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**SPPE (Safety and Pollution Prevention Equipment) Failure Notification Form**

*Please provide the information listed below.*

**Operator/company assigned reference number**: *Click or tap here to enter text*.

1. Operator/Location Data
2. Provide operator and submitter details.
3. Operator name: *Click or tap here to enter text*.
4. Submitting company name: *Click or tap here to enter text*.

*(Provide if different than the operator name.)*

1. Submitting company type *(select one):*

[ ]  Lessee or designated operator

[ ]  Production contractor (contract operator)

[ ]  Compliance contractor

[ ]  Valve service company

[ ]  Other, specify: *Click or tap here to enter text.*

1. Operator primary contact name: *Click or tap here to enter text.*

|  |  |
| --- | --- |
| Email | *Click or tap here to enter text.* |
| Telephone |  ###-###-#### -------------------- |

1. Operator primary contact info:

1. Name of person completing form: *Click or tap here to enter text.*

|  |  |  |
| --- | --- | --- |
| *Click here to enter.* | / | *Click here to enter.* |

1. Provide location details.
2. Complex ID / OCS block number:
3. Lease number: *Click or tap here to enter text.*

 *(OCS-X#####, where X indicates G, P, or A for the Gulf of Mexico, Pacific, or Alaska OCS Region, respectively)*

1. Well API number and completion name:

*(a. Dual completions: list the well name for the correct production string - short or long string.*

*b. GLSDVs & BSDVs: list all wells. If more than 4, list wells in the configuration section (IV.3.)*

 API well number (12 digit) Well completion name

|  |  |  |
| --- | --- | --- |
| *Click or tap here to enter text.* |  | *Click or tap here to enter text.* |
| *Click or tap here to enter text.* |  | *Click or tap here to enter text.* |
| *Click or tap here to enter text.* |  | *Click or tap here to enter text.* |
| *Click or tap here to enter text.* |  | *Click or tap here to enter text.* |

1. Description of the Failure
2. Date of Failure (*mm/dd/yyyy*): *Click or tap to enter a date.*

1. Provide a description of the failure to include, but not limited to:
* *Operating history*: provide operating history of the SPPE leading up to the malfunction or failure (e.g., field repair, modifications made to the SPPE, etc.)
* *Operating conditions*: thoroughly describe the operating conditions at the time of the malfunction or failure
* *Malfunction/failed component*: describe the specific malfunction or failed component

|  |
| --- |
| Click or tap here to enter text. |

1. SPPE Details and History
2. SPPE details
3. What was the type of SPPE that failed? *(select one)*

[ ]  Surface safety valve (SSV)

[x]  Boarding shutdown valve (BSDV)

[x]  Underwater safety valve (USV)

[ ]  Surface controlled subsurface safety valve (SCSSV)

[ ]  Subsurface controlled subsurface safety valve (SSCSV)

[ ]  Gas lift shutdown valve (GLSDV)

1. Equipment manufacturer: *Click or tap here to enter text.*
2. Model: *Click or tap here to enter text.*
3. Serial number: *Click or tap here to enter text.*
4. Working pressure (psig): *Click or tap here to enter text.*
5. Nominal size (inches): *Click or tap here to enter text.*
6. Was the SPPE designed for (HPHT) high pressure (15,000 psi or higher), high temperature (350°F or higher) conditions?

[ ]  Yes [ ]  No

1. Was the SPPE designed for arctic conditions?

[ ]  Yes [ ]  No

1. Specify the most extreme exposure conditions for which the SPPE was designed to function.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| * Design pressure
 | *Click here.* | psi |  |  |
| * Design temperature
 | *Click here.* | (min) to  | *Click here.* | (max) °F |
| * Design flow rate
 | *Click here.* | (number) |  |  |
| * Flow rate units
 | *Click here.* | per | *Click here.* |  |
| * Other design environmental conditions
 | Click or tap to enter a date. Click or tap to enter a date. |

1. For a subsurface safety valve failure, provide installation details:
2. What was the type of subsurface safety valve (SSSV) that failed? *(select one)*

Surface controlled

[ ]  Tubing retrievable **surface** controlled subsurface safety valve (TRSCSSV)

[ ]  Wireline retrievable **surface** controlled subsurface safety valve (WRSCSSV)

[ ]  Through flowline (TFL) **surface** controlled subsurface safety valve (TFLSCSSV)

Subsurface controlled

[ ]  Velocity-type **subsurface** controlled subsurface safety valve (SSCSV)

[ ]  Tubing-pressure-type **subsurface** controlled subsurface safety valve (SSCSV)(e.g., PB valve)

1. For subsurface controlled (SSCSV) failures, where was it installed? *(select one)*

[ ]  SSCSV valve inserted in landing nipple profile of a previously installed SCSSV (12-month test frequency)

