day. Currently, there are 51 wells producing ~600 BOPD and 400 BWPD with cumulative production of 1,610 MBO and 340 MBW. Updated simulation performed in 2008 based on a new geological interpretation resulting from the 2004 development program brings OOIP estimate to 31,460 MSTBO. Significant upside potential exists by additional drilling, particularly in the southern portion of the reservoir. This development will include up to 19 new production wells, 16 injection wells, and 6 well conversions. Approximately 1,000 MBBL more oil will be produced by the year 2025 under this development and operating scenario than by the current operations. The upside is significantly more than that over the life of the field. Furthermore, predicted alkaline polymer recovery at >200 BOPD is 5,500 MBO greater for the best AP forecast than the waterflood even though average injection rates and total injected volume is 2.25 times greater for the waterflood.

Houston

The last monthly meeting of 2008 was held on December 2nd and featured **Fred Richoux**, Ryder Scott Company, whose topic was “*You, Me, and the SEC.*” His talk was a discussion of proposals for changes in hydrocarbon reserves disclosures and a look at some of the industry comments on the SEC’s proposals affecting reserves evaluators. This luncheon was attended by 38 members and 16 visitors and guests.

As previously reported, the slate of nominees for 2009 Houston

Chapter Officers were installed and began their terms at the January 2009 luncheon meeting. The officers for 2009 are:

Chairman – Ron Rhodes, Ryder Scott Company

Vice Chairman – Samantha Meador, TCW Asset Management Company

Secretary-Treasurer – Mitch Reece, Collarini Engineering Inc.

Program Chairman – Jerry Blevins, Kinder Morgan CO2 Company, LP



Houston Chapter: Left to right - Ed Gibbon, Chapter Chairman, Fred Richoux, December speaker, and Mitch Reece, Program Chairman

The first meeting of 2009 was held on January 7th and was our annual joint meeting with SIPES for which the Houston Chapter of SPEE was the host society. We were very fortunate to have **Dr. John Lee** as the speaker with the topic of “*Modernization of SEC Oil and Gas Reporting Requirements.*” Dr. Lee was instrumental in developing the new SEC reserves definitions and reporting guidelines during his recent temporary assignment in Washington, D.C. with the SEC. Dr. Lee described the procedure used to develop the new definitions and guidelines as well as presenting an overview of same and including an extensive Question and Answer session to complete the presentation. SPEE attendance for this meeting included approximately 90 members and 73 visitors and guests. Final totals for SIPES were not available for this article; however, their signups amounted to 129 making projected total attendance nearly 300.

On February 4th, the Houston Chapter luncheon featured **G. Allen Brooks**, managing director of the energy investment banking firm of Parks Paton Hoepfl & Brown. His presentation was entitled “*2009 – Another Year of Turmoil for Energy*” in which he presented information focused on price, rig, and production statistics from the 1960s forward and how cycles have occurred and tend to repeat. As the title indicates, he thinks the odds are good for a tumultuous



February speaker G. Allen Brooks

year in 2009 but hopes that improvements will be seen soon after. There were approximately 60 members, guests, & visitors in attendance for the February meeting.

The March luncheon meeting for the Houston Chapter will be on Wednesday, March 4. **Chris Atherton** of EnergyNet will be the featured speaker and his presentation will focus on “*Acquisition and Divestiture Metrics in the Current Economic Environment.*”

Oklahoma City

In December, **George Gibson** of the Oklahoma State Board of Professional Engineers and Land Surveyors spoke about engineering ethics. Mr. Gibson explored the various guidelines for professional conduct within the state PE rules. He referenced numerous resources from OSPE Statutes to the SPEE Code of Conduct to illustrate the consistency of professional expectations that governing bodies demand from their membership. The group discussed some interesting insights into the ambiguities that can lead to professional misconduct for engineers. Attendance at this meeting qualified as mandatory annual ethics training for engineers registered in Texas.

