Today’s PTTC Is Following The Lead Of Predecessors

At this year’s Society of Petroleum Engineers Annual Technology Conference and Exhibition, I presented some new ideas that have their roots in the work of my predecessors.

In fact, I had the opportunity to partner with Lanny Schoeling from NeoTek Energy and Tom Williams from the Research Partnership to Secure Energy for America to develop a methodology for transferring technology beyond 2020. The paper, Development of a Technology Transfer Model in the 2020 Era for the Oil and Gas Industry (SPE-187239-MS), takes the work my co-authors developed in the 1990s, modernizes it, and builds on it using data from the last 20 years to support the model into the future.

The premise of the paper is straightforward: Technology transfer is difficult in every industry, however, the oil and gas industry has had it especially hard with volatile commodity prices, variability of technology sources and regulatory uncertainty.

In 1994, Schoeling and others presented a paper titled, Development of a Model Technology Transfer Program to Assist Independent Operators, which outlined a model for independent operators to utilize new technology to reduce the well abandonment rate and increase overall production for the long term. We expanded and updated the idea behind this work specifically for today’s more challenging operating environments.

Our intent is for companies to continue to take advantage of technological and best practices in ways that optimize operations, improve economics and secure production far into the future.

In the 2017 paper, we describe a program that operators can use for quick access to technology without significant costs, while increasing oil production and lowering operating expenses. We outline five fundamental components of the methodology:

- Technology leadership guided by industry to initiate and manage the technology transfer process;
- Problem identification activities that help create a two-way dialogue between industry and a leadership organization;
- Documented demonstration projects rooted in problem identification activities;
- Focused technology workshops that disseminate demonstration project findings; and
- Regional resource centers with outreach resources serving as local and online repositories for easy access by industry.

If these five components are developed and disseminated by a leadership organization, our data show that the industry, innovation and investment begin to come together to promote widespread acceptance of the technology in question.

This paper also specifically addresses the needs of the modern oil and gas operator who does not have—or has only limited access to—industry research laboratories, government funding and university programs. This was the original approach for the Kansas Technology Transfer Model (KTTM), which had problem identification as a major component of its success.

The model was designed to match oil operators’ needs with the proper technology, expertise and services to solve the problem. This multidisciplinary approach considered engineering as well as all the geological and geophysical scientific disciplines. For the model to succeed, it was essential that the program have a very active industry advisory board composed of a multidisciplinary mix of board members.

The original model contained four key components:

- Problem identification workshops;
- Technology workshops and seminars;
- Documented demonstration projects; and
- Resource centers.

After developing the KTTM, in 1994 the Department of Energy worked with the Independent Petroleum Association of America, universities and state geological surveys to develop the Petroleum Technology Transfer Council. PTTC was established to help U.S. independent oil and gas producers make timely and informed technology decisions, and still functions today.

Like the KTTM, the idea behind PTTC was to help independent producers access and utilize emerging technology and best practices. PTTC programs and activities have included technology workshops, resource centers, websites, newsletters and other outreach efforts, all guided by regional producer advisory groups.

Then, in 2002, RPSEA was established as a nonprofit, national consortium that provided focused research and development to deploy safe and environmentally sensitive technology that could deliver hydrocarbons from domestic resources to the American people. Its membership consists of the nation’s premier research universities, national labs, other major research institutions, large and small energy producers, and energy consumers. Technology transfer has been a cornerstone of the RPSEA program, and RPSEA and PTTC continue to work together in developing strategies for meetings, trade shows, technical conferences, and regional and national workshops throughout the United States.

Our goal is to stand on the work of programs such as the KTTM, PTTC and RPSEA, utilize their successes, and expand them into a methodology that embraces emerging communication technology and takes technology beyond 2020. The strategies and techniques are not limited only to independent producers. Market conditions urge all producers to explore emerging technology to improve production and optimize each well.

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