



FAHMI YUNISTYAWAN

CORPORATE SAFETY & AUDIT ENGINEER

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◦ DETAILS ◦

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◦ LINKS ◦

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◦ SKILLS ◦

DCS YOKOGAWA CENTUM VP
ESD Pro-Safe Yokogawa
MMS Benthly Nevada
Variable Speed Drives (VSD)
Variable-Frequency Drives (VFD)
Inverter
DCS Honeywell Experion PKS
PLC Siemens S7 400 and SIMATIC
S7-400
PLC Allen Bradley and rslogix-5000
Cesium 137
Automatic Tank Gauging
Analyzer Gas Chromatography
System One
Cycle Gas Compressor
INSTRUCALC
INTOOLS
Interlock Logic Diagram
Cause and Effect Diagram
Loop Drawing

👤 PROFILE

I had 12 years of experience in electrical, instrument, control systems, occupational safety, and process safety management in the petrochemical and LNG industries. I had finished a master's degree focused on the automation industry.

💼 EMPLOYMENT HISTORY

Corporate Safety & Audit Engineer at PT Chandra Asri Petrochemical Tbk, Cilegon
June 2020 — Present

Role and Responsibilities:

1. Implement ISO 45001 and SMK3.
2. Developing and implementing regular PSM audits for 14 PSM elements (Process Safety Information (PSI), Process Hazard Analysis (PHA), Management of Change (MOC) Facility/Technology/Personnel, Mechanical Integrity (MI), Quality Assurance (QA), Safe Work Practice (SWP) PTW/HW/WAH/CSE/LOTO/LB/Lifting, etc.), Pre-Start Up Safety Review (PSSR), Contractor Safety Management System (CSMS), Emergency Response Plan (ERP)), and inspections of facilities, equipment, processes, and systems to ensure compliance with safety regulations, industry standards, and best practices.
3. Reviewing and analyzing data related to incidents to identify patterns and trends, and developing strategies to address them.
4. Collaborating with other departments and stakeholders to develop and implement risk assessment and management strategies to identify and mitigate potential hazards (Develop and implement procedure Hazard Identification, Risk Assessment and Determining Control (HIRADC), migration form, monitoring progress and validity using risk register), join another risk assessment methodology PHA, HAZID, HAZOP, QRA, ALOHA, What if, Consequence Analysis, LOPA, SIL, SIS, SIF, SRS, failure rates.
5. Conducting training and coaching sessions to enhance the knowledge and skills of safety professionals and other employees in the company.
6. Identifying and monitoring key safety performance indicators to ensure continuous improvement of safety management practices.
7. Performing investigations of incidents as facilitator (Facilitating many incident investigations to discover the actual root cause of the incident by building incident investigation team, gathering data, developing sequence of events, identifying root cause using 5 Why, Why 3, Cause mapping methodology, developing recommendations, issuing the report and communicating the root causes to the stakeholder)
8. Participating in external/internal audits and regulatory inspections

Instrument and Control System Supervisor at PT Chandra Asri Petrochemical Tbk, Cilegon

June 2017 — June 2020

Project Experience: Butene-1 MTBE (Methyl tertiary Butyl Ether), New Polyethylene, Butadiene Expansion Project, Natural Gas Boiler, and Desalination

Role and Responsibilities:

