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

*(Please submit the information listed below)*

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1. **Operator Data**

Date of Failure \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Operator Company Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(Operators will select their BSEE operator number from a drop down list that BSEE will provide)*

Complex ID / Structure Number \_\_\_\_\_\_\_\_\_\_/\_\_\_\_\_\_\_\_\_\_

*(Operators will select their Complex ID and Structure Number from a drop down list that BSEE will provide)*

API Well Number, if applicable \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Company Name Submitting Form, if different than the Operator \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Type of Company Submitting Form *(select one)*

□ Production Contractor

□ Other, Specify \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. **SPPE Details**

 Equipment manufacturer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Model \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Serial Number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Working pressure \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Nominal size \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Provide a narrative describing any redress history for the SPPE that failed:

 Please provide the date and a narrative description of the last SPPE test.

 Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Narrative:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

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**IV. Was the SPPE previously repaired, remanufactured or subject to hot work offsite?** *□* ***Yes*** *□* ***No***

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

 □ Dry Tree

 □ Subsea Tree

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**VI. Which SPPE component failed? *(select all that apply)***

 □ Valve Body

 □ 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

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**VII. SPPE Type**

 What was the type of SPPE that failed? *(select one)*

 □ Surface Safety Valve (SSV)

 □ Boarding Shutdown Valve (BSDV)

 □ Underwater Safety Valve (USV)

 □ Surface controlled SCSSV

 □ Subsurface controlled SSCSV

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**VIII. SSSV Details**

 What was the type of SSSV that failed? *(select one)*

 □ Tubing retrievable

 □ Wireline retrievable

 □ Through flowline (TFL)

 □ SCSSV retrievable

 □ SSCSV retrievable

Was the SSSV formerly a pump through type tubing plug? *□ Yes □ No*

 If the SSSV that failed was Subsurface Controlled (SSCSV), what type was it? *(select one)*

 □ Velocity-type SSCSV

 □ Tubing-pressure-type SSCSV

 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

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**X. BDSVs, SSVs, and USVs**

 What was the service class of the BDSV/SSV/USV? *(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 of use if a substance such as sand could be expected to cause an SSV/USV valve failure

 If the SPPE that failed was a BSDV, which type was it? *(select one)*

 □ Automatic

 □ Manual BSDV

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**X. SPPE Design Criteria**

Was the SPPE designed for High Pressure High Temperature (HPHT) conditions? *□ Yes □ No*

Was the SPPE designed for Arctic Conditions? *□ Yes □ No*

Please specify the most extreme exposure conditions for which the SPPE was designed to function?

Design Pressure \_\_\_\_\_\_\_\_\_ psi

Design Temperature \_\_\_\_\_\_\_\_ degrees F

Design Flow Rate \_\_\_\_\_\_\_\_\_

Other Design Environmental Conditions \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**XI. Well data *(Provide the information below, as applicable)***

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

 □ Production

 □ Injection Well

Was the well shut in at the time of failure? □ *Yes* □ *No*

 What was the last Well Test Rate? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What was the date of the last Well Test? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What were the Environmental Conditions *(check all that apply)*

 □ Sand, Specify percentage \_\_\_\_\_%

 □ H2S

 □ CO2

 □ Other, Specify \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Pressures and temperatures

 Surface \_\_\_\_\_\_\_\_\_\_\_ psi / \_\_\_\_\_\_\_\_\_\_\_ degrees F

 Bottom hole \_\_\_\_\_\_\_\_\_\_\_\_psi / \_\_\_\_\_\_\_\_\_\_degrees F

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**XII. Under what conditions was the SPPE activated at the time of the failure *(check all that apply)***

 □ Activated during normal well operations

 □ Activated in response to an ESD

 □ Activated during emergency weather or other emergency conditions

Specify the nature of the emergency: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 □ Activated during a process upset

 □ Activated in response to the detection of a high or a low pressure condition by a PSHL sensor located upstream of the BSDV

 □ Activated when the gas lift system introduced gas into the system

 □ Activated during a leakage test

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**XIII. Description of the failure**

Provide a narrative description of the failure to include, **but not limited to**:

* as much information as possible on the operating conditions that existed at the time of the malfunction or failure
* an accurate a description as possible of the malfunction or failure
* any operating history of the SPPE leading up to the malfunction or failure (e.g. field repair, modifications made to the SPPE, etc.)

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**XIV. Specify how many cycles or hours were completed since the last preventative maintenance.**

(If the SPPE was newly installed, specify how many cycles or hours were completed since the SPPE was installed).

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_number of cycles **or** \_\_\_\_\_\_\_\_\_\_\_\_\_\_ number of hours

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**XV.Provide a narrative describing the general configuration of the SPPE and hydrocarbon flow path.**

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

 □ Improper Design

□ SPPE erroneously thought to be certified but was not

□ Inadequate requalification/verification testing

□ Installation was incompatible with specific design elements like subsea trees and related equipment, tubing hangers, etc.

 □ Improper Use

 □ Operating conditions out of range of device

 □ Mechanical failure – leak

 □ Mechanical failure -- sand cut erosion

 □ Mechanical failure – Corrosion (chemical - H2S orCO2)

 □ Mechanical failure -- Corrosion (atmosphere)

 □ Valve seat degradation

 □ Failed to open

 □ Failed to close

 □ Failed to contain hydrocarbons

 □ Failure to meet required closure timing (consider both isolation and bleed time when deciding)

 □ Electrical power failure

 □ Hydraulic power failure

 □ Incorrect assembly

 □ Valve damaged during assembly/disassembly

 □ Improper maintenance

 □ Improper repair

 □ Shipping damage

 □ Damage related to lifting or material handling

 □ Storm damage

 □ Collision damage

 □ Damage related to a seismic event

 □ Applied hydraulic pressure through wellhead seal assembly required to maintain surface-controlled SSSV in the open position exceeds MRWP of the wellhead by more than a minimum required amount

 □ Other, Specify \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**XVII.Preliminary Root Cause *(select all that apply)***

 □ Human Error, Personnel Skills or Knowledge

 □ Human Error, Quality of Task Planning and Preparation

 □ Human Error, individual or group decision-making

 □ Human Error, quality of task execution

 □ Human Error, quality of hazard mitigation

 □ Human Error, communication

 □ Maintenance plan and procedure

 □ Manufacturing defect

 □ Design issue

 □ Wear and tear

 □ Other, Specify \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**XVIII.Is a formal Root Cause and Failure Analysis recommended?** *□* ***Yes*** *□* ***No***

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**XIX.Corrective Action**

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

□ Adjust

□ Check

□ Inspection

□ Modify

□ Overhaul

□ Refit

□ Remanufacturer

□ Repair

□ Replace

□ Service

□ Test

□ Other, Specify \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Where was the corrective action accomplished? *(select one)*

 □ Contractor’s facility

 □ Manufacturer’s facility

 □ On location

 □ Operator’s facility

If the corrective action was accomplished on location, who conducted the corrective action?

 *(select one)*

 □ Operator

 □ Contractor

 □ Manufacturer

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**XX.Was the failure associated with an HSE Incident:** *□* ***Yes*** *□* ***No***

 If Yes, what was the type of incident? *(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 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_