

Sumant Kumar

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DATE OF BIRTH: 25-12-1969

PASSPORT NO : M5740888

NATIONALITY: Indian

Qualification: B.Sc.Engg (Mechanical) 1989 -1993 First Class from BIT, Sindri.
(Vinoba Bhawe University, Hazaribagh)

Training:

Bently Nevada training and certification program (Level-1, 2, 3) for on line monitoring systems and diagnostics using system1.

Computer: SAP R/3 (ERP – PM MODULE)

Background MS OFFICE

Experience:

Sr. No.	Name of Organization	Duration		Job Profile
		From	To	
1.	Saudi Kayan Petrochemical Company, Saudi Arabia	March 2008	Till Date	Mechanical Engineer – Rotating 1. Commissioning & Start up to run and maintain of LDPE plant (Basell Process, Capacity: 300 KTA)

				2.In Commissioning and start up of Polycarbonate plant (Asahi Kasei Process, Capacity:260 KTA)
2.	Reliance Industries Limited, India	October 1996	March 2008	Senior Manager – Maintenance Planning & Execution for Preventive/Predictive , Breakdown, Shut down maintenance of LDPE plant(CdF Chemie process, Capacity: 80 KTA) equipment.

JOB PROFILE :

1. Placement

Reliability Systems Department At **Saudi Kayan Petrochemical Company (A SABIC Affiliate)**, Al- Jubail, Saudi Arabia.

LDPE Plant: Association with LDPE Project of Saudi Kayan , Process Licensor: Basel Polyolefins, capacity: 300 KTA since construction phase and continuing to commissioning startup & run maintain phase.

During construction phase main responsibility is to ensure installation of rotating equipment as per design specification and manufacturer's instruction as well as their preservation.

Quality rounds of LDPE plant as part of plant readiness program of Saudi Kayan to ensure quality installation work, clean construction and preservation work by EPC to achieve flawless commissioning and start up.

Final punch walkthrough of system/subsystem for LDPE plant to verify the equipment installation work performed by EPC, against the final approved P&ID, design specification and OEM installation instruction. Verification of EPC corrective action for observed punch items to ensure that installation work meets all the requirements.

Member of Pre start up safety review team responsible for verification of rotating equipment installation as well as the quality documents to ensure safe start up. Witness for motor solo runs and final alignment of all rotating equipments in LDPE project including Lub oil system flushing.

Commissioning & start up of rotating equipments of LDPE. Main Responsibility involved equipment readiness check and compliance for start up as per pre start up checklist from manufacturer, post start up performance check through operating and machinery parameters(vibration and temperature) and final acceptance thereof. Post startup plant equipment monitoring and trouble -shooting for equipment problems. Analyzing repetitive failure and implement required changes to resolve successfully.

Major rotating equipments for LDPE commissioning & start up

Hyper Compressor, Make: Burckhardt Compression, Switzerland, Model :K10

Booster Primary Compressor, Make: GENP (Nuovo Pignone), Italy, Model 6HG3-2

Extruder, Make: Krauss Maffei Berstorff, Germany

Peroxide Dosing Pumps Make: UHDE, Germany.

Dryer, Make: Carter Day, USA

Hot Water Pump Make: Shin Nippon , Japan

Modifier Dosing Pumps (Diaphragm pump) Make: SPX BRAN LUEBBE Germany

Refrigeration Package consisting of Screw Compressor Make: Frick, USA

Nitrogen Compressor Make: ANGI, USA.

Pneumatic Conveying system from ZEPPELIN consisting of Integral Geared Centrifugal Compressor Make: Cameron USA, Rotary Lobe Blowers Make: Aerzener & Rotary Feeders Make: Zeppelin Germany.

Attended Factory Acceptance Test for Peroxide Dosing Pumps of LDPE plant at UHDE, Germany.

Carry out criticality ranking of LDPE plant equipments in accordance with SABIC criticality matrix.

Developing Preventive / Predictive maintenance task list for LDPE plant rotating equipments.

RCM study for developing the maintenance strategy /maintenance task of most critical rotating equipment/system in plants viz. PP, HDPE, LDPE, POLYCARBONATE & PHENOLICS.

Development and review of SMP for rotating equipment of LDPE plant.

Polycarbonate plant – Association with Polycarbonate Project (First Polycarbonate Plant in the Middle East) of Saudi Kayan, Process Licensor: Asahi Kasei Engineering, Japan) since its construction phase and continuing to commissioning startup & run maintain phase.

