

Holds a B. Sc. in Chemistry and has about 32 years hands-on experience in power plants in the field of water treatment and boiler treatment with a good understanding of chemical analysis; water treatment equipment design, operation and troubleshooting; traditional treatment of river waters, MSF and RO; fuel oil additives and combustion improvement and the chemicals used for these purposes, the theory behind them, their effect and application and the differences; corrosion, cathodic protection and corrosion inhibitors. Has developed from a Shift Chemist to Department Head and General Manager.

PERSONAL DATA

Nationality : Egyptian
Birth Date : 10/10/1962
Gender : Male
Marital Status : Married
Residence : Cairo

EDUCATION

: B. Sc. in Chemistry, Ain Shams University, 1984

LANGUAGES

Arabic : Native Language
English : Very Good

COMPUTER SKILLS

: Windows, MS Office (Word, Excel, Access, Power Point), Internet
: SQL Server, Visual Studio.NET, Flash
: Visual Basic, Visual Basic.NET, C#

TRAINING COURSES AND CERTIFICATIONS

: Received a certificate in computer science with emphasis on the COBOL programming from the Middle East Centre for Computer Studies (British ICL Company) (1985).
: Passed TOEFL (Test of English as a Foreign Language with a total score of 553 points) (1986). In Nov. 2007 I have passed TOEFL again to demonstrate my language ability with a total score of 590 points.
: Passed the American test GRE Aptitude Test (Graduate Record Aptitude test) with a total score of 1410 points (1986).
: Passed the American test GRE Advanced Test (Graduate Record Advanced Test in Chemistry) with a statistical score of 640 points (1986).

- : Certificate in Power Plant Operation (basic & site specific lessons) from Bechtel Overseas Corp. (the consultant of Shoubra El-Kheima Power Plant Project – 6 months training period) (1986).
- : Received a certificate in Fire Protection (1987).
- : Certificate in "Integrated Environmental Studies" from Institute of Environmental Studies, Ain Shams University (2010).
- : Free study (started in 1988 and till now) of programming, includes Visual Basic, Access, SQL Server, Visual Studio.NET (Visual Basic.NET, C#, ASP.NET), in addition to applications like Power Point and Flash for developing specific training and lecture modules.
- : Gained a certificate of recognition from the Arabian Organization for Industrialization after I won a national wide competition held by the organization in the field of programming (Oct. 2000).
- : Received a certificate in Project Management, 36 PDU Credits, in preparation for the Project Management Professional (PMP) exam administrated and offered by the American Project Management Institute (2015).

CHRONOLOGICAL EXPERIENCE RECORD

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| Dates | : From Nov. 2014 till now |
| Employer | : Veolia Water Solutions (French Company) |
| Project | : El Ain El Sokhna Thermal Power Plant – two supercritical boilers – 700MW each |
| Job title | : Process Manager |
| Job Description | : The company provided El Ain El Sokhna Project with the following systems: <ul style="list-style-type: none"> • Two Multi-Effect Desalination (MED) units (4000 m3/day). • Electrochlorination System (3 x 50% generators – 160 m3/hr). • Demineralization Plant - 3 x 25 m3/hr - Strong acid/Strong base mixed beds. • Waste Water Treatment Plant. • Two Oil separators (Corrugated Plate Interceptor CPI) – 80 m3/hr. • Sewage Treatment Plant (STP) of 85 m3/day. • Chemical Feed System (Ammonia, Hydrazine and Oxygen). |
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| Dates | : From Aug. 2013 till Oct. 2014 |
| Employer | : EGYPTROL – Commissioning Subcontractor for SAMSUNG C&T |
| Project | : Qurayyah Independent Power Project (6x750MW) – Combined Cycle (12 gas turbines (12x230MW), 12 HRSG (Heat Recovery Steam Generator) and 6 steam turbines (6x230MW)) |
| Job title | : Commissioning Chief Chemist |
| Job Description | : <ul style="list-style-type: none"> • Establishing the chemical lab, preparing a list of the required chemicals (Names, quantities, storage, and purchasing), glassware, instruments. Prepare a manual for all chemical test procedures, standard solutions and chemical reagents. • Calibration of the instruments and prepare the calibration curves. Establishing the lab working procedures. |

- Supervision and attendance of the acid chemical cleaning of the 12 HRSG units.
- Commissioning and starting up of the raw water DAF system (2 x 700 m³/hr), filters, RO system (3 x 241 m³/hr), Mixed beds (3x95 m³/h), potable water system, wastewater system (3 x 220 m³/h), and sewage treatment plant.
- Chemical Treatment of the HRSG units and maintaining steam quality during commissioning.