Rick Lewis, Technical Projects Leader for Schlumberger Oilfield Services in Oklahoma City, spoke in January about tools and techniques available to evaluate shale gas reservoirs. A complete shale gas log evaluation requires calibration to core for thermal maturity and a metric to equate TOC to adsorbed gas. The best data for the latter is a Langmuir isotherm(s) that provides a characteristic gas pressure and volume measured at a specific temperature. A robust shale gas interpretation package has been developed utilizing the Platform Express and Elemental Capture Spectroscopy sonde (ECS) logging tools. The ECS is key to this package as it provides gamma-ray independent clay content plus a matrix density that compensates for the variable lithology typical of gas shale. ELANPlus is used to quantify kerogen, this value is converted to TOC based on thermal maturity, and the Langmuir isotherm(s) are used to calculate adsorbed gas. Porosity and gas saturations are calculated via ELANPlus, and the resulting free gas volume is converted to SCF/ton at reservoir conditions. Cumulative adsorbed and free gas is provided in BCF/section. This provides critical information as to the richness of the shale resources that is used to evaluate completion effectiveness.

The Ethics Column

The November 2008 SPEE Newsletter contained two items dealing with the subject of ethics. The first was an article by Mr. T. Scott Hickman which discussed some of the ethical issues which must be considered when a professional evaluation engineer is retained as an expert witness. This is an issue which could easily be expanded to two or three discussion sessions in the newsletter. The second item was the inaugural piece of a planned series of columns on professional and business ethics.

From experience, the undersigned can state that addressing ethics is a difficult task, whether done verbally or in writing. On the simplest possible basis, the matter could be covered in two observations: (1) Ethical behavior is good behavior and (2) Everyone should be ethical. Taken together these two observations can also be stated as “Do Unto Others as You Would Them do Unto You.” However, such a simplistic approach is unlikely to have much impact on a listening or reading audience. As stated in the *From The Editor* column in the November issue, the plan for the Ethics Column is twofold; a discussion of a specific issue and the posing of certain questions for which responses from our readers are requested. For variety, in addition to questions, situations involving ethics will be presented to stimulate thought and response.

The first discussion offering is an outgrowth of concern about widespread ethical violations and involves the thought that a possible long-term solution lies in education on the subject. Some colleges and universities now conduct courses or seminar on ethics. SPEE conducts ethics classes as part of the program at the Annual Meeting. The question herein has several facets: “Do you think ethics can be taught?” or “Is a sense of ethics present or not in the character of a person by virtue of upbringing?” or “Rather than ethics teaching are we really talking about ethics awareness?”

Readers are encouraged to ponder these questions and to provide written comments thereon to the SPEE Office – Attention Newsletter Editor. As space permits, they will be considered for publication in the following issue of the Newsletter.

Arlen Edgar

Unearthing Buried Treasure or Archaeology and the SPEE Files

Just about this time last year, in the March 2008 Newsletter to be exact, there was an article that noted that SPEE used to have a Journal which published technical articles and other information. At that time only the first volume, published in 1969, was available although there was excellent authority that other volumes had been published. Well, one never knows what will be found in the dusty archives but apparently while our esteemed Executive Secretary, BK Buongiorno, was packing up stuff for the pending move of her office (see address change on Page 1) Volumes II through IV were located. Real hard copies with covers and everything. SPEE is now in the process of scanning those volumes and converting them to PDF for eventual posting on the SPEE website (SPEE.org).

The accompanying sidebar contains a listing of the article titles and authors in each Volume. Some of these sound like they could be relevant today. Considering that these Volumes were compiled and published back when SPEE had only about 100 Members, less than 20% of our current membership, the collection, along with Volume I is impressive and suggests that reactivating the Journal will be a valuable new venture for SPEE. See related article on page 8.



SPEE Annual Meeting

It is not too early to start planning for the 2009 SPEE Annual Meeting to be held at the La Fonda Hotel in historic old Santa Fe, New Mexico. The dates are June 13-16, 2009. Join your friends and colleagues for a memorable gathering. Registration packets will be sent out in April.

