

# MAULANA A. SASTRADIPRADJA

Jl.Riau No.37 Baranangsiang Bogor Timur

Bogor, West Java, Indonesia

Mobile: +6281382436824, [maulana.sastra@outlook.com](mailto:maulana.sastra@outlook.com)



## PROFESSIONAL SUMMARY

Has a Bachelor's Degree in Chemical Engineer graduate from University of Indonesia, as well as more than Nine (9) years of working with comprehensive experience at Engineering, Construction, Commissioning and Operation phase involvement in Oil & Gas related fields.

Highly skilled Technical Safety Engineer has highly specialized in safety studies and loss prevention abilities with a sound understanding of engineering best practices as related to Technical Safety.

Professional Leader in Leading PHA such as HAZOP, HAZID and LOPA workshop.

Good technical and project management skills with the ability to successfully manage multiple projects and daily responsibilities. Self-motivated with the passion to develop and foster creative and innovative solutions.

## HIGHLIGHTS

- Safety & Environmental Critical Element (SECE) and Performance Standard
- Major Accident Hazard (MAH) Register
- Bow-Tie Method
- Safety Case
- Process Safety Management
- HAZOP, HAZID, SAFOP & SIL (LOPA),
- Fire Explosion Risk Analysis study (FERA),
- Quantitative Risk Assessment Study (QRA),
- Flare or Vent Gas Dispersion & Radiation Study,
- Ship Collision Risk Study (SCRA),
- Dropped Object Risk Study (DORA)
- Escape Evacuation and Rescue Analysis (EERA)
- Emergency System Survivability Assessment Study (ESSA),
- Onshore Pipeline Risk Assessment,
- Subsea Pipeline Risk Assessment,
- Fire Water Demand Calculation,
- Fire Water Hydraulic Calculation,
- Fire and Gas Detection Study,
- Reliability Availability Maintainability Study.
- Hazardous Area Classification
- Etc.

## SPECIFIC TECHNICAL EXPERTISE

- Microsoft Office (Word, Excel, Power Point, etc)
- ASPENTECH Hysys or Unisim Design (Intermediate)
- DNV PHAST (Advance)
- DNV Safeti (Intermediate)
- DNV Maros (Intermediate)
- Dyadem Pha-Pro (Advance)
- EXIDA exSILentia (Advance)
- PIPENET (Advance)
- PIPESIM (Intermediate)
- OLGA 7.0 (Basic)
- FLARESIM 6 (Advance)
- Bow-Tie XP (Basic)

## PROFESSIONAL EXPERIENCES

**March 2023 – Present**      **Technical Safety Engineer – QHESE Departement, Harbour Energy Indonesia**

Responsible for identifying, assessing, and controlling risks within Company. Support technical expertise in Technical Safety with engineering principles to identify potential hazards and develop strategies to mitigate those hazards.

Technical Safety activities supported in Company are:

- Support development of Gajah Field - Safety Case Handbook 2023
- Support development of ANOA - Safety Case Handbook 2023
- Project Coordinator SECE Verification ~
  - Nextgen Independent Verification Body (IVB) Activities 2023 by DNV
  - Offshore Verification 2023 by DNV
- Support development of ANOA - Safety Case Handbook 2023
- Facilitate HAZOP Workshop ~ ANOA Flare Line Modification
- Support Barge Campaign Study (Assumption Register, QRA, EERA, etc)
- Virtual Reality (VR) Major Accident Hazard ~ Software Navigator
- Project Coordinator for "Matak Warehouse Fire Protection System Upgrading"
- Bow-Tie XP System (Navigator)
- SECE & PS Audit ~ Temporary Refugee (TR) Integrity Audits for ANOA FPSO, ANOA Complex and Gajah Baru Central Processing Platform

**Aug 2021 – February 2023**      **Support Engineer ~ Process Safety Management – A&OI Division, MEDCO E&P Indonesia**

Support technical expertise in Process Safety Management ~ A proactive identification, evaluation, and mitigation or prevention of chemical releases that occur as a result of failures in process, procedures, or equipment which Medco E&P PSM is organized into 12 elements and spells out specific requirements for the management of process safety.

