RESUME OF <u>ABDUL WAHAB</u>

PRINCIPAL OLEFIN PROCESS ENGINEER

4 <u>For correspondence:</u>

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Assignments as an Executive in Process Engineering & Project Management with an organization of repute preferably in Petrochemicals, Refinery and Oil & Gas industry. Effective & Accountable in high-profile executive roles by overcoming complex business challenges and making high-stakes decisions for overseeing Process Engineering & Project Management and Process Operation activities within a strict time schedule as well as cost measures.

Profile Summary:

With a stellar track record and global experience of more than 32-Years in wide spectrum of Process Engineering & Project Management in engineering organization (EPC) & manufacturing process unit including the developing of Techno-economics feasibility study, Conceptual Process Design Package (CPD), Basic Engineering design (BED) and Front Engineering Package (FEEP/FEED) & Value Engineering skill. Exposed to Process safety review, PHA/HAZOP/HAZID, SAFER & Risk Assessment & mitigation, Root Cause Analysis (RCA), Advance Process Control (APC) Defect Management system (DMS), Sustainability and Energy Management etc. Details to be followed in respective heading. Proven management & leadership skills, capable of leading & motivating individuals to maximize levels of productivity, knack for motivating team for exceeding customer expectations in delivery of committed services on time within budget. Excellent relationship of management, analytical and communication skills

4 <u>ACADEMIC:</u>

 \rightarrow TECHNICAL: Chemical Engineering & Chemical Technology.

- 1. Master of Technology (M.Tech.) in Year'1986 from LIT Nagpur University India.
- 2. Bachelor of Science (Technology) (B.Sc.Tech.) in Year'1984 from LIT Nagpur University India.
- 3. Bachelor of Science (B.Sc.) in Year'1981 from Gorakhpur University India.
- 4. Post Graduate Diploma in Business Administration (P.G.D.B.A) in year'1989 from Annamalai University India.
- 5. Associate Member of Institution of Chemical Engineers (AMIChemE)-UK. Membership number-99886166
- 6. Member of Saudi Council of Engineers (SCE). Membership number-178575

4 <u>PAPERS PUBLISHED</u>

- 1. Purification of waste carbon di oxide from Ethylene Glycol plant & its commercial Application: Published in ChemInnovations Conference USA ,AIChE, Petrotech'2012
- 2. Reliability: An effective Tool to extend the Olefin Plant Turnaround, Published in ChemInnovations Conference USA, AIChE Petrotech'2012
- **3.** Risk Assessment of NOx gums & salts in COLD Box of olefin plants & step forward: Published in **Chemresources.com USA**, **AIChE. Petrotech'2012**
- 4. A study on acetylene Reactor performance with partial catalyst replacement: Published in **The chemical Engineering Magazine UK i.e. Chemresources.com**



- **5.** A study on Tolling of feed in olefin process lead to reduction in production cost by improved Yield. **The Chemical Engineering Magazine UK i.e. Chemresources.com.**
- 6. Optimization of Ethylene Plant operation with limited and unlimited ethane supply. IRPC-America'2020 on behalf on **Hydrocarbon Processing** (**HPI**)
- PROFESSIONAL HIGH LIGHTS: Subject Matter Expertise (SME) in Process Engineering of Ethane, Mixed feed crackers, Catofin & MTBE process Technology, Gas based Power Plant, gas & liquid operated turbine for power generation as well as utilities & offsite along with process Safety and Project Management as listed below.

From	То	Description
2019	To date	Principal Process Engineer in JGCGulf International Company Ltd.
		EPC organization, subsidiaries of Japan Gas Cooperation (JGC) Japan
2017	2019	Lead Process Engineer of CATOFINS & MTBE Process Unit.
2001	2017	Staff Process Engineer of Ethane & Mixed feed Olefin cracker.
1999	2001	Process Engineer of CATOFIN, MTBE Process Unit.
1996	1999	Assistant Manager: Process Engineering Utilities & Offsite Plant
1994	1996	Senior Process Engineer - Utilities & Offsite Plant
1992	1994	Process Engineer-Utilities & Offsite of Fertilizer Project
1989	1992	Process Engineer: Gas based Power Plant (40MW)
1987	1989	Marketing Engineer for Chemical Engineering Equipment.

