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I have Over 20 year's experience with background in Process Engineering, technical safety and risk assessment in Oil & Gas Industry. I am familiar with Process Safety Management include develop the system, monitor and assure the implementation of interrelated activities required to manage process safety risks. I have gained Certified Functional Safety Expert (CFSE) in 2021 and have had leading safety life cycle implementation starting from Hazard Identification (HAZOP), SIL allocation study (LOPA), SIL Selection and Design, monitoring the installation & operation.

Using my technical and safety engineering experiences, I have facilitated numerous risk assessment such as HAZOP,HAZID,LOPA. Consequence Modelling using PHAST. In addition, I served as leader of project safety review and safety Studies.

I served at numerous oil & gas project where as Lead Process Engineer and Lead Commissioning & Start Up Team. My involvements in projects included Front End Engineering Design (FEED) and detailed Engineering design, facility commissioning & Start Up, Production optimization & Trouble-shooting and operation support.

### *Field of Competence*

- Leading the risk assessment to manage operational risks by using Process Hazard Analysis technique such HAZOP, LOPA/SIL, HAZID, what if
- Process Safety Management
- Risk Based Process Safety
- Consequence analysis and Quantitative Risk Analysis (QRA)
- Process design engineering from conceptual until commissioning especially for upstream process
- Dynamic and steady state process simulation and other process simulation such pipeline using pipesim, flare network
- Process Safety Reviews/Audits
- Operational safety, Incident Investigation

### *CERTIFICATION*

**BNSP HAZOP Leader (2022)**

**Certified Functional Safety Expert (CFSE) 2021 by EXIDA**

**BNSP Accident Investigation 2021**

**Master Degree (2005)** - sponsored by Deutscher Akademischer Austauschdienst (DAAD Germany) Quality Safety & Environment Program Otto-Von Guericke Universität Magdeburg Germany

**Bachelor Degree (2000)**

Faculty of technology Industry- Chemical Engineering Bandung Institute of Technology

### **EMPLOYEMENT HISTORY**

**Sr Process Safety Assurance at Pertamina Hulu Indonesia ( April 2021-Present)**

Coordinate, monitor and assure the implementation of Process Safety Management in order to manage process safety risks and to ensure efficient, reliable and robust operations. Acting as Subject Matter Expert (SME) in process and process safety engineering area such facilitating Process Hazard Analysis (PHA), auditing PSM element and provide training to personnel within organization that involve in process safety.

Experience :

1. MAH & SECE identification Study “PPP Manunggul ( 2022)”,  
Leading workshop to assess further Major Accident Hazard and SECE identification for PPP Manunggul Plant Zona 9
2. MAH & SECE identification Study “ Loading Terminal Sangata ( 2022) “,  
Leading workshop to assess further Major Accident Hazard and SECE identification for Loading Terminal Sangata Zona 9
3. Revalidation HAZOP ” Badak Central Plant PHSS (2021)-PHSS”  
Coordinate the workshop , act as Subject Matter Expert and Review the report for Revalidation BCP Plant
4. Baseline HAZOP “ Loading Terminal Sangatta, Terminal Lngkas Tarakan & Gathering Station Manunggul Zone 9 &10 (2021)”  
Coordinate the workshop , act as Subject Matter Expert and Review the report Ex-PEP Asset 5 Field ( Loading Terminal Sangata, Terminal Lingkas, PPP Manunggul)
5. Leading and facilitating Safety Review for MOC plant in Zone 8 (2021)
6. Leading and facilitating What If study for MOC plant in Zone 8 (2021)
7. Leading and facilitating HAZOP for small project in Zone 8 (2021)
8. Accident investigation of Well PAM 235 leakage Tarakan zone 10 (2021) -  
Member of Task Force Investigation team ‘
9. Auditing Pillar 1 & 2 of Process Safety Management for zone 9 (2021) –audit the implementation of PSAIM in Ex-PEP Asset 5 Field

**Sr Process Safety Engineer at Pertamina Hulu Sanga Sanga (Aug 2019- 31 Mar 2021)**

Provide input and follow-up strategic related to the process safety policies and standard used by company, coordinate the development and implementation of a Process Safety Management system that reflects the company’s need and requirement. Leading the Process Hazard Analysis (PHA) related to operational risk and ensure those

recommendation raise as result of PHA study is implemented until residual risk is acceptable. Establishing and monitoring processes to identify and manage engineering risk from design and through operation.