Volume I - 1968-1969

- “Banking and the Petroleum Industry” by Harold Vance
- “What Makes those Bank Engineers So Conservative?” by Gerald E. Sherrod
- “Life Insurance Company Loans On Oil & Gas Properties” by K. M. Fagin and W. T. Drummond
- “The Skin Effect in Producing Wells” by William Hurst and E. Bernard Brauer

Volume II - 1969-1970

- “A Proposed Industry Inventory of Our Fuel Resources” by David M. Evans
- “Funded Companies for Oil and Gas Exploration” by Charles F. McCoy
- “Government Influence on Industry Operations” by Granville Dutton
- “Preparation of Engineering Appraisal Reports” by Tom G. Calhoun II
- “Rulison-Nuclear Stimulation” by C.W. Leisk

Volume III - 1970-1971

- “Evaluating Investment Merits of Drilling Programs” by Fraizer M. Stewart
- “The SEC and the Petroleum Evaluation Engineer” by J. Lawrence Muir
- “Guidelines for Oil Drilling Programs” by Harold Pruner
- “Computer Time-Sharing and the Petroleum Engineer” by E.W. Schafer
- “Cloudy Days on the Energy Scene” by Bruce C. Netschert

Volume IV - 1972-1973

- “Reports by Drillers To Their Investors” by James W. Lacy
- “Outlook for LNG and SNG Projects” by Robert L. Purvin
- “The Drilling Program Industry - Its Status and Analysis” by Robert C. Metzger
- “What the Oil Industry Needs Now” by H.J. Gruy
- “Substitute Natural Gas and the Energy Crisis” by Anton Roeger, III
- “Practical Evaluation Gamesmanship” by John M. Campbell
- “Buying Oil and Gas Production - Technical and Psychological (The Buying Mood)” by Marvin C. Zeid
- “What’s the Price of My Crude Oil?” by John R. Brack
- “The Subsidiary Equation” by William Hurst

Journal of the Society of Petroleum Evaluation Engineers

SPEE is about to embark on an important and ambitious project; the publication of the only peer-reviewed technical Journal for the petroleum evaluation profession. At the meeting of the SPEE Board of Directors in Calgary this past January, the organization of a committee to continue the publication by SPEE of a peer-reviewed technical journal was approved. The first four issues of the Journal of the Society of Petroleum Evaluation Engineers (hereinafter “JSPEE”) were published as Volumes I through IV in 1968-1973 (see article on page 7); Volume V of JSPEE has been assembled by (then-Vice President) David Gold and is currently available to all Members and non-Members on the SPEE website. The Journal will be managed and published solely by SPEE.

The JSPEE Committee, chaired by Richard J. Miller for the first three years, is currently asking for SPEE Members who would be willing to serve as either a member of the Editorial Committee of the Journal or as a member of the peer-review staff.

Objective

The purpose of JSPEE is to fulfill the Objectives of SPEE as stated in Article II of our By-Laws “...to promote the profession of petroleum evaluation engineering, to foster the spirit of scientific research among its Members, and to disseminate facts pertaining to petroleum evaluation engineering among its Members and the public.” The JSPEE can be a part of reaching this goal, along with the other activities of SPEE, by promoting (1) a forum for discussion of evaluation issues and practices and (2) by providing a vehicle for the dissemination of those discussions.

In the short term, the goal of the JSPEE will be to provide a platform for Members and interested non-Members to consider and discuss evaluation issues not currently covered by other industry publications. In the long term, our goal will be to have the JSPEE become the Journal of record for publications regarding petroleum property evaluation and thereby preserve the technical legacy of SPEE.

Publication Policy

The success of the JSPEE will depend upon the ability of SPEE and the Journal “staff” to attract and publish papers and articles of timely and material interest to Members of SPEE and also to evaluation professionals who are not members. As a startup publication we will face the task, in the first few years, of locating sources of papers and articles and then encouraging them to publish in the Journal. To accomplish this task it is proposed that the Journal look to several sources and refine those sources as necessary over time.

