
From: [REDACTED]
Sent: 4/21/2010 6:24:16 PM
To: kevinclary@nopsa.gov.au
CC: Submissions - Mailbox; [REDACTED]
Subject: Stybarrow Gas Release MPA 1st Stage Suction PIT fitting - 21/4/10
Attachments: Uncontrolled HC Release Report MPA1st Stage flow restrictor 21042010.doc; Regulatory Incident Notification Form MPA1st Stage flow restrictor 21042010.pdf

Kevin,

As discussed, please find attached copies of the completed NOPSAs for a gas release, estimated at 22kg, emanating from an instrument fitting on the 1st stage suction of the MPA Compressor early this morning. We will be conducting a full investigation into the root cause in order to put appropriate corrective actions in place; however, we believe that it was a vibration induced failure.

We will keep you informed as the investigation progresses. Please don't hesitate to contact me if you require any further information.

Regards,

[REDACTED]

[REDACTED]

BHP Billiton Petroleum

152 - 158 St Georges Terrace, Perth, 6000, Australia

Mailto

[REDACTED]

Internet

<http://www.bhpbilliton.com>

m

Phone

+ [REDACTED]

Mobile

+ [REDACTED]

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Operator Name **Incident Serial No.**
(NOPSA use only)

OFFSHORE FACILITY DETAILS

Facility Name (or other designation)

Incident Date Incident Time (24 hrs, local time)

Reportable Categories of Dangerous Occurrence: (please tick appropriate box)

- MoSoF 45(2)(a): Potential to cause death of, or serious personal injury to, a person, **or**
- MoSoF 45(2)(b)(i): Fire or explosion, **or**
- MoSoF 45(2)(b)(iii): Exceeding 1 kg uncontrolled release of hydrocarbon vapour **or**
- MoSoF 45(2)(b)(iv): Exceeding 80 litres uncontrolled release of petroleum liquids, **or**
- MoSoF 45 (2)(c): A reasonable operator would consider to require an immediate investigation

GUIDANCE NOTES:

This form should be completed as soon as possible, but in any case together with the final reportable incident report.

Guidance on how to complete the form is contained on page 5 at the end of the form.

Please return the completed form to:

Information Officer
 NOPSA
 Level 22, St Martins Tower
 44 St Georges Terrace
 Perth WA 6000 Email: Information@nopsa.gov.au

1. Hydrocarbon (HC) released: (tick appropriate box)

Process: Oil Condensate Gas 2-Phase

For Gas, Density	referenced gas density based on 1.01bara and 30 degC, density: 0.75 kg/m ³	For Liquids, Gravity	<input type="text"/>
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If 2-Phase, state GOR (*) = Specify GOR units, e.g. scf / bbl

For Gas or 2-Phase, state level of H₂S p.p.m

Non Process (Specify)

2. Estimated quantity released: (*)

(*) = Specify units e.g. Tonnes, kgs, m³

3. Duration of leak: (mins)

(Estimated time from discovery, e.g. alarm, to termination of leak)

4. Location of leak: (please complete checklist on page 3)

5. Hazardous Area classification: (i.e. zone at location of incident)

API IP AS Others Specify Zone

6. Equivalent hole diameter: Ins mm

7. Area ventilation? Natural Forced Open

How many sides enclosed? (insert number of walls, including floor and ceiling)

Volume m³
Estimated No. of air changes (if known) Hourly Daily

8. Weather conditions (where applicable)

Wind: Speed Direction (*)
(* = Specify units, e.g. mph, m/s, ft/s) (* = Specify heading in degrees)

Other Conditions: (Describe) AMBIENT RELEASE CONDITIONS: 21°C, ATM press

9. System pressure:

Maximum Allowable Operating Actual (*)
(* = Specify units, e.g. barg, psig, or other (i.e. at time of release))

10. Estimated total HC inventory in system (*)

(i.e. isolatable between ESD valves) (* = Specify units, e.g. Tonnes, kgs, m³)

11. Means of detection: (Please tick type of detector or specify as appropriate)

Heat Smoke Flame Gas Visual Other Specify

12. Extent of Dispersion? (Please describe) Leaked into well ventilated large open area grated, approx 8 m above process deck level.

13. Cause of leak? (Please complete checklist on page 4)**14. Did ignition occur?** (Please tick appropriate box) Yes No

If Yes, was it: Immediate Delayed Delay time (secs)

Was there: (add sequence of events by numbering appropriate boxes in order of occurrence)

A Flash Fire An Explosion A Jet Fire A Pool Fire

15. Ignition source: (If known)

Hotwork Spark from electrical contact Spark from metallic impact
Hot surface Other Specify