PSM activities supported in Company are:

- Plan Do Check Act (PDCA) for 12 Element PSM in Medco E&P Indonesia
- Verification Abnormal Handling for Rimau and SSB Assets.
- Annual Process Safety Management Audit ~ PSM Audit Champion for Block A ~ CPP and Bangkanai Field.
- Operation Excellence (OE) Assessment 2022 ~ Asset & Operating Integrity ~ OE Internal Audit member for Medco Onshore.
- Management of Change ~ Process Safety Reviewer
  - Process Safety Reviewer Member of MOC
  - Followed up & Review Overdue MOC
- Update PSM related documents: OS & Guidelines
  - COP-SFE-SOP-FOI-00\_00\_PSM Self-Assessment Procedure
- Process Hazard Analysis (HAZOP, HAZID, LOPA, Task Risk Assessment, etc)
  - Facilitate & Develop Study report for HAZID Construction Workshop ~ River Crossing S. Buaya & S. Mamburungan – Tarakan
  - Facilitate & Develop Study report for HAZOP & HAZID Workshop - Intelligent Pigging 12in ARS ~ CPP
  - Member & Reviewer of HAZOP & HAZID Workshop ~ Online Pigging Bunyu ~ Tarakan

- Facilitate & Develop Study Report for HAZOP & HAZID Acid Fracturing Singa Well ~ Lematang
- Facilitate & Develop Study Report for HAZOP Valve Replacement ~ Tarakan
- Facilitate & Develop Study Report for HAZID Sungai Ambalat ~ Tarakan
- Facilitate & Develop Study Report for HAZID Tie-in M5 Pamusian ~ Tarakan
- Facilitate & Develop Study Report for HAZID T Tie-In Mamburungan ~ Tarakan
- Facilitate SIMOP & HAZID - Unloading & Set up Equipment PPLI During Flowback ~ Lematang
- Facilitate LOPA Workshop Rimau based on MAHAR Recommendation.
- Technical direction and support for risk analysis activities
  - Develop Study Report & Perform Calculation / Simulation for existing Flare Stack G8 Dispersion Study
  - Peer Reviewer for Ground Flare Radiation, Dispersion & Noise Study for Acid Fracturing Well K7 & K8
  - Peer review & partial Originator Dispersion Study ESP Upsizing Phase 2 – Rimau
- Formal Safety Assessment (FERA, QRA, Flare Radiation & Dispersion, etc) reviewer
- Safety Sharing Knowledge within Project team.
  - Shutdown Hierarchy
  - ENGINEERING UNIT (Flow, Pressure, Temperature and Level)

**May 2019 –  
July 2021**

**Process Safety & Commissioning Engineer – Jirak Waterflood Project, PT PERTAMINA EP, Jakarta (Project Management Consultant from PT Depriwangga Engineering)**

Providing deep technical expertise in Jirak Waterflood Project development which is Detail Engineering Design, Construction, Commissioning & Start-up, and elsewhere within the Project Scope.

Providing technical direction of and support for risk analysis activities.

Managing & Review Document of Jirak Waterflood Project related to Process Safety Engineering analysis.

Managing HAZOP, HAZID, SIL & SAFOP Workshop for Jirak Waterflood Project

Project Readiness Review (PRR) Organizer, Develop Term of Reference and managing Workshop session for Jirak Waterflood Project.

Providing technical direction of and support for Pre-Commissioning, Commissioning & Start-Up Activity.

Non-Project scope activities conducted in the Company:

- Develop / Update Guidance related to Process Safety Discipline in PPE - PT Pertamina EP
- Project Readiness Review (PRR) Organizer, Develop Term of Reference and managing Workshop session
- Existing SPU-2 Facilities Fire Water Pump, fire water network and fire-fighting equipment assessment.