Commissioning & start up of rotating equipments of LDPE. Main Responsibility involved equipment readiness check and compliance for start up as per pre start up checklist from manufacturer, post start up performance check through operating and machinery parameters(vibration and temperature) and final acceptance thereof.

Major rotating equipments /packages commissioned are

Canned motor pumps Make: Nikkiso Japan,

Vacuum system package consisting of lobe blowers and liquid ring pump Make: Nash Korea,

Extruder: Make: JSW Japan,

Pelletizing Package: Make Rieter Automatik GmbH. Germany,

Pneumatic conveying system package consisting of centrifugal air compressor(Atlas Copco, USA make) rotary feeder By Coperion. ,

Nitrogen Compressor Reciprocating Type Make: SIAD Italy,

Screw Compressor in refrigeration service Make: Howden, UK ,

Agitators Make: Hado Korea ,

Proprietary Items consisting of Gear Pumps(Make: Shimadzu, Japan) And Agitator Reactor (Make: Sumitomo Japan) Supplied By Asahi Kasei Engg. Japan.

2. Placement: Low Density Polyethylene Plant (HIGH PRESSURE 2000 bar-LDPE) At Reliance Industries Limited, Nagothane Manufacturing Division (Formerly IPCL), INDIA

- **MECHANICAL MAINTENANCE :**
Preventive/Predictive, breakdown & shutdown maintenance of all equipments Installed in LDPE plant (**working pressure max. 2000 bar.**) to increase MTBF. Development of Standard Maintenance Procedures for rotating equipments.
- **SHUT DOWN ACTIVITIES :**
Planning and execution of jobs.
- **PREPARATION, PLANNING AND EXECUTION OF FCO :**
Modifications related to plant and equipments which involves Fabrication, Erection, Commissioning of system with Piping and Structural work.
- **SIX-SIGMA ACTIVITIES :** Member of six sigma black belt projects in executing the DMAIC of identified projects in the plant.
- **SAP (ERP) & ELECTRONIC COMMUNICATION :** **Day to day maintenance transactions in PM module.** All departmental activities through plant maintenance (PM) module of **SAP**. Internal communication through **lotus notes, IP messaging.**
- **INVENTORY CONTROL & SPARES MANAGEMENT :**
Inventory control through SAP based application, timely procurement of spares from OEM's or indigenous manufacturers/suppliers.
- **CONTROLLING OF MANPOWER**
- **CO- ORDINATION WITH OTHER SERVICE DEPARTMENTS**

Achievements:

1. **Enhancement of high pr. LDPE reactor stirrer bearings life from an average of three months to six months.**
2. **Enhancement of High pressure packing life of Hyper compressor from an average of six months to one year**
3. **Enhancement of packing life of combined compressor from six months to one year.**

TASK :

- ✓ **Minimize downtime of equipments.**
- ✓ **Enhance life of consumable spares.**
- ✓ **Improve reliability of equipments.**
- ✓ **Optimize Inventory.**
- ✓ **Implement safety consciousness.**

- ✓ **Achieve ISO certification.**

EQUIPMENTS ON WHICH HANDS ON EXPERIENCE :

A) HYPER COMPRESSOR - **Make:** M/s Sulzer Burckhardt, Switzerland. Max. Working pressure 2200 bar., 9.8 Mw, 2stage, 8 cylinder arrangements:

ROUTINE ACTIVITIES:

- 1) Replacement of HP packing assembly. Overhauling of LP packing & oil scrapper.
- 2) Reconditioning of HP packing assembly which includes lapping of sealing faces of cups, Surface finish 0.2 micron, parallelism 0.02 mm and maintaining of cup depth for packing element axial float.
- 3) Reconditioning of central valve which includes lapping of seat and body parts, to maintain surface finish and parallelism, assembly of valve and internals.
- 4) Maintenance of auxiliaries like cylinder lubrication, motion work lubrication & cooling/ flushing systems.

B) PRIMARY COMPRESSOR - **Make :** Nuovo Pignone, Italy. 250 bar., 1.08 MW, primary/ booster cylinder arrangement

ACTIVITIES :

- 1) Overhauling of compressor including packing , piston ring, rider ring replacement & development for improved life of these spares.

C) RECYCLING GAS COMPRESSOR : **Make :** Dresser Rand, India., 3 STAGE, double acting. 155 kw

ACTIVITIES :

Motion work overhauling, cylinder overhauling, re commissioning of compressor & routine maintenance.

REACTOR (HIGH PRESSURE) : Autoclave type Reactor , make JSW, Japan. Max. working pressure 2500 bar.