16. What emergency action was taken? (tick appropriate box(es))

Shutdown :	Automatic <input checked="" type="checkbox"/>	Manual <input type="checkbox"/>	Functional <input type="checkbox"/>
Blowdown :	Automatic <input checked="" type="checkbox"/>	Manual <input type="checkbox"/>	Functional <input type="checkbox"/>
Deluge :	Automatic <input type="checkbox"/>	Manual <input type="checkbox"/>	Functional <input type="checkbox"/>
Halon/CO ₂ :	Automatic <input type="checkbox"/>	Manual <input type="checkbox"/>	Functional <input type="checkbox"/>
Foam :	Automatic <input type="checkbox"/>	Manual <input type="checkbox"/>	Functional <input type="checkbox"/>
Fire Monitors :	Automatic <input type="checkbox"/>	Manual <input type="checkbox"/>	Functional <input type="checkbox"/>
Call to Muster :	At stations <input type="checkbox"/>	At lifeboats <input type="checkbox"/>	
Other <input type="checkbox"/>	(Specify) <input type="text"/>		

17. Any additional comments including lessons learned/personnel exposure: Nil

Contact (in case of queries) (block capitals, please)

Name Position Date
Email Phone No.

LOCATION CHECK LIST (see 'Location of leak' item 4. on page 1)

(Please indicate those items which come nearest to pinpointing the location of the leak)

(a) **Module / area name:**

(Please state the name in common use on the installation, e.g. separation module, inc. subsea if appropriate)

(b) **System:** (Please tick relevant systems for any one release incident, and tick other boxes and fill in details for that system as appropriate)

- Drilling Ops:** Well Control Exploration Appraisal Development Completion
- Well Types:** Oil Production Gas Production Gas Injection Surface Subsea
- Flowlines:** Oil Gas Other (specify)
- Manifold:** Oil Gas Other (specify)
- Separation:** Oil Gas Test Production Train No. of Stage
- Processing:** Oil Gas (specify system)
- Utilities:** Oil Gas (specify system)
- Gas Compression**
- Metering:** Oil Gas Condensate
- Export / Import:** Oil Gas Condensate
- Drains:** Open Closed
- Vent / Flare:** HP LP
- Blow-down**

(c) **Equipment:** (Please tick relevant equipment items for any one release incident and tick other boxes and fill in details for that equipment as appropriate)

- BOP** Wellhead Xmas Tree Surface Subsea Rating:
- Drilling Equipment:** (please specify)
- Compressor** Centrif Recip
- Filter** Drain Opening Plug
- Heat Exchanger:** HC in Shell Tube Plate
- Fin Fan Cooler**
- Instrument** (incl. piping, valves and fittings)
- Pig Launcher / Receiver:** Horiz / Vert, Length / Dia (ins/mm)
- Pipeline/Riser:** Material Rating Size (*)
- Piping:** Material Rating Size (*)
(*) Specify e.g. API 5LX52, pressure in psig / barg, nom. Bore in ins / mm, etc.
- Pressure Vessel:** Horiz / Vert Type Length / Dia (ins/mm)
(*) Specify e.g. separator, contactor, length tan to tan and diameter in ins / mm
- Pump:** Centrif Recip Single Double Seal
- Storage/Surge Tank:** Capacity (Specify units e.g. bbls, gall. m³)
- Turbine:** Gas Dual Fuel
- Engine:** Gas Dual Fuel
- Valve:** Manual Actuated Function Type Size (*)
(*) Specify e.g. Relief, ESDV, PCV, gate, ball, globe, diameter in ins / mm, etc.

(d) **Components:** (Please tick appropriate boxes)

- Flange Type Rating Size (*)
(*) Specify e.g. RTJ, RF, ANSI 900#, API nom. bore ins / mm, etc.
- Weld Seal (pump / compression) Body Seal (other equipment) Screw Joints Tapping
- Others

Notes for guidance on how to complete this form

(the following guidance is numbered according to item numbers on form)

