

## MUTHUKUMARAN.S

+971501526392 / +91-9597003106  
[smuthukumaran12345@gmail.com](mailto:smuthukumaran12345@gmail.com)

### OBJECTIVE

To further develop my career in a challenging Instrumentation profession that will allow me to utilize my experience and skills for the mutual benefit of the organization & self.

### PROFILE SUMMARY

Instrumentation experience of 18+ years, as Senior Instrument supervisor with strong in troubleshooting, Corrective Maintenance, Preventive Maintenance, Pre-commissioning, commissioning, loop checking, logic sequence checking, Turnaround& shutdown with good knowledge on of Honeywell TPS & ESVT, Triconex TS1131, Bentley Nevada, Turbine Controller, SAP, MDRM.

- ADNOC OFFSHORE (Upper Zakum). Abu Dhabi, UAE.  
From November 2014 to Till date.
- SABIC (PETROKEMYA) Petrochemical. Al-Jubail, Saudi Arabia.  
From February 2008 to April 2014.
- Reliance Petro Chemical Industries Limited.  
From November 2004 to January 2008.

### PROFESSIONAL EXPERIENCE

**Current Employer** : ADNOC OFFSHORE, Asseifiya Island.  
**Location** : 84km North-West of the Abu Dhabi islands  
**Designation** : Sr. Instrument Technician (Acting Supervisor)  
**Period** : November 2014 to Till date.  
**Notice Period** : 1 month

### ADNOC OFFSHORE, ASSEIFIYA ISLAND

The Upper Zakum oilfield is located approximately 84km north-west of the Abu Dhabi islands. The shallow-water Upper Zakum oilfield covers an area of 1,200km<sup>2</sup>. The presence of oil in the field was discovered in 1963, and the decision to develop the field was made in 1977. Production from the oilfield began in 1982. ADNOC partnered with JODCO in 1978 for the development of the field, followed by Exxon in 2006.

The UZ750 project involved the construction of four artificial islands, comprising a central complex housing the processing facilities as well as the north, south and west satellite platforms.

Following the completion of the UZ750 Project, which had an investment of approximately \$10bn, the production capacity of the field increased from 500,000bpd to 750,000bpd, enabling the field to be sustainable for 25 years.

In November 2017, partners of the Upper Zakum field announced an agreement to increase production capacity to one million barrels per day by 2024 with an investment of more than \$30bn.

## **CERTIFICATION**

- ADNOC Permit to Work Performing Authority.
- Basic Fire Fighting.
- Emergency Response
- Emergency Evacuation Plan.
- Emergency Alarm System.
- Working at Height.
- Confined Space Entry.
- Radiation protection officer.
- Tropical Further Offshore Emergency Training.

## **TECHNICAL SKILLS**

- Knowledge in SAP (System Applications and Products in Data Processing.).
- Knowledge in Material Data Record Manager (PiLog).
- Knowledge in Yokogawa centum vp, ProSafe-RS (ESD) & (F&G), PRM, Siemens, Allen Bradley, ABB, TRICONEX (ESD).

## **SOFTWARE SKILLS**

- Instrumentation Design Tool's (INTOOL's) Intergraph's Smart Plant Instrumentation (SPI) Version-7.0
- Bentley Micro station V8

## **Roles and Responsibilities :**

Involved in the Plant coverage, Preventive, Breakdown maintenance, pre-commissioning, commissioning, loop checking, logic sequence checking and plant shutdown jobs.

- System Exposure.
  - Yokogawa centum vp Distributed Control System (DCS)
  - Yokogawa ProSafe-RS (ESD) & (F&G)
  - Yokogawa PRM Plant Resource Manager.
  - Package Unit Siemens, Allen Bradley, ABB.
  - Honeywell TPS & ESVT Distributed Control System (DCS)
  - Triconex PLC version 7.1 with TMR (Triple Modular Redundant) ESD System
  - Bentley Nevada series 3500,7200 and series 3300 Temperature and Vibration Monitoring Systems
  - WELL HEAD Control Hydraulic Safety Shutdown System
- System Exposure Roles and Responsibilities.
  - System Failures Trouble Shooting and Maintenance.
  - I/O Point, Group Configuration.
  - Schematic Modification.
  - Loop checking & Loop Modification.
  - Logic checking Interfacing with other systems like TMR etc.
  - Vibration Probe and Proximitor characteristics check.

