



Offshore Hydraulic Fracturing Q&A

1. Is offshore hydraulic fracturing the same procedure as operations conducted onshore?

The basic operation of hydraulic fracturing is similar but the scale is significantly different than onshore operations due in large part to the geologic formations and the cost and logistical constraints that occur with offshore platforms. Typical water usage for offshore hydraulic fracturing is 2% of the liquids that is used routinely for onshore hydraulic fracturing (like those used in the Marcellus shale play, for example). Full scale hydraulic fracturing has been tried in the offshore shales but with limited success to date, due to lithological properties of the Monterey Shale offshore California (it is naturally fractured) and equipment and cost constraints involved with working offshore.

2. What environmental reviews does BSEE conduct before approving a permit for hydraulic fracturing?

BSEE closely examines each and every drilling permit that is submitted to the Bureau by a team of subject matter experts that examine all proposed activities for safety, environmental, geohazard or related concerns. Hydraulic fracturing is not a drilling method but rather one of the many operations that an operator can propose to use on an Application for Permit to Drill or Modify. As such, and to the limited extent that it is used offshore, each application is unique and receives a thorough examination by trained experts.

BSEE coordinates with the U.S. Environmental Protection Agency (EPA) to ensure that chemicals used in hydraulic stimulation of wells are covered under the EPA's Authorization to Discharge under the National Pollutant Discharge Elimination System (NPDES) for Oil and Gas Exploration, Development, and Production Facilities. The EPA has deemed the discharges related to hydraulic fracturing to be considered as well treatment fluids and are authorized for discharge subject to the requirements of the general permit for discharge and that no additional requirements or approvals would be needed from the EPA.

3. What is discharged into the ocean? Are any chemicals discharged?

All discharges are regulated by the EPA under the general NPDES permit for offshore oil and gas operations, which addresses the chemical constituents that are allowable for overboard discharge of treated water.

4. Do any of the chemicals injected seep up into the ocean?

While this is highly unlikely, fluid and pressure losses are closely monitored during all operations – including hydraulic fracturing operations. The area where the fluids are injected (near wellbore) will be the first areas drained during flowback and production. Leaks through casing and/or cement are unlikely and are monitored and checked regularly.

5. Will the discharges harm the environment?

All discharges must meet EPA specifications as required in the operators discharge permit. BSEE Pacific Region closely reviews the permits and consults with other federal agencies to ensure the safety of all operations and to protect the environment.

6. Why is hydraulic fracturing happening offshore?

Hydraulic fracturing is utilized offshore primarily during the well completion phase of developing a well for production to enhance safety and security of the well, while optimizing production. This constitutes the majority of hydraulic fracturing activities that are conducted offshore. Hydraulic fracturing can also be used to prepare a well for enhanced oil recovery or to work over the well to increase production when the well has been under production for some time.

7. How long have companies utilized hydraulic fracturing offshore?

Hydraulic fracturing has been used offshore for several decades.