



SHELL IN NIGERIA

ENVIRONMENTAL PERFORMANCE-OIL SPILLS

April 2012

Environmental Performance—Oil Spills

The Shell Petroleum Development Company of Nigeria Limited (SPDC) is committed to cleaning up all spills when they occur as fast as possible no matter what the cause.

The great majority of spills in the Niger Delta are the result of third party interference, mainly sabotage, theft of equipment or leaks caused by crude oil thieves drilling into pipelines or opening up wellheads to steal oil. On average, such third party interference has accounted for 74% of all oil spill incidents and 73% of all oil volume spilled from SPDC facilities in the delta over the last five years (2007-2011).

Unfortunately, the rest of the volume is caused by operational failures, such as equipment failure and human error. Any spill is a serious concern and SPDC staff and contractors are working hard to eliminate operational spill incidents.

Transparency

In January 2011, SPDC launched a website that publishes data on all spills from our facilities, including weekly progress updates, investigation reports and photographs. The website can be found here: www.shellnigeria.com/spills.

Prevention of Oil Spills

To prevent operational spills, SPDC operates an Environmental Management Improvement Programme designed to ensure that equipment and infrastructure are kept in good condition. This programme conforms to global Shell Group standards and those of the International Standards Organisation (ISO).

As part of its on-going asset management programme, SPDC replaced 208km of flowlines and pipelines in 2011, in addition to the 132km replaced in 2010. This programme included completing the replacement of the Nembe Creek Trunk Line.

All of SPDC's major facilities have been independently certified to ISO-14001 and safety and integrity are verified through regular independent assessments and audits. In addition, SPDC's entire operation is covered by pipeline and asset surveillance contracts to ensure that spills are discovered and responded to as quickly as possible. These surveillance activities employ more than 9,000 people, primarily from local communities.

One of our key concerns is to make it harder for saboteurs to steal oil and pollute the environment. In 2010 we completed a programme to make it more difficult to tamper with more than 100 wells in Ogoniland that have been shutdown since 1993. However, unless effective action is taken against the widespread sabotage, crude oil theft and illegal refining activities, SPDC's efforts to reduce operational spills will have limited effect on the overall impact of spills in the delta.

Response to Oil Spills

Sometimes, individuals or community groups or armed gangs deny the company access to spill sites. In some cases, this is because they are angry or worried about the impact on their land and their lives. In other cases it is because some members of the communities want clean-up contracts and/or greater compensation. Whatever the reason, such delays can increase the impact of the spill significantly. SPDC is working to improve its performance in these difficult circumstances while operating in a very challenging environment. Sadly, in spite of these efforts, the security and community issues in the delta mean the company cannot always access spill sites safely and this can cause significant delays to investigations, clean-up and remediation.

As soon as a leak is confirmed, production is suspended in order to stop the flow of oil into the environment. And all efforts are made to contain the spill. In some areas such as mangrove swamp, this is more difficult because tidal movements can lead to very rapid spreading of even small quantities of spilled oil.

The swamp areas are also highly vulnerable to theft and sabotage and illegal refiners heating up stolen crude in open barrels. This activity is not within SPDC's control, yet leads to significant environmental and social impact, as well as safety exposure.

Investigating spills

When an oil spill occurs, a joint investigation team visits the site as quickly as possible to establish the cause and volume of the spill. The team is led by SPDC, and includes representatives of the regulatory bodies and the Ministry of Environment. Officials of the Nigerian Police Force, state government officials and impacted communities are also invited to attend the visit. Where the investigation shows that the spill was within SPDC's control to

prevent, SPDC negotiates compensation with the affected landowners. In 2011, SPDC paid more than \$1.1 million in compensation. Nigerian law does not require payment of compensation in cases of sabotage.

