



Government Initiated Unannounced Exercises

*Summary of Lessons Learned for
Calendar Years 2018 and 2019*

Oil Spill Preparedness Program
Bureau of Safety and
Environmental Enforcement

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Oil Spill Preparedness Program

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1.0 Introduction

The Bureau of Safety and Environmental Enforcement (BSEE) maintains a robust, world-class Oil Spill Preparedness Program that protects people and the environment by optimizing responses to threats of and actual offshore facility oil spills through: (1) regulatory oversight; (2) basic, applied, and developmental research; (3) integrated government and industry preparedness exercises and training; and (4) accountability to the National Response System (NRS). The Program consists of three primary and interdependent roles:

- Preparedness verification,
- Oil spill response research, and the
- Management of Ohmsett - the National Oil Spill Response Research and Renewable Energy Test Facility.

The preparedness verification role encompasses BSEE’s spill preparedness responsibilities pursuant to the [Oil Pollution Act of 1990](#) (OPA 90),¹ which include ensuring that industry complies with OPA 90, 30 C.F.R. Part 254, and any applicable Area and Region Contingency Plans, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).² The functions conducted within the preparedness verification role help BSEE, state and federal partners, and the industry to be ready to respond to oil spills from offshore facilities. The functions ensure that owners and operators:

- maintain approved comprehensive oil spill response plans (OSRPs),
- have access to sufficient caches of oil spill response equipment, and
- have proper trained personnel and management structures to respond to and mitigate the effects of a spill.

¹ Requirements of the OPA 90 were codified in [33 U.S.Code §. 1321. Oil and hazardous substance liability.](#)

² “The purpose of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) is to provide the organizational structure and procedures for preparing for and responding to discharges of oil . . .” [40 CFR 300.1.](#)

A Government Initiated Unannounced Exercises (GIUE) is a preparedness verification function BSEE employs to witness and evaluate, on a no-notice basis, a plan holder's capabilities to use public and private equipment, resources, and staff to respond to a hypothetical oil spill. BSEE's Oil Spill Preparedness Division (OSPD) regularly plans and executes GIUEs in close coordination with federal partners, such as the U.S. Coast Guard and the Pipeline and Hazardous Materials Safety Administration, and state government partners – all of whom play key roles in offshore oil spill preparedness and response. Once the interagency exercise planning team is formed, it selects a plan holder for a GIUE and designs the scope and scale of the exercise. Plan holders are selected for GIUEs according to many factors such as a facility's previous exercise dates and the owner/operator's performance; facility incident history; significant changes to the owner/operator's OSRP or response capabilities; and current industry trends.

The purpose of this report is to summarize and publish the lessons learned from the GIUEs conducted by BSEE in 2018 and 2019. BSEE is releasing this information for consideration by contingency planners and emergency responders to help improve their processes and deliverables for addressing oil spills.

2.0 Overview of Calendar Year 2018 and 2019 GIUE Schedules

The OSPD conducted 14 GIUEs in calendar year 2018 and 14 GIUEs in 2019, ranging from simple functional exercises to complex multi-day full-scale exercises with multiple equipment deployments. In 2018, six GIUEs were functional exercises and eight were full-scale exercises involving the deployment of response equipment. In 2019 there were 11 functional exercises and three full-scale exercises. In 2019 the response equipment deployment component of one full-scale exercise had to be postponed due to weather concerns. For this report we will still consider this to be one full-scale exercise.

OSPD also incorporated complex subsea drilling and production source control scenarios into seven GIUEs: four in 2018 and three in 2019. These source control scenarios tested a plan holder's ability to perform response actions for capping and/or containing an uncontrolled blowout of a subsea well.

In preparation for the 2018 and 2019 GIUEs that involved source control elements, OSPD worked closely with other BSEE offices including Regional and District Field Operations, and the Houston Energy Technology Center, to incorporate and evaluate the complex engineering and policy issues that could be explored in the exercise scenarios. These cross-functional exercise planning teams addressed elements such as surface blowouts on floating production platforms; relief well plans; and subsea well intervention procedures. Increasing the scope and scale of GIUEs to include specific source control issues resulted in significant lessons learned as identified and documented by BSEE and the operators who participated in these exercises.