Routine maintenance :

- 1) The maintenance job involves overhauling of stirrer, replacement of stirrer by opening of covers through hydraulic handling devices.
- 2) Overhauling of hydraulic operated let down valve
- 3) Rupture disc replacement by using bolt tensioning device.
- 4) Maintenance of lub oil, gas+catalyst injectors

Development Activities :

Modifications with stirrer & motor in consultations with licensor for improvement of bearing life. After implementing 4-5 modifications the bearing life has increased from avg. 3 months to 12 months.

EXTRUDER :Single screw (dia 380mm) & master batch extruder ,**Make:JSW**,Japan.

ROUTINE ACTIVITIES :

- 1) Removal of screw , gland replacement, cutter reconditioning, screen pack replacement, Die plate replacement, overhauling of pelletizer, reconditioning of bellow type mechanical seal.
- 2) Hot/ cold alignment of die plate & cutter shaft, motor.

DEVELOPMENT ACTIVITIES :

- 1) Development & replacement of Labyrinth in place of cast iron seal ring in gland packing which has eliminated polymer leakage problem.
- 2) Development of Die plate from AMN france & development of cutter blades , curved blades for improved cutting & life.

DRYER : MAKE – Gala, USA.

The activities involves Bearing replacement, screen development & replacement

PUMPS:

All type of maintenance including preventive maintenance & breakdown maintenance.

- 1) **CENTRIFUGAL PUMP** : All type & make for services like water, hot water, thermofluid, LPG, oil, solvent, high speed sundyne pumps etc. –The job involves bearing replacement, mechanical seal development/ replacement, alignment.
- 2) **RECIPROCATING PUMPS**: Includes high pressure hydraulic operated double acting catalyst injection pump, Diaphragm pumps, intensifier type pneumatic pump units.
- 3) **MULTIPLUNGER PUMPS** – Radial& Axial multiplunger pumps for hydraulic power units from M/s Mannesmann Rexroth
- 4) **GEAR PUMPS** , **SCREW PUMPS** – Complete overhauling of pumps.

BLOWERS : The overhauling of centrifugal blowers & lobe type rotary blowers from M/s Arzener, M/s Waschle, Germany.

ROTARY VALVES : Overhauling of Rotary valves, feeders, multi way feeders & other equipments of Waeschle pneumatic conveying system.

VAPOUR COMPRESSION REFRIGERATION SYSTEM : Maintenance of complete system.

LAPPING MACHINE- Make HIFIN , MODEL 1220

Reconditioning of lapping machine, lapping of sealing surfaces, Maintaining parallelism of sealing faces.

BAGGING AND PALLETIZER MACHINES :MAKE:M/S. BINDER & MOLLERS

The complete overhauling of elutriator system, vibrating screens, weighing machines, bagging machines, belt conveyors & palletizer section.

Erection & commissioning of waeschle elutriator system for bagging machines.

STATIC EQUIPMENTS :

Gas cracker plant heater maintenance:

Complete revamping of heater insulation of ceramic fibre and shell repair.

- **HEAT EXCHANGERS :**

Fixed head, floating head shell & Tube exchangers, Plate type exchanger, Double pipe type exchangers:

Job involves complete overhauling & reconditioning including replacement of tube sheet.

- **High pressure, MP, LP Vessels and tanks.**
- **Medium pressure /low pressure filters**
- **High pressure/ low pressure Pipings and structures.**
- **Safety valves and Rupture discs**
- **Hydraulic / manual operated valves.**

INDEPENDENT SYSTEMS :

- **Vapour compression refrigeration system.**
- **Vapour absorption refrigeration system.**
- **Pneumatic conveying system from Waeschle.**
- **Hydraulic power operated systems for valve operation, vessel handling device, pumping units, lubrication systems. :**

The job involves troubleshooting & rectification of hydraulic problems involving reconditioning of hydraulic pumps, actuators, valves, accumulators, filters. The major hydraulic system includes UHDE catalyst injection hydraulic system, Reactor cover handling hydraulic system, UHDE feed valves hydraulic power unit operating at 175 bar, Reactor let down valve power unit, Extruder die clamping hydraulic unit etc.

3. SINGH AND ASSOCIATES,NEW DELHI

ASST. DESIGN ENGINEER

SERVICE DURATION: OCTOBER 1995 TO SEPTEMBER 1996

I, Sumant Kumar hereby declare that the informations mentioned above are true.

Yours Sincerely

(Sumant Kumar)