Dates : From May 2011 till Aug. 2013
Project : Shoubra El-Kheima Power Plant
Job title : Chemical Department General Manager
Job Description : Supervise the chemical cleaning (alkaline boilout, decoppering, acid cleaning, neutralization, then passivation) of unit #1, #2 and #4 boilers.

Dates : From May 2010 till May 2011
Employer : [EGYPTROL](http://www.egyptrol.com) – Subcontractor for NEM – a Dutch Boiler Fabricating Company
Project : Sidi Krir Power Plant 750MW, 2 HRSG modules
Job title : Chemist
Job Description : Maintaining the chemical treatment parameters of the HRSG, maintaining the availability of the sample panel instruments and dosing system and conducting the necessary chemical analysis to maintain the HRSG's water quality.

Dates : From Jun. 2009 till Apr. 2010
Project : Shoubra El-Kheima Power Plant
Job title : Head of Chemical Treatment Department

Dates : From Feb. 2008 till May 2009
Employer : WTD (Water Treatment & Desalination – Italian Company)
Project : Talkha Power Plant
 (The system was composed of Raw Water Treatment (Clarifiers, Filters and Hypo injection), Demineralizer System (two trains with mixed beds) and Waste Water Treatment system.)
Job title : Project Manager
Job Description : Prepare the system for reliability run, punch items completion and managing the maintenance activities during that period.

Dates : From Jan. 2004 till Jan. 2008
Project : Shoubra El-Kheima Power Plant
Job title : Head of Chemical Treatment Department
Job Description :

- Involved in the modification project of upgrading the plant control system to DCS system.
- Reviewing the operation logic and starting up of condensate polisher system and demi plant.

Dates : From Jan. 2003 till Dec. 2003
Employer : Steag Decon Association (SDA)
Project : Mubarak-Kohl project
 (It is a project under the framework of bilateral technical co-operation between the Federal Republic of Germany and Egypt.)
Job title : Consultant for the german side
Job Description : Design and implement a computer system for evaluating the training elements (Centers, Material and Instructors) of the Ministry of Electricity in Egypt.

Dates : From Oct. 2001 till Dec. 2002
Employer : American InterGen Sidi Krir Generating Company
 (First BOT power plant in Egypt)
Job Description :

- Designed, sold and implemented interactive training software.
- Wrote the Chemical Treatment training material (Chemical basic and general lessons in the field of water treatment, Boiler treatment and corrosion) and site specific lessons (explanation of the plant systems operation).

Dates : From Sep. 1999 till Sep. 2001
Employer : PGESCO (Power Generation Engineering & Services Company)
Project : Ayoun Moussa Power Plant
Job title : Start-up Administrative / Technical Assistant
Job Description :

- Following up the chemical treatment systems contracts and dealing with the contractors.
- Walking down the chemical treatment systems.
- Starting up the chemical treatment systems.
- As a Consultant, establishing the chemical lab for the owner (Egyptian Electricity Authority), designing the work discipline within the chemical lab and writing the chemical analysis procedures to be carried out for the whole plant.
- Writing the operation procedures for the Chemical Treatment Systems.
- Designing an Inventory Management Software to fulfill contract item between PGESCO and the client (Egyptian Electricity Authority) in Ayoun Moussa and Sidi Krir 1 & 2 sites.
- Designed and implemented software for the punch items and turn over packages follow up.
- Actually my work in this project got me involved and interested in the interesting subject of Project Management. I made use of the available resources from Bechtel (partner of PGESCO) and the available training courses in CBT (computer based training) CDs available through the internet.

Dates : From 1997 till Aug. 1999
Project : Shoubra El-Kheima Power Plant
Job Description :

- Made use of my proficiency in programming to design a number of integrated systems to handle the plant daily tasks through my own view that I have established during 12 years of experience. The Plant management transferred me to the Technical Support Department to implement my proposed project.

- Visual OMT (Visual Operation, Maintenance and Training). It is a software linking the technical drawings (P&ID) to the technical data of the power plant so that the operator can get data and perform daily tasks (Technical data, Corrective Maintenance Requests Management, Preventive Maintenance Requests Management and Spare Parts Management in addition to training) through simple mouse clicks over the familiar P&ID drawings.
- Chemical treatment performance system. It is a software to record, and analyze the performance of the de-mineralizer trains, condensate polishers and raw water treatment system.