3.0 Exercise Observations

For each GIUE, OSPD completed an After Action Report (AAR) containing lessons learned and/or recommendations resulting from the exercise. OSPD uses seven categories adapted from the Homeland Security Exercise and Evaluation Program (HSEEP)³ to classify lessons learned in the AARs (Table 1).

Table 1. OSPD GIUE Lessons Learned Categories.

Communications	Standards and processes for the management and communication of information (internal and external) during an incident are vital. Did the exercise identify any communications issues?"
Equipment Deployment	Were challenges or issues identified applicable to an actual deployment of any response equipment during the exercise?
Leadership and Management Processes	These processes may include planning, budgeting, staffing, clarifying jobs, performance, and problem-solving that facilitate activities in five major functional areas: command, operations, planning, logistics, and finance and administration. Were issues that pertain to leadership and management processes identified?
Organizational Structures	The organizational structure (i.e. Command and General Staff) should reflect the complexity and demands of the incident. Are changes to organizational structures needed to improve performance?
Plans or Procedures	Emergency response must be consistent with exercise objectives. Were planned actions and procedures, both long-term and immediate, sufficient, and did they reflect an understanding of the incident?
Resources	Resources include trained personnel and emergency-relevant facilities, equipment, and materials. Did challenges arise due to unavailable or inadequate response resources?
Training	Were all members of the spill-response management team, including the spill-response coordinator and alternates, sufficiently trained to perform his or her duties?

In this report, OSPD summarizes the collective successes and lessons learned from the GIUEs performed in both calendar years. They are presented according to the seven HSEEP categories. These successes and lessons learned are based on observations made across multiple exercises, or a noteworthy element that may have arisen in a single exercise of an operator.

³ The Homeland Security Exercise and Evaluation Program (HSEEP) managed within the Department of Homeland Security provides a set of guiding principles for exercise programs, as well as a common approach to exercise program management, design and development, conduct, evaluation, and improvement planning.

3.1 Owner/Operator Successes

The following represent positive performance elements BSEE observed in 2018 and 2019:

Communications

- When an exercise was initiated and personnel assigned to the Incident Management Team (IMT) were geographically dispersed, critical information was still communicated effectively.

Equipment Deployments

- Owners/operators conducted safety briefs prior to deployment operations, during which oil spill removal organizations (OSRO), company personnel, and observers discussed potential hazards, proper procedures, expected strategies, and operational roles.
- Oiled wildlife rehabilitation equipment, including all components necessary to set up the systems, were successfully deployed.

Leadership and Management Processes

- Owners/operators listing contractual IMT members in their plan were able to effectively follow processes for activation of those resources in a timely manner.
- The safety of all participants remained at the forefront of response activities, both simulated and real time.

Organizational Structures

- Company personnel, including contractors and other support staff, participated in the required exercise activities in a manner that accurately portrays preparedness and response capabilities.
- Critical IMT members for an initial response, such as the Incident Commander; Safety Officer, Operations, Planning, and Logistics Sections Chiefs; mobilized onsite in a timely manner.
- An Environmental Unit Leader was designated in the Planning Section to identify sensitive areas at risk and recommended response priorities.
- Imbedding an Engineering Services Group within the Source Control Branch enhanced operations by increasing the flow of information within the Branch and improving overall decision-making. The Group served as a focal point for reviewing proposed source

control actions and performing risk evaluations on them; maintaining a timeline for actions and decisions; and identifying synergies as well as potential conflicts within the Branch.

- Assigning a position in the Incident Command System (ICS) Logistics Section to distribute, monitor, and collect ICS 213 forms among the other sections improved the efficiency of processing resource requests.

