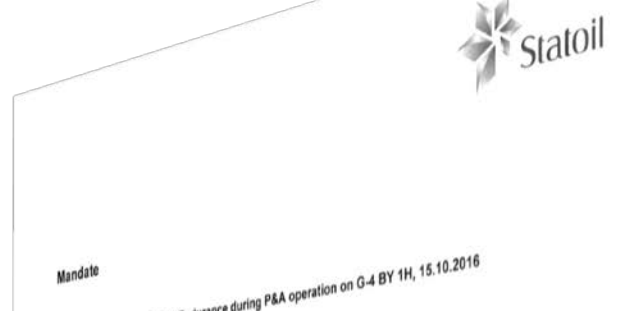




Gransking av brønnkontrollhendelse 31/2 G-4 BY1H Møte i Sikkerhetsforum 16/2-2017

Granskingsgruppe:
Erling Handal
Marit Bakka
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Mandat



Well Control incident Songa Endurance during P&A operation on G-4 BY 1H, 15.10.2016 Synergi #: 1488377

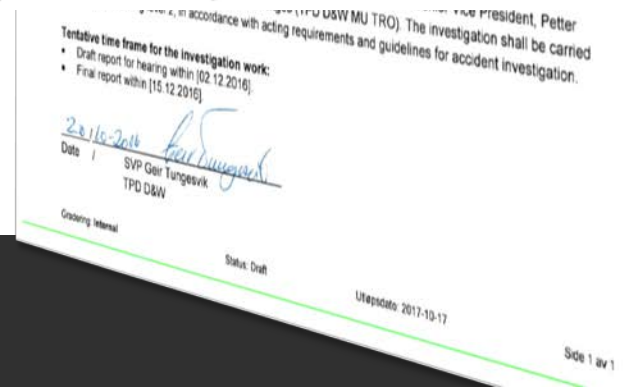
Background:

15.10.2016 at 09.34, during pulling and releasing of tubing hanger, the string was suddenly lifted 6 m followed by seawater from the riser being pushed up through rotary. BOP closed on annular preventer and BSR (Blind Shear Ram) closed. Well was closed in on annular. Gas sensors on rig floor and HVAC channel activated. Personnel mustered according to Station bill and Emergency organizations in Statoil and Songa activated.

In accordance with acting requirements an investigation team is established in order to:

- Clarify the sequence of events and background for the condition/ incident
- Identify immediate causes, underlying causes and causes related to management and control
- Identify possible nonconformities to governing documentation
- Identify broken and missing barriers, and also the barriers that have functioned as intended
- Evaluate notification and emergency response aspects
- Assess the overall potential of the condition/ incident
- Check for similar incidents/conditions and transfer experience from them
- Make recommendations and propose measures related to the condition/ incident

The main purpose with this investigation in retrospect of the incident is to contribute to a constructive learning effect