The primary source for the JSPEE will be SPEE Members. This is not only the most logical source but should also be prolific, given that many of the papers presented at SPE meetings over the years have been written by SPEE members covering, in most cases, topics that would fit into the Journal. Further, we have the examples of work done by SPEE Members in writing the original SPEE Journal and SPEE Monographs, papers presented at several SPEE annual meetings and at SPEE-sponsored forums, articles written for the SPEE Newsletter, and the large number of presentations at the 2008 Annual Meeting. SPEE Members have also written entire books, book sections and have edited publications by SPE, AAPG and others organizations. We know that SPEE Members can write and, further, have a great deal of knowledge that can be shared with other Members and the profession at large. One immediate task is to encourage SPEE Members who may be planning to write papers for presentation or publication elsewhere, to publish with the Journal – first.

While SPEE Members will be the primary source of JSPEE content, additional sources that could be included are papers and articles published in other journals and magazines, news items of interest, and information that is pertinent to petroleum evaluation practices.

Proposed Content

As currently envisioned, the primary content of the Journal will consist of formal papers and issue articles. Formal papers are those which address a specific subject with appropriate research and documentation. Issue articles are those pieces which would be shorter than formal papers and may express more opinion than documented research. Responses to published papers and articles whether intended as “Letters” or critiques will also be included in JSPEE as appropriate. In any one issue, the Journal plans to carry 4-6 full-length papers written by Members of SPEE or members of related organizations. However, JSPEE will also carry Abstracts of articles and/or papers published elsewhere, reviews and synopses of books and other publications of interest, and discussions of regulatory pronouncements, court decisions and other matters that are relevant to evaluation practice. Further, the Journal proposes to include Abstracts of papers from sources such as SPE, SIPES, AAPG, and other professional outlets when those papers and/or articles are considered to be of possible value and interest to Members.

Peer Review

All original papers submitted for publication in the JSPEE will be first subjected to peer review by selected Members of SPEE. In addition, some papers and articles obtained through or from other sources, and considered for publication in either full length or Abstract form will be subjected to peer review. Peer review is a difficult undertaking, requiring a high degree of coordination by the Journal and considerable effort on the part of reviewers. This is likely the reason that there is currently no peer-reviewed publication for the petroleum industry.

The introduction of peer review has two prerequisites; establishment of a set of rules for reviewers and the willingness of a LARGE number of SPEE Members to serve as reviewers. In regard to the former, letters have already been sent or will be sent to several peer-reviewed journals requesting copies of their criteria for reviewing and publishing papers. Some of these are scientific journals that may have more stringent rules than would be necessary for the JSPEE but modifications can be made. A composite set of review rules will be constructed from the information received.

In regard to the creation of a cadre of reviewers, it will be essential that this group be large enough that individuals are not confronted with review requests too often. Assuming that a sufficient number of Members agree to function as part of the peer-review staff, JSPEE will assure that they will have to review no more than one formal paper a year and that they will only serve as a reviewer for three years. Each paper will be reviewed by at least three independent reviewers. The reviews will be submitted separately and then passed back for discussion among the group; that is, reviewers A, B and C would critique each others' comments before submitting a final review. The author of the paper will be invited to comment and to edit or augment the paper as necessary.

Publication

The target for publication is two issues per year. At least initially, and probably for the first few years, the JSPEE will be published electronically in PDF format and distributed via email and posting on the SPEE website. This approach allows great flexibility in publishing using color and complex formatting that could be difficult and expensive for print publication. Those Members and other interested parties who either do not have access to email/internet or who prefer a print copy can request one from SPEE. The JSPEE will also be made available through dissemination to selected non-Members such as university faculty, libraries, government agencies and industry associations.

Copyright

The JSPEE will not copyright submitted material. Authors submitting material to SPEE will be free to publish elsewhere whether they are published in JSPEE or not.