Plans or Procedures

- Owners/operators consulted their existing plans and procedures, or templates of plans, to quickly incorporate short- and long-term actions for the exercise. Examples include: OSRPs, Area Contingency Plans; Geographical Response Plans; Dispersant Pre-Approval Plans; sampling plans; and decanting authorizations. This allowed IMTs to proactively plan for and address issues before being prompted by exercise controllers and their exercise injects.
- Internal and external notifications were made in a timely manner and in accordance with the OSRP.

Resources

- ICS forms were used throughout the duration of the exercise to document operational and logistical support aspects of the response and decision making, as well as to facilitate the creation of the Incident Action Plan (IAP).
- Company Qualified Individuals (QI), and their contracted IMT personnel, made effective use of additional contracted resources to manage the operational, planning, and logistics needs for the response.
- Direct participation of OSRO and source control company personnel in the early stages of a response enriched tactical decision created more opportunities for successful responses.

Training

- Both owner/operator and contracted IMT personnel were competent in carrying out the principles of the ICS to effectively manage the response. Contracted businesses that specialize in ICS generally enhanced the capabilities of owners/operators.

3.2 Owner/Operator Lessons Learned

The following are lessons learned from GIUEs in 2018 and 2019:

Communications

- Graphics, storyboards, equipment diagrams, and timelines should be printed and posted in a prominent location where personnel and members of the unified command will be able to readily access and understand the incident's Common Operating Picture (COP).
- COP software should be used when it is available and multiple displays are recommended around the command post.
- Alternate methods besides direct phone calls should be considered for initial incident notifications to IMT personnel to avoid delays in activation. There were instances where IMT personnel allowed notifications to go to voicemail because they assumed the unfamiliar number was a robo or spam caller.
- State notification requirements should be clearly identified in the OSRP and IMT personnel should be trained on those processes.
- Disseminating accurate incident information should be a high priority during the early stages of an incident.
- During a complex incident there can be multiple spill volume numbers developed throughout the IMT organization. Procedures should be developed to appropriately communicate different volumes and flow rates throughout the response organization, to stakeholders, and to the public.

Equipment Deployments

- Standards, requirements, and best practices necessary for maintaining and using vapor detection meters/devices should be reviewed in order to employ proper personal protective equipment for spill responders.
- If new or different spill response tactics other than those listed in the OSRPs are conducted during equipment deployment exercises, the OSRPs should be updated with the different tactics. This lesson reflects a quote by Mr. Marcus Latrell, U.S. Navy, "You play like you practice and practice how you play."

Leadership and Management Processes

- For GIUEs that incorporate source control, robust efforts should be made early in the response, and if the exercise's source control objectives are not clear, then clarification should be sought for BSEE's expectations.

Organizational Structures

- For GIUEs that incorporate source control objectives, individual Source Control Branch group leaders (e.g., Flow Assurance Group Leader and Capping Group Leader) should be assigned and given clearly defined objectives. This will help to better coordinate the work of individuals or groups into a more cohesive unit. Traditionally, these group leaders are conduits for communication and driving tasks.
- If Source Control personnel are not experienced in ICS principles, ICS coaches should be assigned to the Source Control Branch to help ensure necessary information is transmitted up the chain of command during an incident or exercise.
- There should be mutual awareness between operators and contracted IMT personnel regarding the roles each will play in the response organization. This relationship should be reviewed and clarified in the OSRPs.
- During the initial phase of a source control response a liaison should be assigned to the person-in-charge (PIC) of the facility to act as a single point of contact for the PIC. The PIC can become overwhelmed with calls during the initial phase of the response, making it difficult to communicate critical information.
- Source control operations should be represented at the appropriate organizational level within an Incident Command depending on the severity/complexity of the response. As source control operations expand, the source control organizational level within the Incident Command may need to elevate from a Branch entity under the Operations Section to a separate Section on par with the Operations Section.

Plans or Procedures

- OSRPs should contain accurate and up-to-date lists of QIs.
- Waste management and disposal plans should be reviewed for currency and adequacy.
- A list of data needs required to inform subsea trajectory models should be developed to ensure all appropriate information is provided to the ICS Environmental Units when the models are initially requested.