Cleaning and remediation of spills

No matter what the cause, whether operational or sabotage/theft, SPDC is committed to stopping and containing all spills, recovering and cleaning up as much oil as possible and restoring sites in compliance with regulations as quickly as possible. In the initial clean-up we remove the free oil and affected vegetation. Thereafter, we carry out full environmental remediation. The main technique for restoring land sites impacted by oil spills, Remediation by Enhanced Natural Attenuation (RENA) has been thoroughly researched and can be demonstrated to be effective for the soil and climate conditions in the equatorial heat of the Niger Delta. For heavy and long term spills, this may involve the addition of nutrients that stimulate the natural microbes in the soil. These feed on the remaining oil and break it down to carbon dioxide and water. Once clean-up and remediation are complete, the work is inspected, approved and certified by the government regulators. In 2011, 351 sites were certified.

Spill Performance in 2011

In the last five years, since 2007, SPDC has been dealing with an average of 172 oil spills per year, slightly more than the 169 average for the 2006 to 2010 period. In 2011 there were 181 spills over 100kg¹.

There were 63 operational spills over 100 kg in 2011 (32 in 2010), but the total volume spilled decreased to 3,595 barrels from 5,270 in 2010² due to improved oil spill response time.

Sabotage and crude oil theft was the cause of 11,806 barrels spilled from SPDC facilities in 118 incidents, an average of about one spill every three days, accounting for 77% of the spilled volume during the year.

Clean-up and Remediation Performance

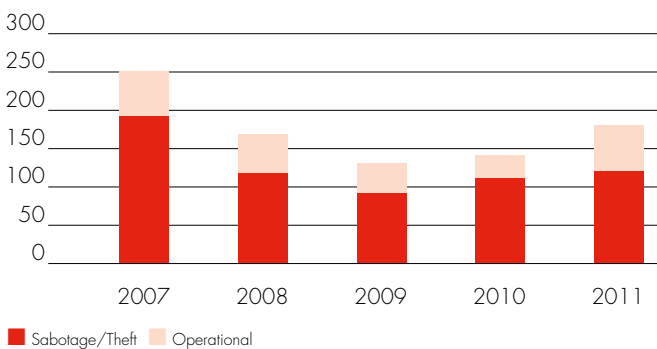
2011 saw a significant improvement in clean-up and remediation performance. A total of 196 sites were cleaned up in 2011 including 37 spills carried over from 2010. Most noteworthy is the clean-up of the Ejama-Ebubu spill site caused by damage to the Trans Niger Pipeline during the Biafran War in 1969. Clean-up began in 2006—after the community finally granted SPDC access to the site—and is expected to be completed in 2012.

After initial clean-up, the majority of sites need remediation. In 2011, there were 627 spill sites (including new 2011 spills) that required remediation. By January 2012, 351 had been remediated and certified leaving 276 to complete. The remediation of four of the five remaining pre-2005 spills have been completed and work is on-going at the last site.

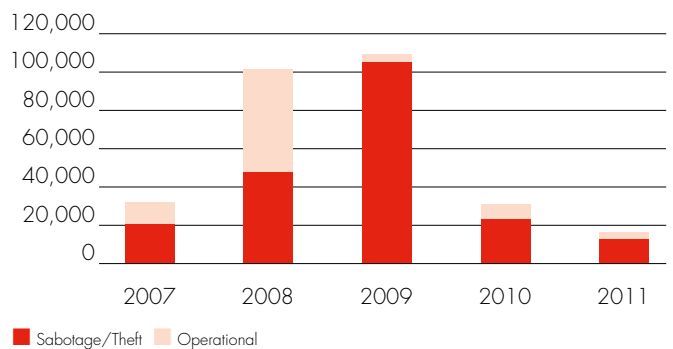
Of the 15,408 barrels of oil spilled in 2011, 10,980 barrels (72%) were recovered. In some areas, the clean-up effort was frustrated by frequent new spills on the same site caused by repeated oil theft and illegal refiners.

More information on the operations of Shell companies in Nigeria can be found at www.shellnigeria.com.

Number of Spills/year



Volume of Spills (barrels)/year



Footnotes

- 1) The Royal Dutch Shell Group reporting standard reports only spills greater than 100kg. The SPDC spills website reports all spills.
- 2) N.B. The Shell Sustainability Report 2011 does not include the two suspected spill incidents that are yet to be closed out due to ongoing community unrest.