[ ]  SSCSV installed in another landing nipple (12-month test frequency)

[ ]  SSCSV installed in the tubing string (6-month test frequency)

1. What was the service class of the SSSV that failed? *(select one)*

[ ]  Class 1 only standard service

[ ]  Class 2 sandy service

[ ]  Class 1 and 2

[ ]  Class 3 stress cracking

[ ]  Class 3s (sulfide stress and chlorides in a sour environment)

[ ]  Class 3c (sulfide stress and chlorides in a non-sour environment)

[ ]  Class 4 mass loss corrosion service

1. For a BSDV, SSV, or USV failure, provide installation details:
2. What was the service class? *(select one)*

[ ]  Class I: performance level requirement intended for use on wells that do not exhibit the detrimental effects of sand erosion.

[ ]  Class II: performance requirement level intended for use if a substance such as sand could be expected to cause a valve failure

1. For a BSDV failure, what was the valve type? *(select one)*

[ ]  Automatic

[ ]  Manual

1. When was the SPPE installed? *(mm/dd/yyyy)* Click or tap to enter a date.

1. What was the certification status of the failed SPPE? *(select one)*

[ ]  Newly installed; certified SPPE pursuant to ANSI/API Spec Q1

[ ]  Newly installed; certified SPPE pursuant to another quality assurance program

[ ]  Previously certified under ANSI/ASME SPPE-1

[ ]  Non-certified SPPE

1. Was the SPPE previously repaired, remanufactured, or subject to hot work offsite?

[ ]  Yes [ ]  No

1. When was the affected component last repaired or maintained? *(mm/dd/yyyy)* Click here.

1. Specify how many times the valve has been cycled open/closed since the last repair or maintenance and since installation:

|  |  |
| --- | --- |
| 1. *Click here.*
 | Number of cycles since last repair or maintenance |
| 1. *Click here.*
 | Number of cycles since installation |

1. Describe any repair or redress history for the SPPE that failed:

|  |
| --- |
| Click or tap here to enter text. |

1. Provide the date and describe the last SPPE test prior to this failure:

**Date** (*mm/dd/yyyy*): *Click or tap to enter a date.*

|  |
| --- |
| Click or tap here to enter text. |

1. Well Data
2. What type of tree was associated with the SPPE that failed? *(select one)*

[ ]  Dry (surface) tree

[ ]  Wet (subsea) tree

1. What was the type of well associated with the SPPE failure? *(select one)*

[ ]  Production

[ ]  Injection

1. What is the design of the well that the SPPE services? *(select one)*

[ ]  DVA well with an SCSSV and an SSV on the dry tree on platform

[ ]  Subsea well with an SCSSV and a USV on the well’s subsea tree with a BSDV on platform

[ ]  Other, specify configuration:

|  |
| --- |
| Click or tap here to enter text. |

1. What was the well status at the time of this failure? *(select one)*

[ ]  Gas injection (active or inactive)

[ ]  Water injection well (active or inactive)

[ ]  Water disposal (active or inactive)

[ ]  Water source well (active or inactive)

[ ]  Monitor/observation well

[ ]  Producing oil completion

[ ]  Producing oil completion - gas lift

[ ]  Producing oil completion - load oil

[ ]  Producing gas completion

[ ]  Non-producing oil completion

[ ]  Non-producing gas completion

[ ]  Wellbore temporarily abandoned (TA)

[ ]  Other, specify: *Click or tap here to enter text.*

1. Last well test info

|  |  |  |
| --- | --- | --- |
| 1. Flip calendarDate (*mm/dd/yyyy*):
 | *Click here.* |  |
| 1. Net oil/condensate rate
 | *Click here.* | bbls/day  |
| 1. Net gas rate
 | *Click here.* | MCF/day *(note: MCF = 1000 cubic feet)* |
| 1. Net water rate
 | *Click here.* | bbls/day |
| 1. Choke size
 | *Click here.* | (64ths) |
| 1. API gravity of the oil/condensate
 | *Click here.* |  |

1. Pressures and temperatures

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. Surface flowing tubing pressure (FTP) and temperature
 | *Click here.* | psi  | *Click here.* | °F |
| 1. Bottom hole pressure and temperature
 | *Click here.* | psi | *Click here.* | °F |
| 1. Shut-in tubing pressure (SITP)
 | *Click here.* | psi |  |  |

1. What were the environmental conditions? (*select all that apply*)

|  |  |
| --- | --- |
| *Click here.* | % |

 [ ]  Sand, specify percentage of sand:

 (if you selected sand, then select on*e)*: [ ]  intermittent sand or [ ]  continuous sand