- Depending on the facilities involved, fully developed emergency disconnect plans should be in place and operators should be familiar with them to respond to an incident. For example, if a drillship evacuates in the wrong direction in an emergency and drags a disconnected riser, the escape action could significantly impact subsea infrastructure.
- All simulation and modeling work should include assumptions and data required for replication by a third party. Providing technical details not only allows for the replication of the simulation, but also provides clarity and transparency on the simulation's limitations. This may reduce the likelihood of using the information inappropriately.
- During one equipment deployment GIUE, it was noted that unexpected shallow water conditions affected the deployment of the OSRP's listed response equipment. Based on this experience, BSEE recommends that Geographic Response Strategies (GRS) listed in the appropriate Area Contingency Plan (ACP) be reviewed, and any amendments or inclusion special notes about shallow water conditions or shallow draft response considerations be coordinated with the Area Committee.
- Plan holders should continually coordinate with federal and state wildlife trustees for the development and updating of robust wildlife plans that are sufficient for the seasonal variations of wildlife species, behavioral patterns, and habitats.
- The method used for performing slick thickness estimates during an exercise or incident should be clearly identified. For example, most emergency responders currently employ the BONN Agreement Oil Appearance Code (BAOAC)⁴ for estimating slick thickness.
- OSRPs should be reviewed and updated to reflect accurate pipeline leak detection system information.
- Risk assessments for all critical source control decisions should be conducted and the processes for doing so should be formalized in a facility's source control plans and procedures. IMT members should then be thoroughly trained on them.
- Source Control Branch members should be aware of, or have access to, facility emergency disconnect procedures.
- Independent back-up power sources for remotely operated vehicles (ROV) should be identified for operations. During a simulated power outage in an exercise, the operator could not manipulate the subsurface BOP with the onboard ROV.

⁴ "The Bonn Agreement Appearance Code (BAAC) was first developed by the Bonn Agreement in 1993 to estimate the volume of oil on the sea surface. The code used visual inspection to estimate the amount of oil spilled on the sea surface. The code initially had seven different colours, each one related to different thicknesses of spilled oil. However, this proved difficult to use and therefore the colour code was revised to five different colours. It was renamed the Bonn Agreement Oil Appearance Code (BAOAC) and entered into effect on 1 January 2004." (<<https://www.bonnagreement.org/publications>> available April 23, 2019)

Resources

- When BSEE issues assignments associated with a GIUE for completion by a specified date, the appropriate exercise participants should retain their roles until the assignments have been completed and submitted. If for any reason, an assignment is not completely understood, clarification should be requested immediately from the exercise lead regarding BSEE's expectation. No assumptions should be made.
- All necessary documentation should be maintained associated with the life cycle of a well. In some exercises, the Source Control Branch struggled to find accurate well documentation in scenarios involving older wells.
- If the Source Control Branch is established in a separate location from the Incident Command Post, ICS support personnel may need to be imbedded to assist the Branch with filling out necessary ICS forms and following ICS procedures.

Training

- IMT members should be properly trained to perform their duties prior to serving in a response. "Over-coaching" was sometimes observed in exercises.
- Personnel responsible for deploying response equipment staged offshore on platforms should be properly trained in the deployment of the equipment.
- Requirements for wildlife monitoring programs should be known and understood. Personnel should be trained to minimize the risk of vessel strikes to protected species, know reporting requirements for observations of injured or dead protected species, and understand the guidelines for identifying and avoiding injury to marine mammals and sea turtles. Additional information is available at <https://www.fisheries.noaa.gov/insight/understanding-vessel-strikes>

3.3 BSEE Lessons Learned

The lessons learned from GIUEs are not exclusive to owners and operators of offshore facilities. The 2018 and 2019 GIUEs also provided several important lessons learned for BSEE and its interagency partners regarding the execution, participant roles, and evaluation procedures for exercises. The following lessons learned for federal and state government participants were noted and are currently being addressed for the Calendar Year 2020 exercise schedule.