4 <u>KEY EXPERIENCE & EXPERTISE:</u>

1. Process Engineering: Provide engineering support, analytical study & troubleshooting of process unit& its parameters for potential area of improvement for Process reliability, Energy Optimization, sustainability, and operational issues, This has determine its root cause & led to debottlenecking, evaluating alternatives options and feasibility studies that yield numerous modifications & suggestion as major or minor brownfield projects and to be executed through MOC/ Plant change Projects. Develop numerous materials & energy balance and monitored critical equipment performance of MTBE, Ethane & Mixed feed crackers as well as critical process parameters & integrity point, lab analysis, to enhance the plant reliability.

Sound knowledge of operation /Process engineering of Rotating, Static as well as Package Unit as few are Gas turbines, steam turbines, Compressors, pumps, Fan, Blowers Expander & compressors, Boilers Furnaces & Fired heater, Flare, Incinerators, cold box, pressure vessels, Reactors, heat exchangers, distillation & stripping columns, process safety valve sizing, pipeline sizing of steam, condensate, Process liquid, gas, mixed phase, flare header and stack height. Pressure Relief Valve (PRV).

Well aware to prepare the feasibility studies of projects, Conceptual Process Design package, Project Risk Assessment, Basic engineering, and Front-end engineering (FEED) as well as detail Engineering (EPC), Simulation of process & its equipment. Mass and Energy balances. P&ID review as per Phase Control, Hydraulic evaluation of piping systems and process equipment.

Well aware of developing cause and effect of Process control & Advance Process Control (APC) system of ethane and mixed feed cracker, MTBE process unit. Skill in preparing the precommissioning, commissioning, and turnover packages of process plant. Well aware of best engineering practices, sustainability, and Energy Management. Involved in conducting the process unit/equipment performance guarantee test run with licensor.

2.Project Engineering: Well conversant and familiar with ASTM, ANSI, API, TEMA and ASME, OSHA, NFPA Standards, Preparing and reviewing of P&FD, P&ID of process plant. Prepare the

Specification for various processes Equipment's. Process Calculations, Project Management, Planning and Implementation of plant start up and shutdown sequence. Well aware in Preparing of Enquiry Documents, Commercial & Technical Bids Evaluation and Turnaround packages. Process licensor evaluation of olefin technology.

3.Engineering Software: Operation of Chemical Engineering Software like Aspen Plus, Aspen HYSY, HTRI, Aspen EDR, Best RO, Best PRV, Best Pipe Plus, CV estimation, AspenAcol+, Aspen Tasc+, Aspen fired Heater, Aspen Plate, Aspen simulation workbook, Flare net, NETFLOW, M-pipe, Pipecal-1&2 and other Engineering Software for checking the Design of Engineering Equipment's etc.

4. Process Safety: Safety and environmental disasters rarely occur because of a single event or incident, which is very critical to adopt an incident management system that identifies root causes and protects your business from future occurrences Therefore, well aware of PSM i.e. SHEM polices. SABIC is having altogether 16-SHEMS

Well aware of key feature of the risk management process to identify hazards from processes, layout and operational perspective through many phases of project The logical sequencing of reviews into the design process provides verification that the design & installed safety system provide adequate protection. The following process safety /studied shall be considered.

HSE Work Assignment Plan' for the any project to Interfaces between the Engineering HSE Work & other department during FEED & of detailed engineering, Design HSE Philosophy, Quantitative Risk Assessment (QRA), Consequence Modelling (Gas Dispersion, Fire & Explosion, Radiation Study, Toxic Release etc.),Hazard Identification Study (HAZID), Hazard & Operability Study (HAZOP),PHA, Safety Integrated Level Assessment (SIL) / Layer of Protection Analysis (LOPA), Action Tracking & Management Register' for HSE Studies Action items follow up, Review of Plot Plan and 3D Model (with respect of EHSE Design), Emergency Escape & Rescue Plan, Hazardous Area Classification, Hazardous Material List, Environment Impact Assessment (EIA) (including Drainage Philosophy), Safety Critical Elements (SCE) identification and Performance Evaluation,

5. Project Management: The objective of the project execution is to deliver the final product consistent with the required quality, on schedule and within project budget. The Project Management Team (PMT) will function as an integrated team with Client personnel. Since from the technology evaluation & FEED phase as an integrated task force to execute master planning, coordination with process licensors, basic engineering, cost estimating, critical equipment and materials requisitioning, and constructability services. This execution philosophy will provide program consistency throughout the Process Units and Utilities &Offsite as well as maximize efficiency of the organization.