- Repair & Replace Existing SPU-2 Facilities Fire Water Network & Fire Fighting Equipment.
- Modification existing SPU-2 Fire Water instrumentation System
- Wind Sock, Seal Drum, Flare Stack and Flare Hut design for SP Upgrading
- Safety Sharing Knowledge within Project team.

**May 2018 –  
May 2019**

**Process & Process Safety Engineer – E&I Division, PHE ONWJ, Jakarta (3<sup>rd</sup> Party Contract from PT Synergy Engineering)**

Providing deep technical expertise in order trouble shoots operation, development and maintenance issues, and elsewhere within the business.

Providing technical direction of and support for risk analysis activities.

Managing projects related to Process Safety Engineering analysis.

Major activities conducted in the Company:

1. AFH for Flare Radiation & Vent Calculation
2. ZULU F&G and ESD Integrity Project
3. Update Guidance for Firewater Pump and System Design
4. Update Guidance for Active Fire Protection - Offshore
5. Update Guidance for Safety Instrumented System (SIS) Management of the Safety Lifecycle
6. Update Guidance for Fire Hazard Analysis
7. Pipeline Repair and Replacement Project (PRRP) 2019 – UA-UWJ Pipeline
8. Central Plant Liquid Receiving System Facilities Improvement
9. Pipeline Repair and Replacement Project (PRRP) 2018 – LLB-LPRO Pipeline
10. Reactivation Contingency Line 12" LCOM-NGLB
11. Update Guidance for Design & Location of Occupied Permanent Buildings Subject to Blast, Fire & Gas Hazards on Onshore Facilities
12. PAPA F&G Upgrade Conceptual Study
13. ECHO & KLA Fire Water System Upgrade Conceptual Study, includes:
  - Site visit to Echo Flow Station
  - Site visit to KLA Flow Station
  - Generate Fire Water Upgrade Study Report
  - Generate Strategy Execution Plan Report

**March 2018  
– May 2018**

**Process & Process Safety Engineer – PT. Solusi Energi Nusantara, Jakarta**

The responsibility is assisting Lead Process Engineer to provide safety services to various clients and being responsible for the performance of projects that have been assigned in terms of technical capability and also commercial of the project.

Project involved and deliverables prepared:

1. Client : PT Tanjung Enim Lestari Pulp & Paper / PT. Petroraya Consulting  
Project : FEED GAS PIPELINE DEVELOPMENT PROJECT
  - HAZOP & HAZID Workshop scribe
  - Generate HAZOP & HAZID Study Report
2. Client : PT. MIGAS HILIR JABAR (MRJ)  
Project : PROYEK JALUR PIPA DARI STASIUN PENGUMPUL (SP) PASIRJADI PT. PERTAMINA EP FIELD SUBANG KE CNG PLANT
  - Generate Process Design Basis Report
  - Using UNISIM R460 software for process simulation and generate Process Simulation Report

- Generate Escape Route, Safety and Fire Fighting Equipment Layout Drawing
- Generate General Layout Fire Extinguisher
- Generate Hazardous Area Classification
- Generate Safety Sign Typical Drawing
- Generate Datasheet Fire Extinguisher

3. Client : SAKA INDONESIA PANGKAH LTD.  
Project : WEST PANGKAH DEVELOPMENT FEED

Responsibility for this project includes;

- Update General Basis of Design Report
- Update Isolation Philosophy Report
- Using Schlumberger Pipesim Simulation Software for Saka West Pangkah Facility and Generate Hydraulic Pipesim Simulation Report
- Generate Flare Radiation Study Report

**November  
2017 –  
December  
2018**

**HAZOP & HAZID Scribe – PT. Trihasco Utama, Jakarta**

The responsibility is assisting and support HAZOP & HAZID facilitator for HAZOP & HAZID Assessment for Tanjung Priok ORF, PHE ONWJ Project

Responsibility for this project includes;

- HAZOP & HAZID Assessment Workshop scribe & Preparation
- Generate HAZOP & HAZID Assessment Study Report

**October  
2015 –  
November  
2017**

**Process Safety Engineer – PT. Singgar Mulia, Jakarta**

The responsibility is assisting Lead Process Safety Engineer to provide safety services to various clients and being responsible for the performance of projects that have been assigned in terms of technical capability and also commercial of the project.

