

“Lessons learned seen from the Environmental Unit after oil spill assessment and clean-up in Bahamas due to hurricane Dorian”

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Hurricane Dorian made landfall on Grand Bahamas Island early September 2019 resulting in many fatalities and catastrophic damages to the island, including Equinor’s storage and trans-shipment terminal South Riding Point (SRP). Based on the weather forecast upfront of the hurricane, it was decided to close the operations of the terminal before the hurricane came in, and operational measures were also implemented to secure our personnel and the facility to reduce any potential impacts. Dorian was extremely powerful (Cat 5 hurricane), which became the most intense hurricane to strike Bahamas, and is also regarded as the worst natural disaster in the country’s history. The Abaco Islands were heavily impacted, with the highest wind speeds of an Atlantic hurricane ever recorded at landfall (winds of 185 miles/295 km per hour). The hurricane went on to strike Grand Bahama where Equinor’s terminal is situated, with a similar intensity, where it remained stationary for about 40 hours. Five of the roof coverings at the terminal were damaged due to the impact of the hurricane, releasing around 9000 m3 of crude oil into the surrounding environment, most within and near the terminal but also to the pine forest towards north-east. The situation was extremely complex, with widespread damage to infrastructure on the island hampering progress in relief and response efforts. Security personnel were sent to the site to secure the area and identify potential hazards.

The overall priority in the early phase was to secure relief support and employee’s well-being. In parallel, an Environmental Unit (EU) was established in Houston as part of Equinor’s Incident Management Team (IMT). A surveillance strategy was established early to delineate the polluted area and a Shoreline Cleanup Assessment Technique (SCAT) program was created strategies and priorities, ground water monitoring to assess potential contamination, handling of potential impacted wildlife and waste management strategies. These plans were also basis for dialogue with authorities seeking approvals to initiate response efforts on governmental owned land. A focus area was to gain overview of landowners in the area as well as an overview of necessary permit requirements, roles, responsibilities, and expectations from the authorities. The push from external stakeholders to see clean-up progress had to be balanced with the speed of getting resources ready and plans in place and approved by the authorities.

It was essential to have a close cooperation between the EU and the “Operation Section” to secure implementation of approved plans (SCAT, Wildlife, Monitoring and Waste) and to avoid initiating clean up processes that could do more harm than good. The importance of stakeholder communication, including dialogue with relevant authorities, also required close interaction with the “Command Section” to ensure proper alignment and consistent communication with the authorities along the way. We experienced that a good data management system was needed from the very beginning of the incident to document progress and secure experience transfer in a constantly changing response organization (2 weeks rotational shifts).

Key learnings/lesson-learned seen from the Environmental Unit after oil spill assessment and clean-up in Bahamas due to hurricane Dorian:

- Access to a practical, easily accessible oil spill response plan, that includes overview of authority roles and responsibilities regarding various aspects of oil spill response (e.g., treatment of oiled wildlife, treatment options, environmental priorities, “agreed level” of No further treatment recommendations, waste management strategy) is highly beneficial and will ensure an efficient and well-structured initiation of a response.
- The Shoreline (“Forest”) Response Program implemented according to international good practice (IPIECA/IOGP) worked very well and showed to be flexible and easy to adapt to a forest cleanup (no oiled shoreline). Important that No Further Treatment guidelines and Treatment Recommendations are established before Operations starts, to avoid overly aggressive cleaning. The forest showed large extent of natural weathering, and methods should focus on preventing treatments from detrimentally impacting natural attenuation
- A well-organized Shoreline (“Forest”) Response Program is critical for success (organization and roles based on complexity and needs). Equinor needs to define and strengthen these roles and responsibilities in our IMT organization
- Close cooperation with Operation Section and Planning is critical to implement the different plans established under EU, to secure net environmental benefit. Cooperation between EU specialists (SCAT, Wildlife, Monitoring, Waste) with Operations (understanding roles and responsibilities) is critical and should be further exercised.
- Establishing a good dialogue with authorities is important from early on to secure alignment (status maps, priorities, documentation). In situation where stakeholder communication is extensive a designated Liaison Officer would be beneficial keeping overview of authority relations, regulatory requirements, landowner status and secure alignment and experience transfer in a changing response organization