Experience :

1. HAZOP Revalidation “ Mutiara Central Plant-PHSS (2020)”- Leading the study include study preparation and reporting with the scope from wellhead until export facility (pipeline).
2. LOPA Revalidation “Mutiara Central Plant (2020)” – leading assessment scenario MAH from HAZOP to review adequacy of their protection layer
3. SIL verification study for SIF with SIL 2 for area Nilam Central Plant and Semberah 14 Plant (2019)
4. Leading Safety Critical Element (SCE) Study for Badak Central PLant (2019)
5. Leading Safety Critical Element (SCE) Study for Nilam Central PLant (2019)
6. Leading numerous project safety review from Stage 1- Study phase until Stage 4 - Commissioning & start up phase to identify risk for all project within Pertamina Hulu Sanga Sanga
7. Leading MOC review to identify risk due to changes in facility
8. Member of task force for ISRS management system (International Sustainability Rating System) in the area of risk family (process 3,9,14)

**Process & Process Safety Technical Authority at VICO Indonesia (2017- Aug 2019)**

Develop, Review and approve process safety studies/dossiers (Plant Shutdown systems study, FERA, consequences analysis and QRA, Operating Procedure of the Plant). Responsible to review any modification of plant to analyze whether the proposal has followed engineering practice and to see potential hazard before the change is implemented and approving and accepting the associated risk. Develop and share knowledge regarding process engineering and process safety engineering matters and ensure all field personnel understand how to assess the risk in their plant and conduct audit/assessment to see the gap of implemented procedure (plant integrity assessment, Management of Changes assessment, Override/Inhibit assessment). Lead in process hazard analysis such as HAZOP, risk assessment, LOPA/SIL assessment workshop.

Experience :

1. Facilitator for HAZOP Revalidation of Mutiara-6 station (2019)
2. Facilitator for HAZOP C-09 Semberah Ligature Plant ( 2018). The HAZOP result become baseline HAZOP for C-09 Plant
3. HAZOP Scribe for HAZOP Lampake Plant (2018).
4. Involve as a HAZOP member of various project in VICO Indonesia
5. Facilitator of LOPA Study for Badak Central Plant and 3 Badak Satellite Plant (North, Central, South Plant) ( 2018).
6. Facilitator LOPA study of Semberah-13 Plant (2019)
7. Facilitator LOPA study of Mutiara 6 Plant (2019)
8. Facilitator LOPA study of Mutiara 8 Plant (2019)
9. Involve as a LOPA workshop member for Mutiara, Nilam and Semberah Plant (2017)
10. Accident Investigation of Leakage in Badak Sandy Well (2017)

11. Accident investigation of leakage 42"H and 42"CD Badak-Bontang pipeline (2018)
12. Accident Investigation of PSV leakage at 2<sup>nd</sup> stage reciprocating compressor (2017)
13. Review all proposal of plant modification in VICO Indonesia before the changes is implemented.
14. Lead assessor of Static Equipment Integrity Assessment for VICO Indonesia (2017)
15. Develop Override/Inhibit Shutdown Device in VICO & PHSS
16. Assessor of Override/Inhibit Shutdown Devices Assessment for VICO Indonesia (2018)

### **Process Engineer & Process Engineer Coordinator at VICO INDONESIA (2007-2017)**

Involved in modification project of brown field and green field from conceptual phase until commissioning and start up. Prepare all process and process safety documents including tie-in procedure and commissioning procedure as well as responsible to give training of new operating procedure to operation personnel. Responsible to coordinate and follow up all recommendations as result of hazard identification and analysis within project scope. Leader of commissioning and startup of every project involved.

As Process Engineer Coordinator, leading the project design basis proposal before it is implemented as project. The Project Design Basis become guideline to define scope of work of projects and select the most optimum scenario in term of process flow, cost, schedule, safety and environment. Leading the process engineering group and responsible to review all process and process safety documents to ensure the good quality of document is met. Mentoring and assisting Process Engineer.

#### **Project experiences :**

1. Installation of Mutiara Central VLP Rental Compressor Project (2007) – lead Process and Lead commissioning for Installation VLP System and Rental 3 stage - Reciprocating Compressor
2. Installation of Mutiara Central VLP Purchase Compressor Project (2008)- lead Process and Lead commissioning for Purchase 3 stage- Reciprocating Compressors and their utilities
3. Installation of 11 Wellhead Compressor in Badak, Nilam area (2008) ) - lead Process and Lead commissioning for Installation Screw Compressor at well area.
4. Installation of Nilam Sat-4 VLP Gas Rental Compressor (2009) - )- lead Process and Lead commissioning for Installation VLP System and Rental 3 stage - Reciprocating Compressor
5. Develop Mutiara Mini Station facility (2009) – Lead Process for installation of satellite plant to gather fluid from well before processing in central facility
6. Develop new facility for pilot project “Coal Bed Methane Project (CBM) 2010-2014”-Lead Process
  - a. Develop Single well Pilot Plant 1 &2 in Pamaguan Area (2010)
  - b. Develop Multi Well Pilot Plant 1 in Beras area (2010)
  - c. Develop Multi Well Pilot Plant 2 in Pamaguan (2012)
  - d. Electrification project using CBM gas to feed PLN generator (2013)
7. Installation Nilam HP Gas Lift Rental Reciprocating Compressor (2016)- Lead Process
8. Installation Semberah VLP Rental Reciprocating Compressor (2016) – Lead

#### Process

9. Upgrading Mutiara Produced water Treatment and Water Injection system (2016)-Lead Process
10. Lead task force to study the impact of increasing capacity of Pamaguan Plant from 26 MMscfd to 40 MMScfd to existing plant.
11. Lead task force to study to new installation of gas lift system in Semberah field (2012)
12. Lead study of Integration of Nilam Satellite 5 and 6 Plant to get optimum process scheme due to decreasing feeding rate in both plants
13. Conduct study to evaluate the gas system in VICO Semberah-14 facility to anticipate the increase of gas production. The study resulted to add the separator and compressor to avoid debottleneck in gas processing system.

