



PETROLEUMSTILSYNET

BP Norge AS
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Vår saksbehandler
Øyvind Lauridsen

Deres ref.

Vår ref. (bes oppgitt ved svar)
Ptil 2012/1467/ØyL/OvH

Dato
23 April 2013

Investigation report following the hydrocarbon leak on Ula and notification of order

A substantial hydrocarbon leak occurred on the Ula facility on 12 September 2012.

The direct cause of the leak was the fracturing of the bolts holding together a valve in a separator outlet. Seepage in the valve exposed the bolts to produced water with a high content of chlorides and a temperature of about 120°C. This resulted in chloride induced stress corrosion, which weakened the bolts until they finally fractured.

A precondition of the choice of material for the valve bolts is that these do not come into contact with the medium. This precondition was not followed up in the organisation after seepage in the valve was detected.

The hydrocarbon quantities which flowed out in connection with the leak are estimated to total 125 barrels (20 cubic metres) of oil and 1 600 kilograms of gas.

The oil released spread to large parts of the P01 mezzanine area, with equipment, walls and ceilings becoming coated with crude. Small quantities of oil were also observed in the sea.

No people were injured in the incident. Production was shut down for 67 days as a result of the leak.

The Petroleum Safety Authority Norway (PSA) considers that the incident had the potential to become a major accident, with the risk of a number of fatalities and substantial material damage.

The PSA has investigated the incident. Its report is attached.

Serious conditions related to fire and explosion protection on Ula were revealed in connection with the investigation. An order was accordingly issued on 23 November 2012 concerning the adoption of immediate and specific physical measures to correct or possibly compensate for the lack of compliance with requirements for fire and explosion protection on Ula, with a deadline of 31 December 2012 to comply with the order. This order was based on nonconformities 8.1.5 and 8.1.6 in the attached report.

The PSA notes that BP has implemented certain compensatory measures, but considers that these are neither individually nor collectively sufficient to attain the level indicated in the order of 23 November 2012 – namely to correct or compensate for the lack of compliance with requirements for fire and explosion protection on Ula P.

Through the dialogue it has conducted with the PSA since the order of 23 November 2012, BP has accounted for internal processes which are under way before additional planned measures are implemented. BP included a plan for implementing these measures in its letter of 28 December 2012. The PSA's preliminary assessment is that the specific and physical measures specified in the plan could be suitable by their nature to satisfy the order, providing they are implemented in a satisfactorily safe manner with regard to both scope and quality.

On the basis of measures already implemented, as well as the plan presented by BP in the letter of 28 December 2012 covering additional planned measures and their implementation, an extended deadline has been given – as previously announced – until 31 December 2013 to comply with the order of 23 November 2012. It is assumed that implementation – in other words, the execution of the various identified measures – will meet the deadlines specified in the plan.

The PSA must be informed of any changes to BP's specified plan, and when the order has been complied with.

Following the PSA's earlier investigation of the fire on BP's Valhall PCP facility on 13 July 2011, BP was served with orders on 23 January 2012. These included a review and assessment of the company's own systems for maintenance management on aging facilities, and ensuring that maintenance programmes and the execution of such work were tailored to the age and condition of the facilities and equipment. BP wrote in a letter of 29 June 2012 that the order had been complied with by implementing a planned improvement in the maintenance system. According to the plan, this involved closing gaps identified in the maintenance system, including criticality analyses and classification of safety-critical equipment. The investigation of the Ula incident on 12 September 2012 shows that deficiencies still exist in the maintenance system. Reference is made in that connection to nonconformity 8.1.9 concerning deficiencies in maintaining the process safety system, where it was revealed that maintenance has not been carried out as planned, and to nonconformity 8.1.5, which includes deficient classification and follow-up of emergency shutdown valves. This part of the order in the wake of the Valhall fire will be followed up by us in connection with the notification of an order given below.

The attached report has identified serious breaches of the regulations related to BP's management system for activities on the Norwegian continental shelf, see chapter 8 in the report, and notice is hereby given of the following order:

Pursuant to section 69 of the framework regulations on administrative decisions, cf. the management regulations section 6 on management of health, safety and the environment, section 21 on follow-up and section 22 on handling of nonconformities, BP is ordered to

- *review BP's management system for the NCS with a view to assessing whether it is adequate for identifying and managing risk, including an assessment of why the system has not been adequate for identifying and dealing with the nonconformities identified in the investigation of the leak on Ula. See chapter 8 of the report. The deadline for completing this review is set at 1 September 2013.*
- *Assess whether measures planned and initiated after the fire on Valhall in 2011 and other improvement activities are relevant and collectively adequate in light of the nonconformities identified following the leak on Ula. The deadline for completing this review is set at 1 September 2013.*

Measures identified under the two items above must be implemented by 31 December 2013. The PSA must be informed when the order has been carried out.

Possible comments on the notification must be submitted to us no later than 12.00 on 29 April 2013.

The report contains identified nonconformities and improvement points which provide the basis for the notification of the order, and an explanation is requested of the way the individual nonconformities and improvement points will be dealt with by 1 September 2013.

It is also requested that the elected representatives of the employees, including safety delegates, are informed of this letter and the report.

The report will be published on our website on Monday 29 April 2013.

Yours faithfully

Hilda Kjeldstad, by authority
supervision coordinator

Øyvind Lauridsen
principal engineer

This letter has been approved electronically in the PSA and accordingly bears no signatures

Attachment: Investigation report