FROFESSIONAL EXPERINENCE

A: JGCGULF INTERNATION COMPANY LTD. SAUDI ARABIA:

Principal Process Engineer (From 1-April'2019 to date)

> ORGANIZATION PROFILE:

JGCGULF provides complete range of Engineering services from feasibility studies and basic /front to detailed Engineering & execution (EPC). JGC GULF project execution objectives are safety, plant performance and quality and well defined cost control. Even working to provide integrated solution to clients

ROLE & RESPONSIBLITY:

Work as Principal Process Engineering expert to execute design and engineering in plant modification nature of project which involve plant operation trouble shooting, carrying out various technical studies, developing technical solution and scope of work, perform feasibility from the technology selection, to CPD, Basic & Front Engineering including all the process safety aspect. Even, provide technical support & guidance in strategic planning & executing the assigned project considering multidisciplinary perspectives. Participate in discussion with clients at all phases of project to guide and propose alternative considering cost, schedule and implementation factors. Conduct the design review verification and validation for process engineering documents. Prepare the user required technical specification, analyze project requirements & accordingly provide technical and functional recommendation. Actively participate in process safety, PHA /HAZOP/HAZID analysis and provide recommendation. Lead & execute engineering & project process from conceptual, basic, FEED and detail engineering till commissioning & start up.

To carryout business promotional activities such as presentation, customer relation, participation in conference etc. in accordance with company policy to create new business opportunities. Undertake the market research & communication to navigate industries, clients& customer to set right course to win the different landscape of present & future business partners.

> ASSIGMENTS

- 1. Carry out the Feed verification of the debottlenecking of SABIC-SHARQ FEED documents of Technip mixed feed cracker for capacity enhancement from 1200 KTA to 1390KTA. Analyse the risks and involved in proposal preparation for the technical Bid as per FEED documents.
- 2. Cracker technologies comparative model was prepared to analyse the technology differences among the various technology suppliers (KBR/Technip& SW/Lummus/Linde) and identify their merit & demerit among the cracker technologies
- 3. Develop the Catofin (PDH/BDH) Process & MTBE Process detail for the project feasibility study of SABIC -SADAF Project. Moreover, involved in proposal preparation for the technical Bid as per FEED documents.
- 4. Prepared the proposal for Gas Turbine replacement by Steam Turbine of Air Compressor in Catofin unit (PDH) of Advance Petrochemical KSA. Even calculated the Steam Turbine Power Calculation & steam requirement as per Steam Balance.
- 5. Prepare the technical Proposal for the Engineering, Procurements and installation of LINDE's ethane cracking furnace of 200KTA for TASNEE.
- 6. Develop the strategic model of Plant Solution Service for once through EPC. The new strategy work in collaboration with Client from problem identification to CDP preparation, feasibility study, Basic & Feed /Detail engineering and execution. Moreover, provide the guarantee if required.
- 7. Develop the OME (+/-30) of Cost Estimation for Once through Project for Plant solution service.
- 8. Develop the project economics model to understand the project feasibility by calculating the payback, IRR & NPV etc.
- 9. Prepared the CDP & Basic Engineering documents to provide the technical & economically feasible path forward of several modifications of stone & Webster mixed feed cracker of ARAMCO- Petro-Rabigh.
- 10. Carry out the Feed verification of the Dew Point Control Unit Abqaiq NGL Plant of Saudi Aramco

B: SAUDI BASIC INDUSTRIES CORPORATION (SABIC) - SAUDI ARABIA:

1. Staff Process Engineer in Ethylene Plant (From Y-2001 to Y-2017)

- > UNITED ETHANE CRACKER
- ENGINEERING PHASE: Involve in Technology selection of olefin process of various licensors based on technical acceptance and execution philosophy. Develop the basic engineer design information package, involve in development of Process design package / Basic engineering / FEED as well as in HAZOP study. Develop the simulation in aspen, run the EDR, Review the details engineering documents, develop the turnover matrix, reviewed the pre-commissioning, air blowing, dry out and steam blowing procedures. Prepared the commissioning & startup (CSU), standard operating (SOP) and Emergency (EOP) procedures along with initial startup & shutdown procedures. Involved in the commissioning and initial startup of ethylene plant.

