Briefing note on the Total Elgin Platform leak (as of 12 April 2012)

About the Elgin Platform

The Elgin Platform is located 240 km from Aberdeen in the UK North Sea. The platform separates hydrocarbons from the Elgin and Franklin fields into gas and liquid components, processes them and exports them through two separate pipelines. It began production in 2001. Total has a 46.2% stake in the fields and is the operator.

Incident overview

A gas leak from a plugged production well, the G4, was detected on the Elgin wellhead platform at 12:15 on 25 March. 219 of the 238 people on board were evacuated that afternoon; 19 others stayed behind to secure the platform. Emergency procedures were activated and the relevant authorities were notified. The remaining employees were flown to Aberdeen the following day. Nobody was injured and the safety of workers was our top priority.

A gas flare, part of the platform’s safety system, remained lit for several days after the shut down of the platform. This is normal when the platform is shut down and de-pressurised in an emergency, as it cannot be fully purged as is done in a controlled shutdown.

As expected, the flare burnt out by itself. We confirmed this on March 30.

Nature of the leak

The G4 well has been plugged for over a year. The leak is believed to be coming from a rock formation 4,000m below the seabed. This formation is not a producing reservoir. However, it contains gas and condensate, which could have migrated to the well. The gas is being released at the wellhead deck level, not below the sea surface.

We are unable to directly measure the leak flow rate. Initially, based on data and reservoir modeling, we estimated it to be around 2 kg of gas per second, equivalent to 7 million cubic feet (200,000 cubic meters) a day.

Recent indications suggest the rate of the leak has now decreased, including aerial measurements by the National Centre for Atmospheric Science (NCAS), regular visual observations from nearby vessels and temperature measurements.

Following the incident, our experts have been working hard to identify the cause. At this stage, we can only say that on February 25 we observed irregular pressure in the plugged G4 well on the Elgin field. We very quickly moved to balance the pressure by pumping it full of high density mud. During this process, on March 25 we observed a sudden pressure increase, followed by an escape of mud and then gas.

Response to the incident

We are working closely with the local authorities and are mobilising all the resources necessary to control the incident and resolve the situation in a safe and timely manner. Preparations are underway to stop the gas leak by pumping in heavy mud. At the same time, we are also progressing plans for the drilling of both a primary and a back-up relief well.
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A team of specialists, comprising Wild Well Control and Total experts, has visited the platform twice since it was evacuated. The team confirmed on 5 April that plans for the well-kill operation could continue.

It has since returned to perform a number of preparatory tasks ahead of the proposed intervention. This included a clean-up of the platform areas surrounding the G4 well where soft waxy deposits formed from leaked condensate had accumulated (see photo).

Next steps
A specialist platform for the well intervention has been mobilised. It should arrive in the second half of April and we hope to carry out a successful well-kill operation in the coming weeks. At the same time, we are preparing to start drilling relief wells.

Health and safety
The gas is primarily composed of methane, which is flammable. We are, however, doing everything possible to reduce the risk of an explosion. Every safety measure has been taken on the Elgin Platform and potential sources of ignition (electrical and mechanical) have been shut down. Fire-fighting vessels are on-standby as a precaution.

To prevent a plane or a boat from entering the gas cloud by accident, an exclusion zone has been set up, allowing a wide safety margin. Beyond this zone, there are no risks to planes and boats.

We would stress that the gas cloud around the platform is not toxic and it disperses over distance. The Elgin platform is 240km from the closest shore and it is highly unlikely the gas could reach land.

Environmental risks
Methane has a greenhouse gas (GHG) effect about 25 times higher than that of CO₂. At the initial estimated leak flow rate, the GHG effect of the leak is therefore equivalent to about 3,000 tons of CO₂ per day.

The impact on the marine environment is small and localised. A sheen has been formed by the flow of condensates (very light oil, like gasoline) coming from the leak. As they are so light, the majority of these condensates evaporate quickly and the remainder is dispersed by waves. They are easily biodegradable.

We are monitoring the impact on the environment closely, in cooperation with the UK department of Energy and Climate Change (DECC) and external experts. We are taking daily water samples, which are analysed by an independent Scottish laboratory, as well gathering information via satellites, air surveillance (2 to 3 times daily) and boats on the scene.

The results of the water samples taken on March 28 are available on our website: [www.elgin.total.com](http://www.elgin.total.com)

At the beginning of April, Scottish marine management organisation, Marine Scotland Science, collected fish from close to the Elgin platform for testing. The samples have passed initial sensory “taste testing” by its experts.

Financial impact on Total
We are completely focused on stopping the gas leak safely and containing the environmental impact and are committed to investing all resources necessary to do so.

At the moment, the cost for Total of the well control operations is around 1.5 million US dollars a day, excluding fiscal and insurance considerations. On top of this, we estimate the cost of the loss of production to be around 1.5 million US dollars a day in terms of net operating income.

We do not anticipate the cost of Elgin incident will have an impact on our investment programme or dividend payment policy.

For further information
Total has been transparent in communicating about the incident since it began. We are regularly updating our dedicated website: [http://www.elgin.total.com](http://www.elgin.total.com)

And our Twitter feed: [http://twitter.com/#!/Total](http://twitter.com/#!/Total)