Project involved and deliverables prepared:

1. Client : PHEONWJ  
Project : #WO97 New MB2 Field Camp and Control Room Design

Responsibility for this project includes;

- Generate Fire Suppression Calculation

2. Client : SANTOS  
Project : GRATI Onshore Compressor

Responsibility for this project includes;

- Generate Fire & Explosion Risk Analysis Report
- Generate Fire Water Demand Calculation
- Generate Fire Water Demand Hydraulic Calculation
- Generate Term Of Reference HAZID, HAZOP & SIL
- Generate Safety Critical Element & Performance Standard

3. Client : PHE ONWJ  
Project : Blanket YYA Revalidation - Additional Heater

Responsibility for this project includes;

- Generate HAZOP & HAZID Close Out Report
- Generate Fire Fighting, Safety Equipment, Safety Sign and Escape Route Layout

4. Client : PETROCHINA Jabung Ltd.  
Project : Betara Complex Development 505

Responsibility for this project includes;

- Generate Safety Study Assumption Register for BGP - New NGL Plant
- Generate Fire and Explosion Risk Analysis for BGP - New NGL Plant
- Using DNV PHAST 7.11 simulation for BGP - New NGL Plant FERA Report data (Consequence Modelling, Release Duration, Radiation Contour) and input data to inhouse spreadsheet
- Generate Quantitative Risk Assessment Report for BGP - New NGL Plant
- Generate Flare Dispersion and Radiation Study
- Generate Noise Study Report for BGP - New NGL Plant
- Generate Fire Water Demand Calculation
- Generate Fire Water Demand Hydraulic Calculation
- Generate Fire Zone Drawing
- Generate Fire Fighting, Safety Equipment, Safety Sign and Escape Route Layout

5. Client : BP Berau Ltd.  
Project : Tangguh Fire and Explosion (FEA) Revalidation Study

Responsibility for this project includes;

- Using DNV PHAST 7.11 simulation for FEA Report data (Consequence Modelling, Release Duration, Radiation Contour) and input data to inhouse spreadsheet

6. Client : Husky CNOOC Madura Limited.  
Project : HCML EPCI for MDA and MBH Platform

Responsibility for this project includes;

- Generate Safety Study Assumption Register for MBH Platform
- Generate Fire and Explosion Risk Analysis for MBH Platform
- Using DNV PHAST 7.11 simulation for MBH Platform FERA Report data (Consequence Modelling, Release Duration, Radiation Contour) and input data to inhouse spreadsheet
- Generate Safety Critical Element for MBH Platform
- Generate Fire and Gas Detection Study for MBH Platform
- Generate Quantitative Risk Assessment Report for MBH Platform
- Generate ESSA (Emergency System Survivability Assessment) for MBH Platform
- Generate Vent Gas Dispersion and Radiation Study for MBH Platform
- Generate Fire Water Demand Calculation for MBH Platform
- Generate Fire Water Demand Hydraulic Calculation for MBH Platform
- Update Revision of Safety Study Assumption Register for MDA Platform
- Update Revision of Safety Critical Element for MDA Platform

- Update Revision of ESSA (Emergency System Survivability Assessment) for MDA Platform
- Update Revision of Fire and Gas Detection Study for MDA Platform

7. Client : PERTAMINA GAS  
Project : Pembangunan Jalur Pipa Gas GRISSIK-PUSRI

Responsibility for this project includes;

- Generate Safety Specification Passive Fire Protection

8. Client : BP Berau Ltd.  
Project : WO-01 VR-B Platform

Responsibility for this project includes;

- Generate Fire Hazard Analysis for modification of VR-B Platform
- Using DNV PHAST 7.11 simulation for VR-B Platform FHA Report data (Consequence Modelling, Release Duration, Radiation Contour) and input data to inhouse spreadsheet
- Update Revision of EERA (Evacuation, Escape Risk Assessment) for modification of VR-B Platform