ETHANE CRACKER DETAILS

The ethane cracker designed for 1350 KTA by KBR/ CHIYODA, featured Kellogg Brown& Root (KBR) SCORE[™] technology in both Pyrolysis and recovery sections. Some of the special features are

- a. High capacity & high yield SC-1 Pyrolysis furnaces by Exxon Mobil
- b. Dilution steam by Feed saturation
- c. Front end hydrogenation
- d. Front end acetylene converter with E-series CP catalyst.
- e. Low pressure fractionation columns.
- f. Columns are integrated with Compressor suction as a heat pump
- g. Other features are high conversion, less recycle and few byproducts, allowing high sensitivity furnace to operate with longer run lengths and burner design to delivered low NOx.

ROLE & RESPONSIBLITY:

I have been assigned to KBR technology based ethylene process unit since start up (Y-2001) as an independent Process Engineer to support operation and optimize the process unit to their best

practices. Moreover, trouble shoot the challenges faced as a short or long terms as well as on daily routine. The existing configuration of KBR Ethylene Process unit includes the following.

Ethane feed saturator, Pyrolysis cracking Furnaces, Quench water system, Process condensate & stripper system, Dox unit, Crack gas compressor (CGC), Acid gas removal, Fuel gas & Gas dryers, and De-etherizer & Acetylene reactors. De-methanizer & cold box, expander & compressor, ethylene splitter and delivery system, Ethylene storage & BOG compressor, Propylene & Ethylene refrigeration system.

> OPERATIONAL TROUBLE SHOOTING:

There were several challenges which have been either implemented by identifying its root cause or by engineering improvement with support of KBR and few are listed below. It has resulted in continuous operation of Ethylene Process unit to 689 day since Y-2006 and 869 days up to Y-2011 as well as 984 days till Feb-2017 with planned shutdown or Turnaround. It has proven my capability to operate & optimize the KBR ethylene Plant.

- 1. **Furnace Run Length Improvement:** Steam drum blow downstream was fed to quench tower to save the water which has high sodium content. Identification of high sodium content in process condensate mixed with ethane and feed to Furnace. It has impacted the furnace run length. The furnace run length improved from 21 day to 25 days as soon as high sodium content blow downstream was diverted to drain.
- 2. Low Ph. of Process Condensate: It was recommended to maintain the Ph in the range of 6 to 7 as per basic chemistry since Y-2004. Corrosion was identified in several equipment. The Ph range was increased (7.5 to 8.5) by additional dosing of Amine in process condensate. It improved the integrity of equipment & process.
- 3. **Moisture break through:** Demister of CGC KO drum were not properly selected and design. Therefore, excessive moisture carry over to dryer was observed and it resulted in plugging and abnormality in dryer operation.
- 4. Installation of Guard Bed dryer: Hydrate formation in Cold Box and high delta in C2 splitter was identified. It resulted in flaring of several ton of ethylene during the MeOH Injection Process. Guard bed dryer installation has eliminated moisture break through.
- 5. Frequent leak of Cold Ethylene Vaporizer: from gasket and tube rapture had occurred on several occasion and resulted in not able to meet the ethylene requiment for consumers. It has been identified as wrong design of vaporizer & start up and operating procedure. The equipment was replaced and procedure was modified. It improved & established the operation.
- 6. **Degumming in Acid Removal Unit.** Excessive gum was identified during the CO2 & H2S removal. Which has impacted caustic tower and the incinerator operation. Therefore, Arsenal injection was initiated with support of NALCO. Which has reduce gum formation & improved the performance of Caustic tower as well as incinerator.
- 7. Ethylene Storage Pin Hole Leak: A pinhole leak was identified from the inner wall of tank. A risk assessment was carried out and mitigation plant was implemented. The continuous purging of nitrogen in annular space and monitoring of process parameters. Fire & Gas detector monitoring has provided the enough confidence to bring down the risk level as low as possible.
- 8. **Propylene Refrigeration system:** was not able to achieve the required temepeture as design. It was identified as hydraulic limitation. It was resolved by replacing Pipeline as desire.

> BEST PRACTIES IMPLEMENTED IN KBR ETHANE CRACKER.