Piping and Instrumentation Diagram	1. Review, assess, examine, evaluate the engineering documents for control philosophy, Piping & Instrumentation Drawing (P&ID), Inspection Test procedure (ITP), instrument index, I/O list, cause and effect, interlock logic diagram, loop drawing, complex loop, connection list, schematic drawing, plot plant, main cable way layout, secondary tray, MCT for new cable way and check capacity of the cable in the cable way, and electrical and tubing hook up drawing, Instrument wiring layout, 3D Naviswork drawing, instrument mechanical package B1 MTBE, Sea Water Reverse Osmosis (SWRO) and BWRO package, Refrigerant and Pre-degassing system package, Junction box (JB) vendor document, work method statement.
Control Philosophy	2. Join Process Hazard Analysis (PHA) using methodology HAZOP (Hazard Operability) and What if Analysis, Quantitative Risk Assessment (QRA), ALOHA, Consequence Analysis, LOPA, SIL, SIS, SIF, SRS, failure rates
Project Engineering Management	3. Conduct risk assessment a Job Hazard Analysis (JOHAN) involving the process, maintenance, project, and safety departments, as well as the main contractor.
Hart Communicator	4. Create a work plan, ensuring workers are registered, trained in safety procedures (Working at height, confined space entry, hot work, Permit to Work, Lifting) and have appropriate work permits.
CA 150 Yokogawa	5. Conduct a toolbox meeting in the field before contractors begin work.
Vibration Sensor	6. Observe safety behaviors throughout the construction, pre-commissioning, commissioning, start up stage.
Keyphasor	7. Inspect received materials, including Marshaling Rack Cabinet (MR), Field Control Station (FCS), Engineering Work Station (EWS), Operator Work Station (OWS), Machine Monitoring System (MMS), Interposing Relay Panel, Analyzer Gas chromatography House, Junction Boxes (JB), instrument mechanical packages B1 and MTBE compressor, control valves, on-off valves, Pressure Safety Valves (PSV), Flow Transmitters (Differential pressure, Vortex, Turbine meter, Coriolis, Magnetic flow), Flow Element (Orifice, Ventury), Motorized Valve (MOV), Pressure Transmitters (PT), Temperature Transmitter (TT), Temperature Elements (TE), Pressure Gauges (PG), and Temperature Gauges (TG).
Anti Surge System	8. Witness the calibration of field instruments before installation, including Automatic Tank Gauge (ATG), Nuclear Cs137, control valves, on/off valves, radars, Governor Valve (IGV), Turbin Cycle Gas Compressor (CGC), weighing scale, magnetic sensor, speed sensor turbin cooling tower, vibration sensor, analyzer sensors and controller, PSV popping tests, and various transmitters.
Gas Turbine Installation and Troubleshooting	9. Ensure that instruments used for selling the product requiring calibration are rectified and certified by the Directorate Meteorology Bandung (DIMET).
IGV Valve	10. Develop a construction work sequence, including the installation of main cable ladders, junction boxes, perforated trays, secondary trays, cable pulling, dress-up, impulse lines, leak tests, continuity tests, and final inspections.
Instrument Index and IO List	11. Perform redundancy test, bump tests, IO tests from FCS to DCS, and temperature injection tests using rotor kit simulators from MMS to system one and test equipment for various control systems and devices.
Hook Up	12. Conduct SAT (Site Acceptance Test) for UPS (Unit Power Supply), FCS (Field Control Station), ESD (Emergency Shutdown System), MOV (Motorized Valves), MMS (Machinery Monitoring System), IRP (Integrated Receiver Processor), PLC (Programmable Logic Controller), PDB (Power Distribution Board), switches, and servers on the SAT panel.
Complex Loop Drawing	13. Perform Modbus tests, redundancy tests, ISAT (Instrument Satellite) UCP (Universal Control Panel), and DCS (Distributed Control System) tests, and communication tests from UCP to HMI.
SIL Determination	14. Conduct continuity tests for various elements such as VT (Vibration Transmitter), VE (Vibration Element), ZT (Axial Displacement Transmitter), ZE (Axial Displacement Element), KT (Keyphasor Transmitter), KE (Keyphasor Element), XE (Low-Speed Shaft Axial Displacement Element), and TE (Temperature Element) from JB (Junction Box) to MMS and PLC panels.
HAZOP	15. Simulate signals using TK three, and check the resistance and voltage of proximity connections from the element to the Junction Box and from the Junction Box to the Machine Monitoring System (MMS).
PHA	16. Simulate proximity switch and loop behavior from the field.
HAZID	
Quantitative Risk Assessment	
ALOHA	
What if	
Consequence Analysis	
LOPA	
SIF	
SRS	
Failure Rates	
Project Bidding	
Engineering Specification	
Technical Bid Evaluation	
Single Line Diagram	
ETAP	
DIALUX	
MATLAB	
Feasibility Studies	
AUTOCAD	

