Burden Statement

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The information you provide will be used for statistical purposes only. In accordance with the BTS’ confidentiality statute, the Confidential Information Protection and Statistical Efficiency Act (CIPSEA) of 2018, (Pub. L: 115-435 Foundations for Evidence-Based Policymaking Act of 2018, Title III), your responses will be kept confidential and will not be disclosed in any identifiable form to anyone other than BTS employees or BTS agents, i.e., telephone interviewers. In accordance with these confidentiality statutes, only statistical and non-identifying data will be made publicly available through aggregate reports. By law, every BTS employee and BTS agent has taken an oath of confidentiality and is subject to a jail term of up to 5 years, a fine of up to $250,000, or both if he or she discloses ANY identifiable information about the respondent or reporting company or operator. BTS will not release to the Bureau of Safety and Environmental Enforcement, Department of the Interior, or any other public or private entity any information that might reveal the identity of individuals or company/operator names mentioned in near-miss reports.

**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:

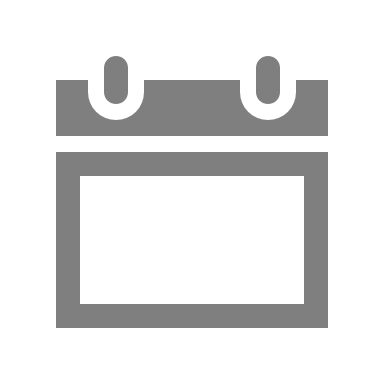
*(a. Dual completions: list the well name for the correct production string - short or long string.*

*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)

Boarding shutdown valve (BSDV)

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.

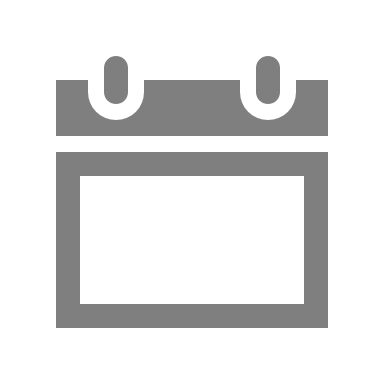
Class II: performance requirement level intended for use if a substance such as sand could be expected to cause a valve failure

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

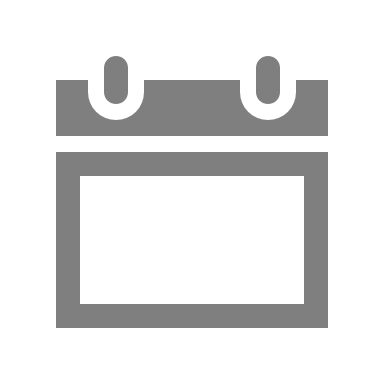
Previously certified under ANSI/ASME SPPE-1

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.



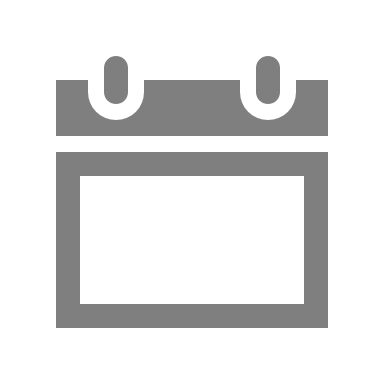
1. Specify how many times the valve has been cycled open/closed since the last repair or maintenance and since installation:

|  |  |
| --- | --- |
| 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 |