- 1. Yield Improvement: Cracker is design to operate 142 MMSCFD of 95% pure ethane. Feed was restricted to 132 MMSCFD. Therefore, in order to meet the furnaces feed requirement. Ethane recycle flow to furnace was increase by reducing the conversion (65~58%) and increasing the Steam to Carbon ratio (0.32 ~0.40). Which has increased the yield by 1%.
- 2. Kubota Tube Installation in Furnaces: Which has neither impacted conversion or Yield and other process parameters. Moreover, it has widen Tube's vendor Spectrum.
- 3. **Critical Process Parameters (CPP):** There are parameters which were continuously violated the operating range and upset the process. It being monitored and corrective action was taken to improve their performance. It has improved & established the process operation.
- 4. Rector Catalyst (E-series) Optimization: Operation philosophy was develop to transfer the bottom bed catalyst to top bed and new catalyst to be loaded in bottom bed. It has resulted in saving the bed catalyst (44Cu.M) which resulted in optimize the variable cost. The total life of Catalyst reached up to 7.5 year.
- 5. **Dox Unit filter Material replacement:** Critical process parameter monitoring has support to the replacement of the filtering media after 8-year though the guarantee was for 3-year.

- 6. **C3 Slippage from De-ethanizer overhead:** It was the design provision to slippage the C3 from de-ethanizer overhead and re-process in furnace. Therefore, 3000 ~ 3500 ppm of C3 was slipped and cracked in furnaces. It has increase the ethylene production by 0.5 to 0.75T/hr. But it has started affecting the Catalyst performance and furnace run length as well as fouling of saturator exchangers. Therefore, this trial was abandon though it was economical feasible.
- 7. Installation of Fresh ethane Preheater: A scheme was developed to preheat the ethane by hot quench waster prior to mix with process condensate. It will save LP steam by 2~3 t/hr.
- 8. **Recovery Steam drum blow down:** A scheme was developed and implemented to divert the steam drum blown without pump and mix with Fresh water going to demineralized water (D.M.) plant. It resulted in saving of 8 to 10 t/hr. of fresh water
- 9. **Solomon study:** One of best performance ethane cracker in respect to on stream, energy optimization and continuous operation as well as most reliable process unit.
- 10. Installation second decoke drum: It will support to decoke the four furnace together and start up the CGC Compressor as required. It will bring the ethylene product one day in advance and provide 3500 ton additional ethylene.
- 11. Ninth Furnace Installation: This furnace will sustain the improved yield gain as operated on restricted supply ethane and provide 1% yield gain.
- 12. **Coke utilization:** The coke is being generated during the decoke process as a waste. It is now being used as additive in iron ore to procedure Iron.

> CONTINEOUS IMPROVEMENT JOURNEY

It has been my responsibility to develop the path forward & monitoring program as well as carry out the following.

1. Quench water treatment study, optimization of Furnace run lengths, emission reduction, cracking furnace optimization, Hazard & operability studies, rotating equipment reliability, equipment rating, monitoring system development, waste water and spent caustic management.

2. Comparative cost studies of mixed feed (ethane /propane cracker) Vs Ethane cracker.

3. Develop the program to operate cracker (mixed feed & Ethane cracker) by tolling or exchanging the feed (Ethane & Propane) between Mixed feed vs. ethane cracker to share the production and production cost.

4. Developed & implemented several MOC of ethylene Plant related to EHSS, Process improvement, sustainability & Energy.

- 5. Active member of re-validation of PHA./SAFER/Risk Assessment.
- 6. Implementation of Advance process control system in ethylene plant
- 7. Prepared the Environmental operating information report (EIR)

8. Involve in the internal inspection of Furnaces, various columns, heat exchanger, vessels, piping, catalyst, desiccant and chemical loading during the turnaround.

9. Sustainability & Energy, steam and water as well as power optimization.

10. A study is in progress to apply Emissivity coating on refectory to save the 2% fuel.

11. A study is in progress on failure of Secondary Quench Exchanger tube failure.

12. A study is in progress to develop the operation Excellence in Ethylene Plant.

PROCESS ENGINEERING WORK

- 1. Used Aspen to develop the monitoring program of CGC, Propylene and ethylene compressors, expender& compressor, cold Box etc.
- 2. Developed the monitoring program of furnaces and 28 critical heat exchangers.
- 3. Develop the process design package (PDP) for enhancement of capacity of ethylene glycol plant (EG) from 575 KTA to 720 KTA.
- 4. Develop the Basic Process Engineering Design package of benzene removal from hexene-1 of Liner Alpha olefin (LAO) Plant
- 5. Aspen was used to develop the process data sheet of Toluene recovery condenser.
- 6. Develop the process engineering package of Boiler (150T/hr.) with proper fuel selection.
- 7. Fuel & Steam and other utilities optimization of ethylene, EG-I&II, LAO and utilities plants
- 8. Study and implementation of sodium free boiler feed water system for Ethylene Glycol Plant.
- 9. Technology selection of Carbon di oxide (CO2) purification unit and develop the feasibility report with respect to Payback, IRR, NPV. Moreover, prepared the process Engineering package for RFQ and for Bidding to various licenser.
- 10. Develop the Process design basis package of new furnace of ethylene furnace as per API-560.
- 11. Technical evaluation of Olefin Cracking furnaces of 220KTA capacity.