Microsoft Office

Pressure Drop Calculation

◦ LANGUAGES ◦

English

Arabic

◦ HOBBIES ◦

Cycling, Swimming, Table Tennis,
Tennis, Traveling

17. Supervise control system work (backup existing program of DCS and ESD and check spare IOM builder and I/O parameter builder, check spare of channel terminal board, terminal block in Marshaling Rack, IO assignment in I/O parameter builder ESD pro-safe, logic assignment (add and modification logic) in DGE SCS Pro-safe, IO Assignment in IOM builder DCS, loop control drawing builder assignment, Complex loop assignment, Make new graphic and modification graphic, to add trending, install module in the field control station, install terminal board and terminal block in the marshaling panel, Pulling KS cable from analog input module to terminal board and connected, Cross wiring internal cable of marshaling panel standby to new terminal block, Termination internal wiring in the terminal block and terminal board, Online download and offline download, Termination multi-core and multi-pair cable in new terminal block)
18. Supervise field instrument work (install main cable way and secondary tray, pulling cable, dress up cable, install bounding jumper, grounding system, radioactive sensor Cesium 137, radar, ultrasonic, transducer, Analyzer Gas Chromatography House, Analyzer sensor, junction box, flow direction of control valve/on-off valve/Diverted valve, Governor valve (IGV), weight element and transmitter, speed sensor, vibration element and sensor, proximity sensor, keyphasor element, magnetic sensor, Automatic Tank Gauging (ATG), cable continuity test, termination, check ground fault, instrument air, hook up installation, leak test)
19. Perform visual inspections and final inspections.
20. Conduct continuity test, loop tests, function tests (including complex loops), and interlock tests.
21. Conduct a walk-through with the process, maintenance, project, and safety departments, as well as the main contractor.
22. Conduct a Pre-Startup Safety Review (PSSR) with the process, maintenance, project, and safety departments.
23. Address any remaining punch list items.
24. Support chemical cleaning, reinstatement, passivation, draining
25. Troubleshoot field instrument
26. Start up plant and do the troubleshooting

Instrument Engineer at PT Chandra Asri Petrochemical Tbk, Cilegon

May 2015 — January 2016

Project : Ethylene Cracker Complex Expansion

1. Conduct risk assessment JOHAN (Job Hazard Analysis) and safety talk and make sure operating procedure and safe work practice well implemented
2. Survey and determine the location of the stanchion installation, tube direction, manifold direction, flange orientation, flow direction etc.
3. Make sure all field instruments are installed correctly based on the hookup, vendor document, P&ID, and Naviswork drawing.
4. Inspect instrument installation (control valve, BDV, SDV, MOV, orifice, ventury, turbin meter, FT, PT, PDT, TT, LT, LS, etc.
5. Make a punch list if there is an improper condition.
6. Witness popping test for PSV with third party
7. Continuity test, Loop test, function test, interlock test, redundancy test
8. pre commissioning and commissioning for the new analyzer the Gas Chromatography
9. Online steam trace, transmitter, instrument air, pressure test
10. Rearrange differential pressure transmitter, temperature transmitter, and diaphragm level based on datasheet change.
11. Displacer level transmitter calibration, rotameter
12. Check the automode control valve; reset the solenoid valve.
13. Check and set the pressure regulator valve to 4 kg/cm² based on data-sheet requirements
14. Troubleshoot field instruments and automation
15. Commissioning for the new gas turbin compressor EBR plant and commissioning the Cold Box plant
16. Start up the plant and take action to troubleshoot