[ ]  H2S

[ ]  CO2

[ ]  Paraffin

[ ]  Scale

[ ]  Cement

[ ]  Salt

[ ]  Solids

[ ]  Other, specify: *Click or tap here to enter text.*

1. Additional Failure Details
2. Which SPPE component failed? (*select all that apply*)

[ ]  Valve body

[ ]  Valve gate and/or seat(s)

[ ]  Actuator

[ ]  Flow coupling (required for surface- or subsurface-controlled SSSV)

[ ]  Safety lock

[ ]  Landing nipple

[ ]  Direct hydraulic control system

[ ]  Electro-hydraulic control umbilical

[ ]  Flange

[ ]  Ring joints

[ ]  Ball

[ ]  Flapper

[ ]  Temperature safety element (TSE)

[ ]  Emergency shutdown (ESD) system

[ ]  Other, specify: *Click or tap here to enter text.*

1. Failure type (*select all that apply*)

[ ]  Internal leak (i.e., failed leakage test when closed)

[ ]  External leak

[ ]  Failed to close when commanded

[ ]  Failed to close in required timing

[ ]  Failed to open

[ ]  Other, specify: *Click or tap here to enter text.*

1. For an external leak, what fluid(s) leaked? (*select all that apply*)

[ ]  Produced oil

[ ]  Produced gas

[ ]  Produced water

[ ]  Instrument gas

[ ]  Instrument air

[ ]  Hydraulic oil

[ ]  Other, specify: *Click or tap here to enter text.*

|  |  |  |
| --- | --- | --- |
| *Click here*. | **Units** | *Click here.* |

1. For an external leak, how much fluid leaked?
2. HSE incident details
3. Was the failure associated with an HSE incident?

[ ]  Yes [ ]  No

1. If *yes*, did the HSE incident involve any of the following? *(select all that apply)*

[ ]  One or more fatalities

[ ]  Injury to 5 or more persons in a single incident

[ ]  Tier 1 process safety event (API 754/IOGP 456)

[ ]  Loss of well control

[ ]  $1 million direct cost from damage of loss of facility/vessel/equipment

[ ]  Oil in the water >= 10,000 gallons (238 bbls)

[ ]  Tier 2 process safety event (API 754/IOGP 456)

[ ]  Collisions that result in property or equipment damage > $25,000

[ ]  Incident involving crane or personnel/material handling operations

[ ]  Loss of station-keeping

[ ]  Gas release (H2S and Other) that result in process or equipment shutdown

[ ]  Muster for evacuation

[ ]  Structural damage

[ ]  Spill < 10,000 gallons (238 bbls)

[ ]  Other, specify: *Click or tap here to enter text.*

1. **Under what conditions was the SPPE failure detected**? *(select all that apply)*

[ ]  When activated during normal well (production) operations

[ ]  When activated in response to ESD testing

[ ]  When activated during emergency weather or other emergency conditions, specify the nature of the emergency: *Click or tap here to enter text.*

[ ]  When activated during a process upset

[ ]  When activated in response to the detection of a high or a low-pressure condition by a PSHL sensor located upstream of the BSDV

[ ]  When the gas lift system introduced gas into the system

[ ]  When activated during a leakage test

[ ]  During well intervention or well work

[ ]  Other, specify: *Click or tap here to enter text.*

1. What factors contributed to the failure? *(select all that apply)*

Procedures and practices

[ ]  Assembly damage or error

[ ]  Improper maintenance or repair

[ ]  Improper use or valve alignment

[ ]  Company policy/practices

[ ]  Workplace documentation

Operating environment

[ ]  External corrosion (atmosphere)

[ ]  Internal corrosion (chemical - H2S or CO2)

[ ]  Paraffin build-up

[ ]  Sand cut erosion

[ ]  Scale build-up

[ ]  Wellbore debris

Mechanical failure

[ ]  Elastomer degradation

[ ]  Foreign object damage

[ ]  Hydraulic power failure

[ ]  Valve seat degradation

[ ]  Manufacturing defect

Human error

[ ]  Personnel skills or knowledge

[ ]  Quality of task execution

[ ]  Quality of task planning and preparation

Other

[ ]  Design issue

[ ]  Operating conditions out of range of device

[ ]  Other, specify: *Click or tap here to enter text.*

1. Preliminary root cause *(select one)*

[ ]  Assessment pending

[ ]  Design issue

[ ]  Documentation error

[ ]  Maintenance plan and procedure

[ ]  Manufacturing defect

[ ]  Procedural error

[ ]  Wear and tear

[ ]  Other, specify: *Click or tap here to enter text.*

1. Is a formal root cause failure analysis (RCFA) planned? *(select one)*

[ ]  Yes, done [ ]  Pending [ ]  No

1. Corrective action
2. What corrective action was taken related to the SPPE failure? *(select all that apply)*

[ ]  Adjust - a change was made to the operational settings (e.g., fine-tuning the speed)