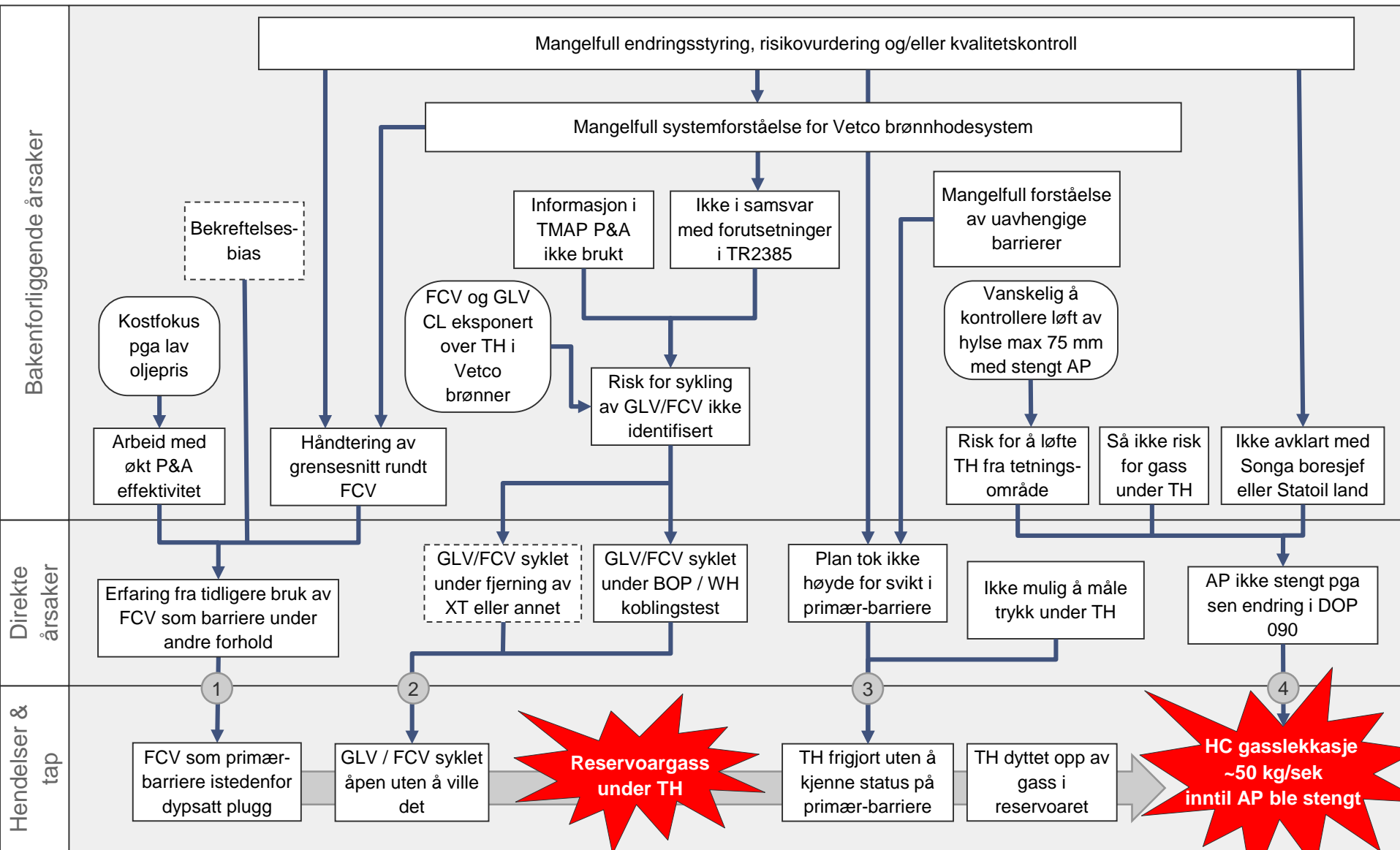


Kategori	Faktisk alvorlighetsgrad	Potensiell alvorlighetsgrad under ubetydelig endrede omstendigheter
Personskade	Ingen	Potensiell alvorlighetsgrad 1
Arbeidsrelatert sykdom	For tidlig å avgjøre	Potensiell alvorlighetsgrad 2
Ukontrollert utslipp	Faktisk alvorlighetsgrad 5	Potensiell alvorlighetsgrad 3
Lekkasje av olje/gass/brannfarlig væske	Faktisk alvorlighetsgrad 1	Potensiell alvorlighetsgrad 1
Brann / eksplosjon	None	Potensiell alvorlighetsgrad 2
Svikt i sikkerhets- /sikrings funksjoner og barrierer	Faktisk alvorlighetsgrad 2	Potensiell alvorlighetsgrad 1
Omdømme	Faktisk alvorlighetsgrad 2	Potensiell alvorlighetsgrad 1
Kostnader/tap	Faktisk alvorlighetsgrad 1	Potensiell alvorlighetsgrad 1

Norsk Olje og Gass guideline 135:

Degree of seriousness	Drilling and Completion	Guidance
Level 1- Red Critical well control incidents	2. High HC influx rate	2. Failure of primary well barrier. Activation of the secondary well barrier in critical kill operations with high risk of blowout.

Årsakskart: Brønnkontrollhendelse Troll G-4, Synergi 1488377, 15 oktober 2016



AP: Annular preventer
 BOP: Blow-out preventer
 CL: Kontrollinje
 DOP: Detaljert operasjonsplan
 FCV: Flow control ventil

GLV: Gassløftventil
 P&A: Plugg og forlat
 TH: Tubing hanger
 TMAP: Troll Hovedaktivitetsprogram

TR2385: Tekniske krav for bruk av FCVer som barriere
 Vetco: Leverandør av brønnhoder
 WH: Brønnhode
 XT: Juletre



Anbefalte tiltak

Nr	Lærings- og forbedringsbehov
1	Plan for å forbedre endringsstyring og risikoidentifisering i boreprosjekter
2	Forbedret endringsstyring
3	Økt kvalitet i planlegging og risikostyring
4	Bedre forståelse av unntakssøknader (DISP)
5	Øke robusthet av barrierer
6	Kontinuerlig læring