9. Client : PHE WMO  
Project : PHE WMO Blanket Eng. Service

Responsibility for this project includes;

- Generate HP/LP Flare Dispersion & Radiation Study
- Generate ORF Ground Flare Relocation Study

10. Client : PHE WMO  
Project : PHE WMO EPCI for PHE-12, PHE-24 and CPP Platform

Responsibility for this project includes;

- Update Revision of Fire Explosion Risk Analysis Report for PHE-12
- Using DNV PHAST 7.11 simulation for PHE-12 FERA Report data (Consequence Modelling, Release Duration, Radiation Contour) and input data to inhouse spreadsheet
- Generate Fire Explosion Risk Analysis Report for PHE-24
- Using DNV PHAST 7.11 simulation for PHE-24 FERA Report data (Consequence Modelling, Release Duration, Radiation Contour) and input data to inhouse spreadsheet
- Generate Quantitative Risk Assessment Report for PHE-24
- Generate Cold Vent Radiation for PHE-24
- Update Revision of Fire Explosion Risk Analysis Report for CPP2
- Using DNV PHAST 7.11 simulation for CPP2 FERA Report data (Consequence Modelling, Release Duration, Radiation Contour) and input data to inhouse spreadsheet
- Update Revision of Quantitative Risk Assessment Report for CPP2
- Update Revision of Fire and Gas Detection Study for MBH Platform
- Update Revision of HAZID Close-out Report for CPP2

11. Client : Chevron  
Project : Radiation and Vent Dispersion for SANTAN LEX Plant  
Responsibility for this project includes;

- Generate Radiation and Vent Dispersion Study
- Perform Flaresim simulation software to calculate Radiation and Dispersion

**February  
2014 – April  
2015**

**Jr. Process Safety Engineer – PT. Synergy Engineering, South Tangerang**

The responsibility is assisting Lead Process Safety Engineer to provide safety services to various clients and being responsible for the performance of projects that have been assigned in terms of technical capability and also commercial of the project.

Project involved and deliverables prepared

1. Client : PHE ONWJ  
Project : LIMA POWER & SAFETY SYSTEM UPGRADE

Responsibility for this project includes;

- Perform Parts Counts and input data to inhouse spreadsheet
- Generate Incremental Quantitative Risk Assessment Report
- Generate Drop Object Risk Analysis Report

2. Client : PHE ONWJ  
Project : OO-OC-OX Field Development

Responsibility for this project includes;

- Generate Safety Dossier Report
- Perform Parts Counts for Oscar OPF Balongan and input data to inhouse spreadsheet
- Using Phast simulation for Oscar OPF Balongan FEA Report data (Consequence Modelling, Release Duration, Radiation Contour) and input data to inhouse spreadsheet
- Perform Parts Counts for OCA Platform and input data to inhouse spreadsheet
- Using Phast simulation for OCA Platform FEA Report data (Consequence Modelling, Release Duration, Radiation Contour) and input data to inhouse spreadsheet

3. Client : Premier Oil Indonesia  
Project : SIL Classification and Verification Study of Anoa-AGX Platform

Responsibility for this project includes;

- Scribe SIL Classification Workshop ANOA-AGX Platform using Exsientia simulation
- Generate SIL Classification report ANOA platform
- Generate SIL Classification report AGX Platform
- Generate SIL Verification report ANOA-AGX platform
- Generate Safety Requirement Specification ANOA-AGX Platform