Budget

Assuming electronic publication is used, the only costs that should be attributable to the Journal would be the costs related to the compiling of each issue similar to the work now done to publish the newsletter. There may also be incidental costs related to communications with writers, reviewers and with other sources of content.

Call for Member Volunteers

In order to get off the ground, let alone function for the future, the JSPEE will need to have volunteers to serve in one of two capacities: as part of an Editorial Committee OR as a reviewer of papers and articles. The Editorial Committee should consist of three to five Members who will set the policy of the Journal including criteria for paper submission, qualifications for reviewers, criteria for peer review and final approval of items to be published. Terms of service will be staggered to allow continuity. As noted above, Members who wish to volunteer as reviewers will be asked to review one paper per year using the criteria established by the Editorial Board. If you would be willing to volunteer for either task please contact either JSPEE Chairman Richard J. Miller or SPEE President David Gold.

Call for Papers

Subject to the formation of the Editorial Committee and subsequent approval by that committee, guidelines for submissions to the Journal will be published in the next SPEE Newsletter and/or on the SPEE website. In the meantime, if you have an idea for a paper or article for the Journal please consider writing a draft or an abstract for submission.

Some of the appropriate subjects for the Journal could include the following and variations thereof:

- Application of Macro-Economic Factors to Property/Project Evaluation
- Estimation of Oil/Gas -in-Place and Recoverable Volumes
- Estimation of Production
- Estimation of Product Prices, Operating Costs, and CapEx
- Special Purpose Evaluation
- Application of Financial Criteria
- Risk Analysis Applications

Richard J. Miller
Chairman, JSPEE

Meeting U.S. Energy Needs: Fossil Fuels or Renewables?

By Arlie M. Skov, P.E.

Introduction

The economic crises of the Arab Oil Embargo 35 years ago impelled the next eight U.S. Presidents to pledge “energy independence,” yet oil imports have tripled from 3 million BOPD to 10, oil prices jumped 17-fold, from \$4 per bbl to \$68, and oil import costs soared from \$4 billion per year to \$258 billion in 2007, up 57-fold. Actual outcomes of presidential pledges have been sorely inadequate to date.

Desperately needed is a thorough and impartial review of all energy sources, including feasibility, obstacles, costs, and time, to be the basis for a coherent and achievable U.S. energy policy, followed by quick and effective implementation.

Only four sources of primary energy exist: fossil fuels, solar (including wind, biomass, and hydropower), nuclear and tides. All others (electricity, hydrogen, ethanol, biofuels, etc.) are secondary, converted from primary sources with unavoidable energy losses.

In 2007, U.S. energy consumption was 102 “quads” and growing at 1% per year, as was population. A quad, 1015 BTU’s, equals 160 MM bbl of oil, or 50 MM tons of coal, or 37 new 1000 MW nuclear power plants, or 12 billion gallons of ethanol (half of all corn planted), or 150,000 new one MW wind turbines. In short, one quad is “big” energy, and one new quad every year is a Herculean task!

Where We Have Been

Prior to 1850, “renewables” (wood, wind, water power, biomass), supplied all U.S. energy needs, and 90% of the U.S. labor force worked on farms. Superficially, this was a “sustainable society.” But use of wood, mostly from old growth forests, supplied over 2 quads per year, equivalent to new growth of 2/3 of all U.S. forest lands. Obviously, use of wood cannot exceed annual new growth and be sustainable. Also, life in 1850, in the words of Hobbes, was “solitary, poor, nasty, brutish, and short”

Where We Are Today & Trends

Today, 85% of U.S. energy use is fossil fuels, coal, oil and gas, and less than 10% of the work force is in agriculture. Population is up 13-fold from 1850, energy use is up 50-fold, and national wealth (GDP), has grown by over 100-fold.

In 2007, fossil fuel use was 86 quads, nuclear and hydropower supplied 8.4 and 2.5 quads each, or 8.3 and 2.5%, and renewables supplied only 4.5 quads or 4%.