- Several Operators reported that incorporating a variety BSEE players into the GIUE improved the operator's experience and allowed for quicker decisions and approvals during the exercise.

- In several large GIUEs, operators assumed the exercise team’s “truth” and “evaluating” personnel were participating as “players”. This assumption caused delays in exercise play and impacted the operator's ability to perform the exercise effectively.

In future exercises, BSEE will better clarify and advertise government role player expectations. BSEE may also employ the use of ICS vests or badges to help better differentiate the roles of the federal and state government players.

- In some exercises, BSEE observed that there was confusion among participants regarding roles, responsibilities, and seniority/authority to direct participants.

Going forward, BSEE will ensure the evaluator, player, and controller roles are not combined to avoid confusion during the exercise. Evaluators and controllers will be assigned unique tasks in order to avoid any unnecessary duplication of effort.

When there are multiple exercise controllers and truth personnel, a chain of command will be established to prevent the dissemination of contradictory or confusing messages to the operator during the play of the exercise.

- BSEE has determined that in addition to the impact of any hydrocarbons released, the volume of water discharged during a blowout could significantly challenge source control operations and may be an issue that should be explored with the operator.

When evaluating the worst-case discharge scenario for the purposes of designing a source control GIUE, BSEE will also consider the volume of total well fluids instead of only the oil cut.

- During the after-action debrief following a GIUE, all BSEE exercise team members should have the opportunity to provide lessons learned to the operator.

Even if the exercise team is particularly large, speakers representing predefined groups, such as source control and on-water response groups, will each be given time to provide consolidated feedback on behalf of those groups.

- The Source Control Support Coordinators (SCSC) responsibilities can be overwhelming during a complex source control response.

BSEE may institute a Deputy SCSC position to expand the SCSC’s oversight of the source control response.

- Some members of the exercise planning team demonstrated an incomplete understanding of their roles and responsibilities during the GIUE.

BSEE will ensure that the appropriate training and guidance are provided to controllers, evaluators, and players prior to the GIUE.

- During some large GIUEs exercise controllers became overwhelmed with “truth” requests, and the resulting deviations from the original exercise script caused confusion amongst the exercise execution team.

BSEE will ensure that the exercise simulation cell is adequately staffed and that evaluators are notified of scenario deviations.

- During Source Control GIUEs BSEE prompted the IMT’s personnel to make decisions about emergency disconnect procedures as part of the scenario evolution. IMT personnel may not be the correct personnel to make these decisions and may not be familiar with emergency procedures for a specific facility

BSEE should identify and explore other possible options for testing early decision-making during a source control response.

- Incorporating multiple BSEE offices and subject matter experts in GIUE planning and execution has significantly improved the rollout and outcomes of these exercises.

4.0 Conclusion

A GIUE is an important litmus test of an operator’s and facility’s’ preparedness to respond to an oil spill. It gives BSEE, its federal and state government partners, and the owners/operators insight into areas that may need improvement. Preparation of this Summary of Lessons Learned Report leverages the data from each exercise to provide a broader look at the state of preparedness across the industry.

BSEE will publish an annual summary report of lessons learned on a calendar year basis. Over time, the contents of these reports may suggest trends or emerging issues that can be identified, analyzed, and discussed proactively to improve spill preparedness and planning.

BSEE’s Oil Spill Preparedness Division is grateful for those who aided in designing, planning, executing, and evaluating the 2018 and 2019 GIUEs. Special thanks go to BSEE personnel who assisted from the Regional Offices, District Offices, and the Houston Engineering and Technology Center; and our colleagues at the U.S. Coast Guard; National Oceanic and Atmospheric Administration; U.S. Fish and Wildlife Service; Louisiana Oil Spill Coordinator’s Office; Louisiana Department of Environmental Quality; Texas General Land Office; Texas Rail Road Commission; Pipeline and Hazardous Materials Safety Administration; the California Office of Spill Prevention and Response; and the Alaska Department of Conservation, Spill Prevention and Response Division.