[ ]  Modify SPPE - a change was made to the SPPE valve (e.g., different model or type)

[ ]  Modify well - a change was made to the well barrier configuration (e.g., set a plug)

[ ]  Shut-in well - the well was shut-in for at least 30 days

[ ]  Chemical soak - a chemical solvent was introduced to the valve (e.g., scale treatment)

[ ]  Cycle valve - the valve was stroked back and forth between fully open and fully closed

[ ]  Remanufacture - the valve was rebuilt by the manufacturer

[ ]  Repair - the valve was repaired, or part of the valve was replaced

[ ]  Replace - the entire valve was replaced with the same valve type

[ ]  Service - maintenance was performed on the valve (e.g., greasing)

[ ]  Other, specify: *Click or tap here to enter text.*

1. Where was the corrective action done? *(select one)*

[ ]  Contractor’s off-site facility

[ ]  Manufacturer’s off-site facility

[ ]  On location

[ ]  Operator’s facility

1. For corrective actions done on location, who conducted the corrective action? *(select one)*

[ ]  Operator

[ ]  Contractor

[ ]  Manufacturer

**Appendix**

|  |
| --- |
| **List of Acronyms and References** |
| AIV | alternate isolation valve |
| ANSI | American National Standards Institute |
| API | American Petroleum Institute |
| APM | Application for Permit to Modify |
| ASME | American Society of Mechanical Engineers |
| BAST | best available and safest technology |
| bbl | barrel |
| BOE | barrels of oil equivalent |
| BOEM | Bureau of Ocean Energy Management |
| BOP | blowout preventer |
| BSDV | boarding shutdown valve |
| BSEE | Bureau of Safety and Environmental Enforcement |
| CSU | column-stabilized unit |
| CVA | Certified Verification Agent  |
| DOI | Department of the Interior |
| DPP | Development and Production Plan |
| DWOP | Deepwater Operations Plan  |
| E.O.  | Executive Order |
| ESD | emergency shutdown  |
| FPS | floating production systems |
| FPSO | floating production, storage, and offloading facility |
| FSV | flow safety valve |
| FTP | flowing tubing pressure |
| GLIV | gas-lift isolation valve  |
| GOM | Gulf of Mexico |
| H2S | hydrogen sulfide  |
| HP | high pressure |
| HPHT | high pressure high temperature  |
| INC | Incident of Noncompliance |
| ISO | International Organization for Standardization  |
| LP | low pressure |
| LSH | level safety high |
| MAWP | maximum allowable working pressure |
| MMS | Minerals Management Service |
| MOA | memoranda of agreement |
| MODU | mobile offshore drilling unit  |
| MOU | memorandum of understanding  |
| NAE | National Academy of Engineering |
| NPRM | notice of proposed rulemaking |
| NTL | Notice to Lessees and Operators |
| NTTAA | National Technology Transfer and Advancement Act  |
| OCS | Outer Continental Shelf |
| OCSLA | Outer Continental Shelf Lands Act |
| OESC | Ocean Energy Safety Advisory Committee |
| OFR | Office of the Federal Register |
| OIRA | Office of Information and Regulatory Affairs |
| OMB | Office of Management and Budget |
| P&ID | piping and instrumentation diagram  |
| PE | professional engineer |
| PLC | programmable logic controller |
| PRA | Paperwork Reduction Act |
| PSH | pressure safety high  |
| PSHL | pressure safety high and low  |
| psi | pounds per square inch |
| psia | pounds per square inch absolute |
| psig | pounds per square inch gauge |
| PSL | pressure safety low  |
| PSV | pressure safety valve |
| RCA | root cause analysis |
| RCFA  | root cause failure analysis |
| RFA | Regulatory Flexibility Act |
| RP | recommended practice |
| SAFD | safety analysis flow diagram |
| SAFE | safety analysis functional evaluation |
| SBA | Small Business Administration |
| SBREFA | Small Business Regulatory Enforcement Fairness Act |
| SDV | shutdown valve |
| Secretary | Secretary of the Interior |
| SEMS | safety and environmental management system |
| SIL | safety integrity level |
| SITP | shut-in tubing pressure |
| Spec. | specification |
| SPPE  | safety and pollution prevention equipment |
| SSSV | subsurface safety valve |
| SSV | surface safety valve |
| SWRI | Southwest Research Institute |
| The Act  | Outer Continental Shelf Lands Act |
| TLP | tension-leg platform |
| TSE | temperature safety element  |
| TSH | temperature safety high  |
| USCG | U.S. Coast Guard |
| USV | underwater safety valve |
| VRU | vapor recovery unit  |
| WI | water injection |
| WISDV | water injection shutdown valve |
| WIV | water injection valve |