Fuel use by sectors of the economy were: (1) 41 quads for electric power generation, 21 coal, 8 nuclear, and 7 gas, (2) 29 quads for transportation - 28 oil, (3) 22 quads for the industrial sector - 10 oil and 9 gas, and (4) 11 quads for residential and commercial sectors - 8 gas and 2 oil. Total renewables is essentially insignificant.

For the decade ending in 2007, total U.S. energy use increased by 6.8 quads or 7.2%. The largest increases were oil, up 3.7 quads or 10%, nuclear power, up 1.8 quads or 28 %, and coal, up 1.3 quads or 6 %. In contrast, hydro power dropped 1.2 quads or -32%, and all renewables dropped 0.4 quads or down 5%.

The largest growths were oil, nuclear power and coal. It is essential we assure their continued availability and/or develop af-

fordable alternatives. Any energy plan or policy must effectively address the two biggest energy demand sectors, electric power generation and transportation.

Where We Need To Go – Electric Power Sector

Electric power generation uses the biggest share of primary energy, but also effectively utilizes the widest variety. End users of electricity are residential and commercial sectors, 9.3 quads or 71%, and industrial, 3.5 quads or 27%. Growth rates in these sectors in the last decade were 2.2 quads or 23%, and minus 0.01 quads or down 3%, respectively.

Electricity is generated by burning fossil fuels, waste, or biomass, and by hydropower, atomic fission, solar, wind, and geothermal. Cost, as the National Bureau of Economic Research (NBER) ranks these sources on a “level playing field” basis, is: coal - 3.8 cents per kWh, gas - 5.6, nuclear - 5.9, biomass - 6.0, wind - 6.6, and solar photo-voltaic - 37.4. It is easy to see why coal fuels 51% of all electric power, but the costs of several other sources are not excessive. Wind is only 1.6 times more expensive than coal. Photovoltaic is 10 times more costly per the NBER study.

The U.S. now uses 3.7 trillion kWh per year. Coal could fuel this for \$141 billion, but solar photovoltaics would cost \$1.38 trillion, an annual difference of a trillion and a quarter dollars! Switching from all coal to all wind would cost an extra \$100 billion annually, one tenth as much.

But other factors, such as reliability, time to add capacity, sustainability, environmental impacts, etc., must

Prior to 1850, “renewables” (wood, wind, water power, biomass), supplied all U.S. energy needs, and 90% of the U.S. labor force worked on farms.

also be considered. Reducing CO2 emissions, if that is judged essential, will be the most costly, and it may not be economically acceptable, or even achievable, without full, and quite difficult, worldwide cooperation.

For electric power generation, nuclear is the quick, achievable, affordable and carbon-free solution. We know we can add 15 new 1000 MW plants annually with four years lead time; we've done it. No other source of electricity compares.

The large number of existing coal-fired plants, and the abundance of coal in the U.S., makes carbon capture and sequestration, though an expensive option, worthy of consideration.

Renewables - hydropower, wind, and solar - are all more expensive and slower to implement. Each also has its own problems. Hydropower, historically the largest source of renewable energy, suffers from droughts, lack of acceptable new dam sites, and concerns about fish habitat, etc. All have effectively halted construction of new dams.

Wind and solar are both intermittent, and wind is also particularly unpredictable and therefore unreliable. Germany, the historic leader in wind power, illustrates the problem. Daily data on wind power's contribution to peak demand for 7000 wind turbines in 2004, ranged from 0.2% to 38%. So every MW of wind power requires a standby source, or "peaking" plant, of the same size. These are usually gas-fired turbines which can react quickly and are least costly in initial capital outlay.

The best sites in the U.S. for solar and wind power are in the desert Southwest, and the Northern Great Plains, both far from population centers requiring expensive new and only intermittently used transmission lines across multiple public utility jurisdictions.