Electrical and Instrument Engineer at PT Gagas Energi Indonesia, Jakarta

August 2014 — December 2014

Position : Electrical & Instrument Engineer

Project : Compress Natural Gas Station (SPBG Pondok Ungu Bekasi, SPBG Ngagel Surabaya, SPBG PGN Pusat, SPBG PGN Bogor, SPBG Sukabumi)

Role and responsibilities:

1. Make feasibility study about location of SPBG / CNG Station
2. Survey location that will be held CNG/SPBG(Stasiun Pengisian Bahan Bakar Gas)
3. Make general layout of SPBG
4. Make Engineering deliverable list
5. Make Engineering standard of design SPBG
6. Make TOR (Term of Reference)
7. Meeting coordination with planner consultant about planning of SPBG design
8. Review design engineering of Electrical (Gas Engine, Single line diagram of general electrical, wiring motor compressor, UPS, panel LVMDP, panel compressor, wiring electrical and determine location of cubicle-distribution transformation-rack TR-kWH meter, lighting, road lighting, grounding & lightning, Fire alarm system, fire fighting system, CCTV)
9. Review design engineering of instrument (Fire & Gas Detection System, air instrument system for gas engine, cathodic protection, emergency shutdown system, point of sale of dispenser, RFID for costumer SPBG, SCADA system)
10. Inspect for incoming project material
11. Active in Controlling construction process
12. Commissioning or Gas in
13. Equipment performace test
14. Hand over job of SPBG to Teknik & Operation department

Electrical Maintenance Specialist at PT Posco ICT Indonesia, Cilegon

February 2014 — July 2014

Maintenance Team PT Krakatau Posco Energy

As a maintenance electric specialist in a power plant 2x100 MW, **the role and**

responsibilities include:

1. Overseeing the maintenance and repair of the electrical equipment in the power plant, including transformers, switchgear, motors, generators, and control systems.
2. Conducting regular inspections and testing of the electrical systems to identify and address any issues before they escalate.
3. Troubleshooting electrical faults and defects and developing solutions to solve them in a timely and efficient manner.
4. Ensuring that all the electrical equipment is operating within the required safety standards, and taking necessary actions to prevent accidents or incidents.
5. Collaborating with other maintenance teams, such as mechanical and instrumentation specialists, to develop maintenance schedules and plans that minimize downtime and ensure the smooth operation of the power plant.
6. Developing and maintaining accurate records of the maintenance activities and repairs carried out on electrical equipment and systems.
7. Staying up-to-date with the latest developments in electrical technology and providing recommendations on equipment upgrades and replacements to improve the efficiency and reliability of the power plant.
8. Ensuring compliance with all legal and regulatory requirements related to electrical maintenance in power plants.
9. Participating in safety meetings and programs, and taking necessary steps to ensure a safe work environment for all maintenance staff.

Instrument and Control System Maintenance Staff at PT Indorama Petrochemical, Cilegon

May 2013 — January 2014

Project : New Coal Boiler (Integrated between the new coal boiler and the solar boiler, which is DCS Yokogawa Center VP) Integrated with the PLC (Allen Bradley Rockwell), some of the existing equipment is still used

Maintenance : Oxidation Plant and Utility

Role and responsibility:

