

# North Sea gas leak threatens environmental disaster

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A gas leak at the Total oil conglomerate's Elgin platform in the North Sea threatens an environmental disaster.

The platform is 150 miles off the coast of Aberdeen, Scotland. The leak was first detected at 12.15 p.m. on Sunday, after which Total evacuated all 238 workers. Although not classified as a deepwater well, the Elgin drilling rig is still very deep, with gas being extracted at a depth of 6,000 meters, nearly four miles into the sea bed.

A flare is still alight on the main platform.

David Hainsworth, the health, safety and environment manager for Total E&P UK, speculated that the leak could have occurred as the result of Total engineers pumping in mud to piping on a gas reservoir that had been plugged about a year ago. He said, "We believe the leak is coming out of the outer casing of the well."

Although the leak was discovered on Sunday afternoon, it wasn't until 11 a.m. on Monday that an exclusion zone around the rig was set up. Ships are excluded within two miles of the site and aircraft no nearer than three miles if they fly lower than 4,000 feet. This affects helicopters but not commercial aircraft.

On Monday, surveillance flights were sent to investigate a large sheen in the water surrounding the platform, a massive cloud of between 2 and 26 tonnes of underwater gas condensate, around 6 nautical miles in length.

Following the leak, another oil giant, Shell, evacuated 120 oil workers from a nearby rig citing the danger of drifting gas. It moved nonessential staff from its Shearwater platform and Hans Deul drilling rig as a "precautionary measure". This still leaves more than 100 workers at the Shell facility.

Hainsworth said on Tuesday morning that the situation was "stable" and that "There seems to be no

evolution in the rate of gas release". However, he has also said the gas leak could continue "for a significant period of time" and that there was "large range of uncertainty" over his estimate that it could be leaking at a rate of 2 kilogrammes per second.

The company has said that once the leak source is discovered, it could still take up to six months to build a relief well to help stem the leak. Hainsworth said this was one of two "options for intervening. ... The other is a platform intervention to kill the well ... this would be a faster option."

From the initial statements of Total and Shell, it is clear that the potential of a large-scale disaster is being downplayed. The British government has gone further, attributing virtually no significance at all to the event. UK Energy Minister Charles Hendry said, "Some tonnes of condensate have escaped," and then ludicrously claimed, "The size of the sheen is one-sixteenth of the size of an Olympic swimming pool."

"What we've identified, procedures appear to have been followed properly", he added.

In contrast, scientists, environmentalists, trade union representatives and a number of journalists have stated that the leak could have disastrous consequences.

Ian Martin, a former gas industry safety professional, told the *World Socialist Web Site*, "Natural gas is mainly methane and is flammable/explosive when there is between five and 15 percent gas in air. Hydrogen sulphide can be lethal at quite small concentrations. If the cloud is visible, that suggests that it includes water vapour and various hydrocarbons and must be quite big."

The BBC's Colin Blane said that what has occurred is a "serious, uncontrolled leak" and "that this is the highest pressure well in the world as far as I understand."

Dr. Simon Boxall, an oceanographer at Southampton University, told the BBC of the highly dangerous situation now existing at the Elgin rig. “It is a very deep well”, he said. “The gas they are bringing up is what we call sour gas. That gas has a high proportion of hydrogen sulphide and carbon dioxide and that makes it very flammable and quite poisonous.

“So the big problem they have got is dealing with a very combustible gas—unlike Deepwater Horizon where we were dealing with crude oil which ironically is very difficult to light sometimes.”

Jake Molloy, a regional organiser of the Rail, Maritime and Transport union, said if the leaking gas ignites, “something on the scale of Piper Alpha” could occur.

The Piper Alpha North Sea production platform was operated by Occidental Petroleum. Initially operated as an oil platform, it was later converted to gas production. In July 1988 an explosion destroyed it, killing 167 workers.

Malloy said, “People seven miles away can see a gas cloud coming from the Total rig”. He added, “On the positive side, nobody’s there. So the human side has been dealt with. But the potential remains for an ignition source and for the complete destruction of that installation.”

Molloy said what had happened was unprecedented. “As far as we can tell”, he said, “certainly in the UK sector, this is an unknown. It has never occurred before.

“One drilling engineer that I have spoken to today says we could be looking at a Deepwater-type intervention, in that we have to drill a relief well from another rig, but even that will be dodgy if we have got gas continually escaping in the immediate region.”

Wullie Wallace of the Unite union said a full evacuation and power down of all oil platforms within a five-mile radius of the incident was required: “The risk may be low but our concern is that if the drifting gas was to hit any of the neighbouring installations the results could be catastrophic.”

The Norwegian Bellona environmental group that monitors the oil industry has described the Elgin platform as “the well from hell”. The head of the organisation, Frederic Hauge, citing anonymous sources said that platform staff had struggled for 14 hours to contain the leak before having to evacuate the rig on Monday. “They saw the sea bubbling with gas

under the platform. This is quite shocking”.

Describing the problem as “being out of control”, he said, “This situation is only going to get bigger and bigger”.

One of the main concerns in resolving the problem is the high risk of explosion: “At this stage it is impossible to get on the platform”, Hauge said. “The only solution, it seems, is to have a release well, but we don’t know how deep the leak is. And how do we place a drilling rig close enough given the risk of explosion?”

The production area the gas is extracted from is a high-pressure, high-temperature reservoir. Temperatures can reach 200 degrees Celsius (392 degrees Fahrenheit).

Comparing the dangers to the Deepwater Horizon disaster that occurred in the Gulf of Mexico in April 2010, killing 11 workers and spilling millions of gallons of oil into the Gulf of Mexico, Hauge said, “The pressure in the reservoir is 600-1,100 bar which is higher than at Deepwater Horizon’s, which was a little over 800 bar”.

He warned, “We don’t know how much gas there is again in the reservoir and there is a high level of carbon dioxide and hydrogen sulphide, which makes it extra corrosive.”



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