Where We Need To Go – Transportation Sector

Fueling transportation is more difficult as it is now mostly oil, of which 67% is imported. Moreover, oil is a very versatile resource and is also used widely for many varieties of mobile power, home heating, and petrochemicals. The nation's 140 million autos use 5.7 quads or 14% of all oil use, and an additional 85 million light trucks (SUV's, pickups, etc.) use another 4.1 quads, or 10%.

If we could miraculously eliminate use of gasoline overnight for all automobiles and light trucks, we would still consume 31 quads of oil, and would still need oil imports.

Massive subsidies for ethanol from corn, and huge import duties on cheaper ethanol from sugar cane, have added

only 0.6 quads of transportation fuel. Other searches for legislated solutions have been equally ineffective. Electric automobiles lost to oil a century ago, and recent efforts in California to revive them have failed, mostly because no effective and inexpensive storage source exists yet.

Meanwhile, technically recoverable prospective resources of domestic oil (134 billion barrels per DOI) remain mostly off limits to drilling hobbled by various government edicts. Yet in the deep waters of the Gulf of Mexico where some drilling is permitted, we are now producing 1.6 million BOPD. That was neither technically nor

economically feasible just 15 years ago. That's 3.5 quads annually, or six times more than ethanol from corn.

For the next generation or two, it is inevitable we will rely heavily on oil as a source of primary energy for transportation and for petrochemicals. We must develop all of our domestic resources as quickly as possible.

Longer term, we must develop Fischer-Tropsch plants for the conversion of U.S. coal to liquids, with carbon capture and sequestration if an effective international accord on CO2 reductions is ever achieved. Coal is most valuable as a liquid resource; electric power generation can better be provided by nuclear power.

Longer term, we must also do active and effective research on biofuels from cellulosic sources and fast growing algae, rather than from food products like corn, sugar, or soy beans.

How Do We Get There?

1. Develop a coherent, affordable, and achievable U.S. energy policy.
2. Alleviate barriers to the construction of nuclear power plants.
3. Implement carbon capture and sequestration on coal fired plants.
4. Open U.S. onshore and offshore lands to oil and gas drilling.
5. Build Fischer-Tropsch plants for coal to liquid conversion.
6. Research Objectives:
 - A. Affordable and efficient electric storage.
 - B. Biofuels from cellulosic sources and fast growing algae.

If we could miraculously eliminate use of gasoline overnight for all automobiles and light trucks, we would still consume 31 quads of oil, and would still need oil imports.

Membership Applicants

Welcome New Members

The following member applicants have been processed by the Qualifications Committee. The bylaws require that names be presented to the membership for at least 30 days as a pre-membership requirement. Any member with an objection should address the objection to the Executive Committee (see bylaws regarding other important details) since the applications have already passed through the Qualifications Committee.

HOGARTH, ROBERT A.M.

264 Moray Street
New Farm
Brisbane
QLD 4005
Australia
rhogarth@gmail.com

APPLICANT

SPONSOR

GATHERS, RHONDA GAIL (P.E.)

Babcock & Brown Energy, Inc.
Senior Reservoir Engineer
1512 Larimer Street, Bridge Level
Denver, Colorado 80202

Dave Cox
Paul Onsager
John Wright

MIGL, MARVIN DENTON (DENNY)

Petroleum Engineer
R. L. Adkins Corp.
1000 Ballpark Way, Suite 200
Arlington, TX 76102-6882
817-461-4690
ballpark777@rladkinscorp.com

MCDONALD, SIMON WILLIAM

ERC Energy Resource Consultants Ltd.
Managing Director
P. O. Box 2860
Marlow, Bucks
United Kingdom, SL7 1QU

Article IV,
Section 2,
SPEE By-laws

O'BRIEN, DARIEN G. P.E.

Forest Oil Corporation
Senior Reservoir Engineer
707 Seventeenth Street, Suite 3600
Denver, Colorado 80202
303-864-6015
303-812-1590 fax
dgobrien@forestoil.com