4. Client : Wilmar Chemical Indonesia  
Project : HAZOP WCI Methanol Tank  
Responsibility for this project includes;
  - HAZOP Workshop scribe
  - Generate HAZOP Study Report
5. Client : PHE WMO  
Project : Blanket Process Safety Engineering Services  
Responsibility for this project includes;
  - Generate API 14J Based Safety GAP Analysis CPP report
6. Client : ENI  
Project : ETAN Safety Studies  
Responsibility for this project includes;
  - Using Phast simulation for FEA Report data (Consequence Modelling, Release Duration, Radiation Contour) and input data to inhouse spreadsheet
  - Perform Parts Counts and put input data to inhouse spreadsheet
7. Client : Tropik Energi Pandan  
Project : GPSS  
Responsibility for this project includes;
  - Perform RAM Study calculation using MAROS simulation
  - Generate RAM Study Report
  - Generate Fire Fighting & Safety Sign Data Sheet
  - Update Escape Route Drawing
8. Client : AWE (Northwest Natuna) PTE LTD.  
Project : Well Head Platform (WHP) Front End Engineering Design (FEED)  
Responsibility for this project includes;
  - Generate Life Saving Equipment Specification
9. Client : Santos  
Project : Engineering Blanket Services  
Responsibility for this project includes;
  - Generate Fire Water Demand Calculation Report
  - HAZOP-HAZID Workshop scribe and Generate HAZOP Study Report
  - Generate HAZOP Close-Out Study Report
  - Generate Safety and Fire Fighting Equipment Specification
  - Generate Drawing Escape Route, Fire Fighting and Safety Equipment Layout
  - Perform RAM Study calculation using MAROS simulation

10. Client : PHE ONWJ  
Project : Technical Services for Process Safety Engineering

Responsibility for this project includes;

- Generate Safety Dossier Report

11. Client : TEPI  
Project : FA Study of Sisi Nubi & Tunu phase 14 LLP Pre-project

Responsibility for this project includes;

- Read and list Bathymetry data from Sisi-Nubi pipeline Drawing
- Perform build up model for Tunu South Network using PIPESIM
- Perform build up model for Sisi Nubi Network using OLGA and PVTsim

12. Client : PHE WMO  
Project : Blanket Engineering Services

Responsibility for this project includes;

- Update P&IDs for Fire & Water System

## TRAINING AND COURSES

- Bow-Tie XP System Navigator Training, Harbour Energy (2023)
  - Tropical Basic Offshore Safety Induction & Emergency Training (T-BOSIET), Sea Survival and Helicopter Underwater Training (HUET), LTJ (2023)
  - Human Factor – SOP Compliance Training, CIAS (2021)
  - Pre-Startup Safety Training, PT. Lebah Solution (2021)
  - PSM Basic Awareness, Internal Training for Trainer MEPI (2021)
  - HAZOP Professional, BNSP Certification – 2021, PT PHITAGORAS (2021)
  - Sea Survival Training, PT. Safety Solutindo (2018)
  - Fire Extinguisher Training, PT. Safety Solutindo (2014)
  - Training of Gas Process Simulation, University of Indonesia, (2013)
  - SPE environment days “Eco-Friendly Technology in Exploration and Production”, University of Indonesia (2012)
  - ISO 14001, ISO 9001, and OHSAS 18001 practices training & seminar, PT. Konermag (2010)
  - Industrial Leadership Training oleh KONERMAG (2010)
- 

## PERSONAL REFERENCES

1. Name : Risang Raheditya  
Occupation: PT. Pertamina EP – DevProj Chief of Engineering  
Contact: By Request
2. Name : Basuki Winarno  
Occupation: PT. Pertamina EP – DevProj Chief of Construction  
Contact: By Request
3. Name : Akhmad Tutus Harmantoro  
Occupation: PT. PHE ONWJ – Sr. Process Safety Engineer  
Contact: By Request
4. Name : Mohamad Irzam  
Occupation: PT. MEPI – Lead Process Safety Management  
Contact: By Request
5. Name : Lily Lestari  
Occupation: Harbour Energy Indonesia – Technical Safety and Risk Advisor  
Contact: By Request
6. Name : Lir Barliana  
Occupation: PT. Singgar Mulia – Lead Process Safety Engineer  
Contact: By Request
7. Name : Anisatur Rokhmah  
Occupation: PT. SENA – Project Manager / Lead Process & Process Safety Engineer  
Contact: By Request