- Vibration Monitor & Proximitors calibration.
- Vibration Rotor axial float and radial Probe adjustment.
- Special Instruments
  - WELL HEAD Control Hydraulic Safety Shutdown System
  - Anti-Surge (Kick Back) Controllers of Moore, Taylor, Triconex.
  - Enraf Nonius - Tank Gauging System
  - Level FF & Hart Instruments GWR by Emerson, magnetrol, Endress+Hauser and Leveltrol by Fisher, Masoneilan, Magnetrol.
  - Smart Generation transmitters of different makes (Rosemount, Honeywell, Foxboro, Yokogawa etc.)
  - Pressure and Temperature FF & Hart Transmitters and field instruments by Yokogawa, Foxboro, Rosemount, Honeywell, Taylor, Bailey, Moore, etc.
  - Flow FF & Hart Transmitters and field instruments
  - Control Valves by Flowserve, Fisher, Valtek, Gulde, Neles Jamesburry, Masoneilan, Orbit etc.
  - ESDV Shut valve by Biffi RMT, Bettis OMS, Rotork IMI Orton.
  - Turbine meters by Brooks, Foxboro, ITT Barton, etc.
- Maintenance Exposure
  - Well experienced in routine instrument maintenance an activity which involves Preventive and Breakdown maintenance.
  - Well experienced in control valve overhauling of various makes. It includes actuator overhauling, Valve body overhauling and Leak test for various classes, Testing valve accessories such as positioners, I/P converters, Lock up systems, Boosters etc. Calibration, stroke check and loop test are also was part of that.
  - Calibration of flow, level, pressure, differential pressure transmitters or various makes, including smart generation transmitters.
  - Calibration and servicing of all type of field gauges for pressure, temperature, flow, level etc.
  - Part of preventive maintenance, visual inspection of all sort of critical instruments for any physical damage and reported them without fail.
  - Periodic calibration and servicing of all PM listed instruments were done within the time frame ensuring the reliability, sensitivity and repeatability of the instruments.
  - Prepared Inspection reports, Calibration reports for all PM listed instruments and filed them in history files.
  - Loop check for loops which are connected to various PLC and DCS systems
  - Shutdown maintenance (Instrument) on rotating equipment's such as Steam turbines and compressors for all related instrumentation such as vibration, speed, bearing temperature etc.
  - Commissioning and loop checking of Sequence interlocks for Gas Compressors and Turbines. Protection and Interlock Testing on Boiler and Turbine equipment's
  - Knowledge and experience of machine monitoring and control instruments for large Rotating equipment's, Turbines control instruments, and Pumps, Air Coolers, Process Furnaces, Boilers instrumentations and other process equipment.
  - Periodic calibration of all quality connected instrument (ISO) and preparation of reports.
  - Assistance for the Analyzer maintenance team for periodic and breakdown maintenance of all sort of online process analyzers including Gas Chromatographs, IR Analyzers, Oxygen analyzers and liquid analyzers such as pH, Conductivity.
  - Workshop servicing and repair of all defective instruments to the possible extend.
  - Assisted documentation team for updation and segregation of all documents in the Instrument library, as per the documentation procedures.

- Compliance with organizational safety regulations with regard to work permit system & high quality of work on repairs & maintenance of the emergency shutdown & control system.
- Calibration, Troubleshooting, overhauling, Partial stroke checking & positioner tuning of SMART and FOUNDATION FIELDBUS family control valves & ESD valves.[DVC6000f series, Fisher, Orbit, Masoneilan, Valtek etc.]
- Calibration of smart & non- smart, Foundation fieldbus Transmitters [Rosemount, Honeywell & Magnet roll etc.]
- Well familiar with P&ID, Cause & effect diagrams. Reading safety inters- locks on compressor, turbines, boiler & pumps.
- Capable to carry out the function test and trip test for the Boilers, Furnace etc.
- Breakdown maintenance with trouble shooting, preventive maintenance and shut down maintenance jobs including calibration and installation of instruments (electronic and pneumatic) with a high degree of quality and safety.

### **SABIC (PETROKEMYA) : OLEFINS-02**

"PETROKEMYA" is wholly owned by Saudi Basic Industries Corporation "SABIC". It was established in May 1981 at JUBAIL Industrial City. Plant capacity : 800,000 MTPA of Ethylene, 325,000MTPA of Propylene130,000 MTPA of Butadiene, 125,000 MTPA of Benzene.

Technology : Provided by KBR..USA.