Dates : From 1990 till 1997
Employer : Saudi Consolidated Electricity Company (SCECO West)
Project : Rabigh Steam Power Plant, Western Region
Job title : Shift Chemist
Job Description :

- Desalination Plants (3 units), MSF.
- Hypo Production and Injection System.
- Fuel Oil Treatment Plant.
- Attending the chemical cleaning of two newly installed boilers.
- In addition to the full chemical analysis needed for controlling these systems.

Dates : From 1988 till 1990
Employer : Dailem
Project : Shoubra El-Kheima Power Plant
Job Description :

- Worked during the start-up period (construction and start-up of chemical treatment equipment in unit #4).
- Attended my first boiler chemical cleaning.

Dates : From 1985 till 1988
Project : Shoubra El-Kheima Power Plant
Job Description :

- Comprising the operation of the following systems:
 - Chlorination – Gaseous Cl₂ injection, monitoring and analysis.
 - Domestic water (activated carbon filters and distribution via pneumatic tank).
 - Making up demineralizer (strong acid/base ion exchange resin, 3 trains of Carbon filter, Cation, Decarbonator, Anion and mixed bed configuration with a production capacity of 60 t/h.
 - Waste water treatment (Oil separation “DAF”, clarification, filtration, Floc press process).
 - Condensate polishing system (strong acid/base ion exchange resin).
 - Chemical feed system (NH₄OH, N₂H₄, Na₂HPO₄/Na₃PO₄) and Sampling system (standard solutions and reagents for the online instruments).
 - Fuel oil additive system.
 - Boiler water treatment and monitoring.
 - Transformer Oil and EH Oil Analysis.
- In addition to the necessary chemical analysis to control the operation of the previously mentioned systems, charging and discharging of the

generator hydrogen, cooling water systems (Closed and Once through) and the fuel analysis (S content, H₂O content, Calorific value and viscosity). The chemical analysis comprises the whole gamut of techniques from traditional to modern techniques. I had access to the following chemical analysis instruments:

- Spectrophotometers (Single & Double beam).
- Ion Selective Electrodes.
- Flame Photometer.
- Potentiometer.
- Ion Chromatography.

Field of experience : Working more than 30 years in power plants in the field of water treatment and boiler treatment brought me a good understanding of:

- Chemical Analysis involved in water treatment.
- Water treatment equipment design, operation and troubleshooting. Traditional treatment, MSF and RO.
- Boilers and cooling systems chemical treatment.
- Wastewater treatment, analysis, operation, and sludge handling.
- Sewage water treatment (tertiary treatment), Analysis, and operation.
- Fuel Oil additives, Combustion improvement and the chemicals used for these purposes, the theory behind them, their effect and application and the differences.
- Corrosion, Cathodic protection, and corrosion inhibitors. The theory, the application and the differences among the different methods of facing corrosion.
- The chemical cleaning of boilers (in Saudi Arabia and Egypt) - both for brand new boilers and boilers running for years.

Training experience : • During my course of work I have written a number of vocational training courses (utilizing Flash and Power Point) conducted by myself in Shoubra El-Kheima Power Plant Training Center and by other instructors in the gulf area.

- Conducted a number of vocational training courses (material and lectures performance) on behalf of Apex (a training company located in Dubai) and on behalf of NCB (National Consulting Bureau – Kuwaiti-Egyptian Training Company) in different locations in Egypt, Saudi Arabia, Oman and Dubai.
- The courses, I have prepared the scientific material for and conducted them, are dealing with these major titles:
 - Boiler water treatment.
 - Cooling water and cooling towers chemical treatment.
 - Failure analysis of boiler tubes and cooling systems.
 - Fuel and fuel oil additives, the problems of Whitening, Asphaltenes, deposits on the fire side.
 - Boiler chemical cleaning (both water side and fire side).
 - Water treatment for drinking water (Clarification, Filtration, Fe, Mn, H₂S removal, Softening, Sterilization).
 - Desalination plants (MSF and MED).
 - Reverse Osmosis, Dialysis and Electrodialysis.
 - Ion exchange and condensate polishing.
 - Waste water treatment and sludge handling.
 - Instrumental analysis (spectrophotometers, ion selective

electrodes, flame photometers, ion chromatography and gas chromatography).

- Root cause analysis and corrective actions (problem solving).