

From: Melissa Smith <Melissa.Smith@GulfEnergyInfo.com>
Sent: Thursday, August 29, 2024 6:42 AM
To: Tim Marvel <timmarvel@sef.energy>
Subject: RE: 2023 Gulf Energy Award Submission

Here you go!

Name of Technology or Individual (Company, Technology or Individual):
Freedom Series Completion System

Company Name (Associated with Technology or Individual):
Downing Wellhead Equipment

Describe the nominee and/or give a description of the technology or project being entered. [2000 character limit - including space and punctuation marks]:*

Downing, a leading technology provider, has developed an automated completion system that methodically eliminates time between plug and perf stages with the goal of fracturing the reservoir 24 hours a day, 7 days a week (please note the difference between being on a frac site 24/7, which occurs today, and fracturing the reservoir 24/7). Downing identified the primary barriers to fracturing the reservoir 24/7 as 1) the time between stages (this includes transition time and pressure tests), 2) downtime associated with gate valve maintenance and failures, 3) pump maintenance and 4) sand and water logistics. Taking these problems into account, Downing developed an automated completion system that has methodically eliminated the above issues. The system eliminates the time between stages with near instantaneous transitions from one stage to the next enabling operators to continuously pump for the duration of the completion. Through automation and interlocks with wireline and frac systems, the system eliminates NPT associated with gate valves. The latest addition to the system, FS Hot Swap, enables the exchange of pumps during frac operations without stopping the frac. Although the system does not directly solve logistic issues (i.e. sand and water shortages), the demonstrated consistency achieved using the system enables better planning of resources. The system has broken multiple pumping records across US basins including hours pumped continuously and stages completed. In addition, the system has over a dozen industry "firsts" that have changed completion operations. With the addition of FS Hot Swap, the automated completion system enables operators to frac 24/7. The base system was introduced more than 12 months ago. However, the latest addition to the system, FS Hot Swap, commercially introduced this year, enables the 24/7 pumping and therefore submitted the system in its entirety.

Describe its/their impact on the industry and how it/they can help to advance the industry(examples include safety, cost savings, efficiency improvements, technology advancement, etc.) [2000 character limit - including space and punctuation marks]:*

Current industry practice for plug and perf allows fracturing of the reservoir approximately 16 hrs / day on average. This is done with human-driven workflows employing processes, checklists, procedures. The current standard has safety risks associated with people in the red zone and on-pad. The automated completion system eliminates personnel in the red zone through automation reducing safety risks, enables remote operations, and enables 24/7 fracturing representing up to a 50% increase in current pumping efficiency (significantly reducing the number of days required to frac a pad as well as the cost per well). Multiple basin pumping records have been set with the system leading to significant operator cost savings. Please see attached the SPE paper describing the system, go to the May edition of World Oil, or see www.continuouspumping.com for photos and videos of the system. The system has been adopted by major operators including EQT, Oxy, and Devon. I submitted the system under the best completion category but could also be considered for best automation technology. Thank you!

Melissa Smith

Global Event Development Director

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NOTE: I am keeping aside some time in the day to answer questions relating to Gulf Energy Information's events including IRPC, WGLC, the Gulf Energy Information Excellence Awards, MCEDD and others! Feel free to book time with me as I'd love to get you involved!

[Book time with Melissa Smith](#)

immarvel@sef.energy>

Sent: Wednesday, August 28, 2024 4:54 PM

To: Melissa Smith <Melissa.Smith@GulfEnergyInfo.com>

Subject: 2023 Gulf Energy Award Submission

[Caution: This e-mail is from an external sender.]

Melissa

Do you happen to have a copy of Downing's 2023 (last year) submission for the award? Could I get that from you? Thank you.

Regards,

Tim Marvel, P.E.

Vice President, Business Development and Technology

[SEF Energy](#)

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