DCS System : Yamatake-Honeywell (TPS) with the implementation of APC

The Petrokemya Olefins plant is designed to produce ethylene, propylene, butadiene and Benzene. Process design for the Ethylene and Propylene producing section is based on M.W.Kellogg's Millisecond furnace technology. PGC, C3R and C2R Compressor by Ebara Elliott. For the Butadiene and Benzene section the process design by BASF and Air Products. Process design for the back end catalytic hydrogenation of Acetylene provided by Sud-Chemie, inc., MAPD, C4's and Gasoline is provided by IFP.

### **CERTIFICATION**

- SABIC Permit to Work Receiver.
- Awarded by SABIC for Excellence in EHSS performance.

### **IN PLANT TRAINING**

- Basic Fire Fighting.
- Emergency Response
- Emergency Evacuation Plan.
- Emergency Alarm System.
- Working at Height.
- Confined Space Entry.

### **TECHNICAL SKILLS**

- Knowledge in SAP (System Applications and Products in Data Processing.).
- Knowledge in Material Data Record Manager (PiLog).
- Knowledge in MERDIUM.
- Knowledge in Omron, Siemens, ABB, TRICONEX (ESD).

### **SOFTWARE SKILLS**

- Instrumentation Design Tool's (INTOOL's) Intergraph's Smart Plant Instrumentation (SPI) Version-7.0
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## **Roles and Responsibilities :**

Involved in the Plant shift coverage, Preventive, Breakdown maintenance, pre-commissioning, commissioning, loop checking, logic sequence checking and plant shutdown jobs.

- System Exposure.
  - Honeywell TPS & ESVT Distributed Control System (DCS)
  - Triconex PLC version 7.1 with TMR (Triple Modular Redundant) architecture for plant ESD System
  - Bentley Nevada series 3500,7200 and series 3300 Temperature and Vibration Monitoring Systems
- System Exposure Roles and Responsibilities.
  - System Failures Trouble Shooting and Maintenance.
  - I/O Point, Group Configuration.
  - Schematic Modification.
  - Loop checking & Loop Modification.
  - Logic checking Interfacing with other systems like TMR etc.
  - Vibration Probe and Proximitors characteristics check.
  - Vibration Monitor & Proximitors calibration.
  - Vibration Rotor axial float and radial Probe adjustment.
- Special Instruments
  - Anti-Surge (Kick Back) Controllers of Moore, Taylor, Triconex, etc.
  - Enraf Nonius - Tank Gauging System
  - Level Instruments (Leveltrol) by Fisher, Masoneilan, Magnetrol, etc.
  - Smart Generation transmitters of different makes (Rosemount, Honeywell, Foxboro, Yokogawa etc.)
  - Flow, Pressure and Temperature Transmitters and other field instruments by Foxboro, Rosemount, Honeywell, Taylor, Bailey, Moore, etc.
  - Control Valves by Fisher, Honeywell, Valtek, Gulde, Neles Jamesbury, Masoneilan, Posi-seal, Orbit, Arca Regler, etc.
  - Turbine meters by Brooks, Foxboro, ITT Barton, etc.
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  - Well experienced in control valve overhauling of various makes. It includes actuator overhauling, Valve body overhauling and Leak test for various classes, Testing valve accessories such as positioners, I/P converters, Lock up systems, Boosters etc. Calibration, stroke check and loop test are also was part of that.
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- Workshop servicing and repair of all defective instruments to the possible extend.
- Assisted documentation team for updation and segregation of all documents in the Instrument library, as per the documentation procedures.
- Compliance with organizational safety regulations with regard to work permit system & high quality of work on repairs & maintenance of the emergency shutdown & control system.
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- Capable to carry out the function test and trip test for the Boilers, Furnace etc.
- Breakdown maintenance with trouble shooting, preventive maintenance and shut down maintenance jobs including calibration and installation of instruments (electronic and pneumatic) with a high degree of quality and safety.

## ACADEMIC CHRONICLE

- **Diploma in Instrumentation and control engineering.**  
Director of Technical Education Government of India, **2004** with **86.5%**

## PERSONAL DETAILS

Father's Name : Mr. P. Shanmugam  
 Date of birth : 10-03-1985  
 Languages Known : Tamil, English, Hindi and Malayalam  
 Marital Status : Married  
 Passport No. : Z7909192  
 Place of issue : CHENNAI  
 Date of Expiry : 03/07/2034  
 Permanent Address : PLOT No. 2, 2<sup>ND</sup> CROSS, SRIRAM NAGAR PATTANUR, VILUPPURAM.  
 PIN:605111, TAMIL NADU, INDIA