- 12. Conducted the ninth Furnace performance guarantee test run with KBR with respect to conversion, Yield, Fuel consumption as well as steam generation,
- 13. A study is in progress to enhance the Carbon di oxide Plant reliability.

14. A study is in Progress to enhance the LAO plant Reliability.

2. Process Engineering of MTBE Plant (From April'99 to April'2001& From Y-2017~2019)

2.1: Plant Summary:

The plant was built on technology supplied by UOP U.S.A (for Isomerisation and PSA unit), ABB Lummus U.S.A (for dehydrogenation by Houdry Process), CD Tech, U.S.A (for MTBE synthesis Process). The detailed engineering was carried out by Flour Daniel U.S.A. TDC-3000 from HONEYWELL U.S.A. is used for process control. UCI, UOP and CR&L Catalyst were used as per process requirement and their life varies from 18 months to five years.

- Isomerization Unit: Fresh feed of n-Butane(C4) is isomerized to Isobutene with help of Catalyst (by UOP Once through Process)
- Catofin Unit: The isobutene feed from the above unit is catalytically dehydrogenated into Iso-butylenes in Catalytic Reactors (by ABB Lummus crest, Houdry Process)
- MTBE Synthesis Unit: The isobutylene together with methanol constitute the feed to the MTBE CD Tech unit ,where the final product is MTBE being produced with help of Catalytic Reactors & Distillation Column (by ABB Lummus crest, CD Tech Process)
- Pressure Swing Absorption (PSA) Unit: Impure hydrogen from the dehydrogenation unit is purified here and then supplied to the isomerization unit.

2.2: ROLE & RESONSIBLITY: Provides technical support based on monitoring of process parameters &quality, corrective action during process upset, Coordinate shutdowns & start-up activities during turnaround and in running Plant, Process safety review as & when needed. Ensure optimum use of raw material & utilities and chemicals consumption. Developed performance monitoring of the major equipment includes Catalytic Reactors, distillation Column, Centrifugal, axial & Reciprocating Compressors, Steam turbines, Different types of Heat Exchangers, Gas Turbine, Air heater and Fired Heater , waste heat recovery & Aux. Boilers and sea water chlorinator system, Cooling water system, heavy duty pumps with and without hydrocarbon sealing etc.

2.3: BEST PRACTIES IMPLEMENTED:

- 1. **Partial catalyst replacement:** to sustain the continuous uniform production through the catalyst life has provide adequate economical gain.
- 2. Sustainability workshop was conducted. It has generated the several feasible schemes to save water & energy as well as Steam. Moreover, it has provide the way to utilized and reduce the waste generation.
- 3. Sea water temepeture optimization during the summer season: There are two sea water return pit from two different process unit. The high delta temepeture of sea water diverted partially
- 4. Cactus Orifice Resizing : Critical orifice size was increase based CFD study to reduce the vibration in pipes & KV as well as instruments
- 5. **DE-NOx unit:** Visible emission & High NOx value was observed in catofin stack. Process Design package was prepared for installation of SCR to reduce the NOx values by 70%.
- 6. **Steam Optimization:** Several scheme and process/Basic engineering package prepared to implement the various schemes.
- 7. Economic Model of Catalyst: Develop the Catofin Catalyst economics Model to operate at best optimized yield and maximum revenue collection
- 8. Distillation Colum Performance: Aspen model were prepared for CD Column, Deisobuatnizer, isobutene & MeOH separation and MeOH recover.
- 9. Heat Exchangers performance: Develop EDR in HTFS Aspen of all the identified critical Heat Exchangers (26 No's) & heat duty study completed.

C.CHAMBAL FERTILISER&CHEMICALS LIMITED-INDIA.