#### Process Engineer (2002-2007)

Involved in FEED & detailed engineering phase in several Engineering Company which has responsibilities to develop process simulation using HYSYS, prepare PFD and P&ID, conduct equipment sizing including pump, separator and line sizing, develop SAFE CHART, preparation process data for instrument and Mechanical Engineer to develop data sheet, conduct process safety study including overpressure study, blowdown and depressurizing analysis using HYSYS, Relief and Flare study using FLARENET.

#### Project experiences :

1. Detailed Engineering of Installation Semberah 3 Stage VLP Reciprocating Compressor for VICO INDONESIA (PT SinggarMulia, 2003-2004)
2. FEED of South East Sumatra Gas Project "to design gathering station of Banuwati A Platform" for CNOOC. (PT SinggarMulia, 2003)
3. FEED of TGA-3 Gas Production Facility for Lapindo Brantas "To develop new gas plant in Tanggulangin to proceed gas from TGA# 1 and #2 wells which consist of Separation process, Dehydration unit and Metering System". (Dwi Prima Sembada, 2006)
4. FEED of Tandes and Waru Gas Custody Field Development for EMP Kangean LTD "Install a new custody meter which will become an integrated part of the East Java Gas Pipeline System (EJGP). The new facilities comprise 2 (two) train gas Custody Meter where the metered gas will be delivered to Indogas". (Dwi Prima Sembada, 2006)
5. FEED of Surface Production Facility Semberah Fields for EMP Semberah "to Develop Gas Production Facilities which consist of Separation and Gas Metering Unit". (Dwi Prima Sembada, 2007)
6. Eastern Hub Block B Project (Engineering Services) for COPI "study the cause of vibration in control valve FV-3655 which is used to control lean amine flow to contactor and propose modification as required"(Worley Parson, 2007)

#### **Publication**

Improving Plant Operation Cost Efficiency Through Implementation Of Risk-Based Process Safety – Experience In Mature Oil & Gas Plant, Jurnal Ikatan Ahli Fasilitas Produksi Migas Indonesia (IAFMI), 2018

### **TRAINER**

- Gas Handling, Conditioning and Processing Facility, Sept 2017, VICO Indonesia
- Oil and Water Handling Facility, Sept 2017, VICO Indonesia
- Consequence Modelling using Phast Software, 2015, Vico Indonesia

### **TRAINING**

- HAZOP Certification by BNSP April 2022
- Production Safety System by LDI Aug 2022
- PHA Essential for Team Leader by Piimatech Aug 2021
- Accident Investigation Training by Phitagoras Nov 2020
- Unisim Basic Process Simulation by Honeywell April 2020
- Unisim Advanced Process Simulation by Honeywell, Mei 2020
- Unisim Dynamic Simulation by Honeywell, June 2020
- Unisim Flare Simulation by Honeywell, June 2020
- Supreme (Sustainability Pertamina Expectations for HSSE Management Excellence) Overview training by HSE Training Center Pertamina, June 2020
- ISRS Auditor Training by DNV, 2019
- UNISIM Process Simulation by Honeywell, 1-2 April 2019
- ASPEN HYSYS Dynamic by Aspentech, 16-20<sup>th</sup> Nov 2015
- Project Management by PMIT Consulting, 3-5<sup>th</sup> Nov 2015
- Functional Process safety Expert by Exida, Aug 2015
- Layer of Protection Analysis by Primatch, 15<sup>th</sup>-17<sup>th</sup> December, 2014
- PIPESIM simulation for hydraulic calculation, 16 April 2014
- PROMAX software Level 1 Training Course, 22<sup>th</sup>-23<sup>th</sup> May 2013
- Process Safety Engineering by John M Campbell, 25-29 Mar 2013
- PHAST Introduction by DNV, 23-24 Oct 2012
- SAFETI Introduction by DNV, 25-26 Oct 2012
- HYSYS simulation, Process Modelling for oil and gas, 18-20 May 2009
- Practical Aspects of Natural Gas Processing and Treatment, 25-26 May 2009
- Contractor Safety Management System (CSMS), 29-30 Nov 2007
- Training Centrifugal Compressor O&M, 10-14 Mar 2008

### **TECHNICAL SKILL**

Software : HYSYS steady state and dynamic, FLARENET, PIPESIM, PHAST/SAFETI, PHA PRO 8, InstruCal