1. **Hydrocarbon (HC) Released:**
Tick appropriate process HC involved, and add details in boxes as required. Note that these should be at working conditions. If non process, add details of HC involved, then add details in boxes where appropriate (e.g. diesel spill, sp.gr 0.85)
2. **Estimated Quantity Released:**
Give as accurate an estimate as possible of the amount released, and state units used.
3. **Duration of Leak:**
This should be stated in minutes, and is the approximate time from alarm or discovery of leak to termination of leak.
4. **Location of Leak (see location check list on page 3)**
identify Area and / or Module involved e.g. Area 2, Mud Module B.
Tick box on most appropriate system category
Add or delete details as appropriate to define system involved e.g. Separation : Oil production train 1 of 2 Second Stage.
Tick box on most appropriate equipment category
Add or delete details as appropriate to define equipment and components involved e.g. Pig Launcher: Horiz, 5000mm / 30ins.
Valve: Actuated, ESDV, BALL, 16ins., Flange: RTJ, ANSI 900#, 6ins.
5. **Hazardous Area classification:**
Tick appropriate box
6. **Equivalent hole diameter:**
Cross section Area A and wetted perimeter P should be found either by estimation or by direct measurement.
Diameter of equivalent hole in inches or millimetres, is given by $D = \frac{4A}{P}$
Full Bore rupture will be diameter of connection involved.
7. **Area ventilation:**
Tick whether Natural or Forced (i.e. by mechanical means) e.g. HVAC
Add number of sides enclosing the area in which incident took place, including roof and floor as one side each.
If floor and ceiling are open grating, then score as 0.5 each. Allow for any louvres or openings in any wall.
Calculate enclosed volume in m³. If fully open, then say so.
Please insert estimated No. of air changes where possible.
8. **Weather conditions:**
Give wind speed and direction, stating units used. Other conditions such as raining, overcast, air temperature, should be stated here including sea state if relevant.
9. **System pressure:**
Give maximum allowable operating pressure for system and equipment involved in suitable units.
Actual operating pressure at time of incident should also be given, preferably in same units.
10. **Total HC inventory in system:**
The estimated isolatable inventory i.e. between ESD valves for the system identified. State units used.
11. **Means of detection:**
Tick box(es) for type(s) of detector involved. If other means e.g. by sound or smell, tick **Other and** specify details.
12. **Extent of Dispersion:**
This will be particularly helpful for modelling release behaviour in certain conditions.
Give details of whether the Hydrocarbons accumulated in the area, or how they dispersed.
13. **Cause of Leak? (Please see checklist on page 4)**
Please tick one box in each of the five sections and add or delete details as necessary e.g. No design failure, No failure in equipment itself, Improper testing, Deficient procedure, Testing.
14. **Did ignition occur?**
Tick either yes or no. If yes, continue to tick if immediate or delayed and add estimated delay time in seconds. Indicate sequence of events by numbering appropriate boxes e.g. explosion 1, jet fire 2 or flash fire 1, explosion 2, pool fire 3.
15. **Ignition source (if known)**
This is important for analysis of ignition probabilities, and details of possible ignition sources such as hot work, electrical fault, spark from metallic impact, should be added here.
16. **Emergency action taken:**
Tick appropriate boxes and specify any other actions not included in list. It is important to indicate whether actions were automatically or manually initiated. The "functional" boxes are for hardware items, to be ticked if the hardware was successful in reducing the escalation of the event.
17. **Additional comments:**
There are usually additional relevant facts concerning the incident which are not covered in the general points given on the form. Please add details of these in here e.g. any damage and/or injury and fatalities sustained, etc

Contact name:

Please insert the name, position, email address and phone number of the person best able to answer or deal with queries concerning the incident.

Date:

Date of completion and transmittal of form to be inserted here.

1.1 Regulatory Incident Notification Form

BHP Billiton Petroleum Pty Ltd
Level 42,
152 158 St Georges Tce
PO Box J668
Perth WA 6000 Australia

Tel +61 8 9338 4704

Fax +61 8 9338 4899

ATTENTION: Duty Inspector

NOPSA – 24hr Fax No. (08) 6461 7037

DoIR Petroleum Division - 24hr Fax No. (08) 9222 3860

FROM: Name: [REDACTED]

Position: [REDACTED]

Date 21 / 4 / 10 Time 1700 No. Pages 1

Initial Notification of Incident: Please be advised that a reportable incident has occurred.	
1. The facility name, site name or location where incident occurred:	Stybarrow Venture
2. Name and business address of employer who controls worksite:	BHP Billiton Petroleum – 152 – 158 St Georges Tce, Perth, WA.
3. Time and date of incident;	01:15 hrs and date 21/04/10
4. Names and contact details of any witnesses :	[REDACTED]
5. Name of person submitting these details:	[REDACTED]
Telephone number	[REDACTED]
6. Brief description of incident:	Gas release from flow restrictor on PIT- 0301A-06, 1st Stage suction pressure transmitter on MPA Compressor.
7. Work/activity being undertaken at time of incident;	Routine operations
8. Action taken, to make work-site safe or prevent environmental damage, including details of any disturbance of the work site:	Compressor shutdown and instrument isolated.
9. Was emergency response initiated:	No.
10. Name of employer of deceased/injured person(s) [if any and if different from answer in item 2]:	N/A
11. Details of deceased/injured person(s) – including: name, date of birth, sex, residential address and telephone number, occupation/job title and details of injury, details of job being undertaken;	N/A
12. Day of shift and hour of shift (e.g. 5 th day of 7, 1 st hour of 12);	N/A
13. Estimated quantity and composition of fluids that escaped or burned including known toxicity:	Hydrocarbon gas comprising mostly Methane, 22 kg estimated.
14. Duration of escape; Inconclusive total time of leak:	38 min total leak time.
15. Location and weather conditions;	Module A, Wind 200° 34m/s.
16. Identify equipment damaged and to what extent;	NPT Thread of the flow restrictor on PIT- 0301A-06, 1st Stage suction pressure transmitter on MPA Compressor. (It appears to have failed where it connects to the flange.)
17. Will the plant be shutdown and for how long;	Compressor Shutdown – unknown duration at this stage
18. Immediate action taken/intended, if any, to prevent recurrence of incident;	Machine shutdown and depressured, flow restrictor to be replaced.
19. Immediate cause analysis;	Suspect vibration induced failure on the flow restrictor thread.
20. Root cause analysis and full report;	Not applicable at this stage
21. Actions to prevent recurrence of incident with responsible party and completion date;	Not applicable at this stage
Signature	[REDACTED]
Position:	[REDACTED]