3. Asst.Manager - Process Engineering (From May' 96 to March'99)

3.1: PLANT AT A GLANCE:

The technology licenser for Ammonia Plant was m/s Halder Topsoe Denmark whereas for Urea Plant was m/s Snamprogatti Italy and Process control was supplied by M/s Yokokawa Japan. Detailed engineering was carried out by Toyo Engineering India. Moreover, Utilities & Offsite Plant to support Ammonia & Urea Plant.

3.2: ROLE & RESPONSIBLITY:

- Responsible for monitoring the process & critical equipment's Performance, troubleshooting and optimization of Utilities & Offsite Plant. Involved in preparing and implementing the MOC Schemes based on Plant performance studies.
- Carried out materials & energy balance of total U&O Plant. Debottlenecking & optimization of equipment like Compressors, different type of Heat exchangers & pumps.
- Involve in carrying out the energy audit of complete fertilizer Complex in coordination with ICI, UK. Some major assignments were, Carbon di-oxide Balance, Analysing the Explosive limit of Combustible & Non-combustible material in Urea plant.
- Studies of steam balance as Energy saving schemes. Design & Guarantee specific Energy consumption norms for Ammonia, Urea and their utilities Plants.
- Sizing of high pressure Steam & process piping and control valves. Energy Calculation based on FICC/FAI & OTHER GOVERNMENT Agencies norms.

D.TATA CHEMICALS LIMITED -- INDIA

4. Senior Process Engineer (From March '1994 to April'1996)

4.1. Developed Utilities & Offsite P&ID, Pipe Sizing, pipe routing & load data calculation for DM plant, effluent treatment plant, cooling water system, instrument air plant of Fertilizer complex.

4.3. Ensured in-house design of complete instrument air drier and its associated system.

4.4. Designed & implemented Steam and energy balance in excel format for the entire fertilizer complex as daily reports

4.5. Worked as a Project Engineer for Effluent Treatment Plant. Facilitated thermal design of shell & tube heat exchangers and vapour condenser for Effluent Treatment Plant.

4.6. Developed Computer programs for design of shell & tube heat exchangers, cyclone separator and pressure drop calculation for use of various proposal, evaluations and execution.

5. PROJECT ACTIVITIES: From (1992 to 1994)

5.1: During the project stage, was responsible for Process Engineering calculation & detailed engineering for utilities & Offsite Plant, prepared national & International BIDs for equipment & Engineering packages. Prepared the Specifications sheet for equipment and others. Review & studying the P&FD, P&ID. Prepared Enquiry documents & Technical Bids evaluation.

5.2: Project Planning & Reporting: From the project to Pre-commissioning & Commissioning phase was responsible for project management, planning & scheduling and implementation. During the site construction phase was responsible for progress monitoring of whole project and it was carry out with help of software **MS-Project**.

6A: CAPTIVE POWER & STEAM GENERATION PLANT (From 1989 to 1992):

Involved from process engineering package development to commissioning and startup of captive power Plant. It comprise one auxiliary boiler (200TPH) and two gas turbine (20MW) with heat recovery boilers (100TPH). The Fuel were Natural Gas, Naphtha & High Speed Diesel (HSD) for high pressure boilers (110 Kg/cm2, 520 deg C), Gas Turbine Generators (2*20 MW) Frame-V with Mark-IV control system along with Combined Heat recovery cycle and all other auxiliaries for Black Startup of Captive Power and Steam Generation Plant.

6B: SODA BICARB PLANT: Development of process engineering & basic engineering package, and carry out detailed Engineering, Commissioning and startup of 150 TPD Sodium Bicarbonate Plant. Sizing of Process Equipment's like Heat Exchangers, vessels, Cyclone separators, Fluidized Bed dryer. Execution & Commissioning of 10KM long & 20inch dia. Effluent disposal pipeline.

E: PETROCHEMICAL ENGINEERING COOPERATION-INDIA

7. Marketing Engineer (From 1987 to 1989): Worked as Marketing Engineer for Chemical engineering equipment i.e. vessel, exchangers, column and cyclone separators.

PERSONAL DETAILS
DATE OF BIRTH: 1-May'1960 NATIONALITY: INDIAN
Permanent House Address: H.No:1, Muzammil Manzil, behind zakir Hussain school
Civil line, Doodhpur, Aligarh-202002, UP, India
E-mail:aw_nafey@yahoo.com; rafey2003.rk@gmail.com. Mobil; 0091-7310625735

ABDUL WAHAB.