Project Aims To Help Operators Reduce Flaring

As regulations related to flaring associated gas from producing oil wells across the country continue to emerge, operators are faced with potentially having to install equipment intended to reduce the amount of gas flared. While natural gas flaring is seen as a considerably less polluting alternative to venting methane directly to the atmosphere, rules from the Environmental Protection Agency slated to go into effect in January ultimately will force operators to find alternatives to flaring associated gas. The process dubbed “green completion” promotes using stranded gas at the well site or in nearby communities through various available technologies. However, for most operators, evaluating these technologies and selecting the correct one for a particular region can be daunting.

The Houston Advanced Research Center (HARC) and the Petroleum Technology Transfer Council have joined to develop a research effort to address gas flaring and stranded gas by utilizing novel technologies aimed at monetizing gas at the wellhead. Recognizing the emerging regulations as well as the economic benefits of flaring, the overall objective of the “Flaring Issues, Solutions and Technologies” (FIST) project is to develop technologies specifically designed to utilize stranded gas, and even reduce or eliminate the need to flare emissions associated with oil production in the first place. In other words, HARC and PTTC hope to help operators make money from their stranded gas while conforming to new EPA rules.

The strategy involves four primary phases aimed at developing a tool that operators can use to identify the regulations in their regions as well as the options from existing technologies that are available to be integrated into well site operations. Ideally, these technologies will be matched to the type of gas encountered in various regions around the country.

The first phase of the process, which has begun already, consists of identifying and evaluating the needs of operators faced with flaring associated gas. During this phase, HARC and PTTC also hope to evaluate the readiness of technologies available in the marketplace. To accomplish this, HARC and PTTC are hosting problem identification workshops at key locations around the country to evaluate regional gas quality and quantity; amount being flared and wells shut in for lack of sufficient infrastructure; proximity to infrastructure such as power lines, roads and liquid pipelines; regional barriers; etc. This information will be integrated into a white paper that will serve as the basis for the subsequent phases.

Phase two will evaluate various technologies to refine the screening tool. During this phase, HARC will use the data from phase one to begin matching readily usable technologies with regions needing to integrate green-completion technology. During this phase, the group will document selection criteria, select field test sites, and begin setting the stage for developing the final screening tool. Then, during phase three, detailed engineering and design for field demonstrations will be developed for various sites selected by partnering companies.

Phase four will include field trials and continued documentation of results from the study. This information will be made available on the FIST website and will serve as the initial tool for operators wanting to select the right technology for their regions in association with local regulations. During this phase, HARC hopes to conduct field testing of additional technologies that can be woven into the framework of the screening tool.

Finally, during phase four, PTTC and HARC will lead training for operators in select regions in an attempt to use this tool effectively to make technology decisions that are economical, technically sound, and profitable.

Phase one of this process has begun already for HARC and PTTC. The groups hosted their first event during an informational breakfast during this year’s Unconventional Resources Technologies Conference, Aug. 25-27 in Denver. Representatives from HARC and PTTC outlined the program objectives and requested input from the group. Attendees ranging from midsized to major operators, as well as service companies and federal regulatory agencies, spent the morning discussing how the industry was addressing this issue and what was needed as the industry moves forward.

Following that event, PTTC and HARC led problem identification workshops in Houston, Morgantown, W.V., and during PTTC’s annual breakfast during this year’s Unconventional Resources Technologies Conference, Aug. 25-27 in Denver. Representatives from HARC and PTTC outlined the program objectives and request ed input from the group. Attendees ranging from midsized to major operators, as well as service companies and federal regulatory agencies, spent the morning discussing how the industry was addressing this issue and what was needed as the industry moves forward.

As this process unfolds, HARC and PTTC are searching for operators interested in participating in workshops and field studies, and in becoming project partners willing to help guide the direction of the project. For more information, please contact HARC or PTTC directly.

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