1. Preventive, predictive, and corrective maintenance
2. Update the document database (loop drawing, ILD, hookup, connection list, cause and effect, datasheet)
3. Check and order spare parts using SAP
4. Check for operation department-related problems during process operation at the plant.
5. Conduct assessment and discuss with area owner any manual processes measurement that could be transformed into automation or real data capture to improve safety and efficiency, reduce operational cost and improve product quality.
6. Continuity test, loop test, function test, interlock test, redundancy test, SIF, emergency shutdown test with actual blackout (check UPS energy storage capacity, make sure all the safeguard fail safe are functioning properly)
7. I/O assignment and mapping, add module I/O analog and digital, pulling KS cable, to add terminal board, to add terminal block, cross wiring, network communication test (fiber optic connection test), remote test from CCR Coal Boiler to existing control room boiler
8. Rearrange the PT, TT, and diaphragm level based on the datasheet.
9. Integration between DCS Yokogawa Centum VP and HMI Rockwell (PLC Allen Bradley)
10. Responsible for the new CEMS (Continue Emissions Monitoring System) analyzer
11. Operate the inverter to start up the motor coal feeder.
12. Responsible for replacement instrument Paraxiline tank farm (installed electric control valve, level switch, level transmitter DP)
13. Calibration weigh scale conveyor, coal feeder
14. Calibration control valve, transmitter, and another field instrument
15. Popping test PSV with the third party
16. Troubleshoot instrument and automation control

Electrical and Instrument Engineer at PT Krakatau Engineering, Cilegon

March 2011 — March 2013

Project: Blast Furnace Krakatau Posco, Krakatau Posco Energy

Role and responsibilities:

1. Front End Engineering Design (FEED), Project Proposal, Basic Engineering Design (BED), and Detail Engineering Design (DED)
2. familiar with several standard and code-related electrical and code standards
3. Liaise with and participate in inter-disciplinary meetings with clients and vendors to get the job done.
4. Generate or review the design of electrical parts (single line diagram, MCC, switchgear, panel distribution, transformer, etc.).
5. Generate a design DCS architecture, PLC configuration, field devices, etc.
6. Generate a design for lighting, grounding, and lightning.
7. Generate or review project specifications, such as general instrument and installation specifications (SDV, BDV, MOV, CV, orifice, etc.).
8. Generate or review the instrument index, I/O list, cable schedule, alarm and trip, connection list, drum schedule, material takeoff, and RFQ.
9. Generate or review electrical calculations and datasheets such as electrical power consumption, MCC, and panel distribution..
10. Generate or review instrument calculations and datasheets such as PSV, CV, on/off valve, MOV, choke valve, orifice plate, instrument air consumption, instrument power consumption, heat dissipation, etc.
11. Assist the client with instrument calibration and function testing (control valve, SDV, PT, PDT, TT, etc.).
12. Generate TBE on vendor quotations. Progress meeting with POSCO E&C, Krakatau POSCO (consortium to determine the scope of work, progress BED and DED)
13. Active in controlling the procurement process to make a fast equipment order

- 14. Active in controlling the construction process Inspect for incoming project material.
- 15. Pre-commissioning and hook-up commissioning
- 16. Perform testing (visual test, calibration, megger, loop test) activities prior to subsystem completion and complete with installation and test records. Active in inspection until Pre-Start Up Safety Review



EDUCATION

Mechanical Engineering Concentration of Mechatronic Engineering, Swiss German University, Tangerang

August 2017 — August 2019

Electrical Engineering Concentration of Control System Engineering, Universitas Muhammadiyah Yogyakarta, Yogyakarta

November 2005 — May 2010



COURSES

OHSMS ISO 45001 Lead Auditor CQI/IRCA, SGS

May 2023 — May 2023

TKBT2, Kementrian Ketenagakerjaan RI

May 2023 — May 2023

SMK3 Auditor, Kementrian Ketenagakerjaan RI

July 2022 — July 2022

Ahli K3 Umum, Kementrian Ketenagakerjaan RI

September 2021 — September 2021

New-Gen Self Leadership Development Program, HR Excellency

September 2021 — September 2021

Democratization of AIOT, Swiss German University

July 2019 — July 2019

Commissioning Engineer, Petros Oil Gas Training

January 2018 — January 2018

20 Principles of Oil Gas/Petrochemical Plant Design, ApGreid Oil Gas Training

June 2016 — June 2016

ANGVA Training Workshop on CNG Station and Vehicles, ANGVA (Asia Pacific Natural Gas Association)

August 2014 — August 2014