

# Hossam Hussein

## Water & Wastewater Treatment Professional Engineer

Technical expert & data-driven leader with 16+ years experience in process engineering, designing, execution, management & operation of water/wastewater treatment plants (Reverse osmosis RO desalination, industrial, sewage/sanitary). Certified in PMP®, RMP®, VMA, and Lean six sigma yellow belt. Proven track record in exceeding goals & effectively leading and motivating teams & driving operational excellence & enhancing plants performance while reducing costs. Passionate about contributing to success through technical leadership & collaboration. Eager to tackle challenging roles and utilize diverse knowledge & experience to make a positive impact.

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### SOFT SKILLS

Team Building	Initiative	Communication	Adaptability
Work Ethics	Leadership	Teamwork & Collaboration	Conflict Resolution
Analytical Thinking	Problem-Solving	Decision-Making	Presentation

### TECHNICAL SKILLS

Sustainability & Reliability	Management of change	Water Chemistry	HAZOP
Project & Risk Management	Environmental Regulations	Data Analysis & Reporting	Process Troubleshooting
Process Optimization	Value Engineering	Lean Six Sigma	Process Design

### WORK EXPERIENCE

#### Water/Wastewater Treatment Senior Process Engineer Jazan Integrated Gasification & Power Company (JIGPC)

08/2022 - 08/2024

Jazan, Saudi Arabia

JIGPC is a JV of Air Products, Aramco, and ACWA Power and it provides power & utilities to Aramco.

Key achievements & responsibilities :

- Process Optimization : Optimized 50,000 m³/day industrial wastewater treatment plant, STP, RO desalination plant achieving 10% reduction in chemicals consumption costs & 12% improvement in effluent KPI through process improvements, driving initiatives, and data-driven decision-making.
- Technical Expertise : Successfully commissioned two treatment systems, ensuring smooth operations and meeting all safety & performance requirements on time and within budget.
- Process Troubleshooting & Problem-Solving : Identified performance gaps, troubleshot issues, and developed solutions to maintain safe, efficient, and reliable plant operations.
- Project Management & Collaboration : Supported projects team with scope development for plant modifications and expansions, ensuring smooth project execution. Collaborated with multi-discipline teams to conduct HAZOP studies, mitigating potential hazards.
- Technical Communication & Relationship Building : Collaborated effectively with cross-functional teams (laboratory, operations, maintenance, projects ,OHSE, C&I) to ensure seamless plant operations and positive working relationships.
- Team Leadership & Training : Provide leadership and guidance to junior process engineers and plant operators/supervisors. Conduct training sessions to enhance the skills and knowledge of team members.

## WORK EXPERIENCE

### Process Engineering Specialist

#### Marafiq - Saur Operation and Maintenance (MaSa O&M Services)

06/2018 - 06/2022

Jubail, Saudi Arabia

MASA operates and maintains Marafiq utilities such as potable, industrial & sanitary wastewater treatment, and seawater cooling facilities.

##### Key achievements & responsibilities :

- Process Optimization : Improved regulatory compliance by 21% with Royal Commission environmental regulations for 148,000 m<sup>3</sup>/day industrial wastewater treatment plant and 100,000 m<sup>3</sup>/day STP. Reduced specific energy consumption by 14% (from 1.4 kWh/m<sup>3</sup> to 1.2 kWh/m<sup>3</sup>).
- Process Troubleshooting & Problem-Solving : Increased COD effluent compliance by 17%, through a comprehensive approach involving extensive testing of various GAC filter media and optimizing the Fenton reaction process.
- Data Analysis & Reporting : Analyzed lab reports and process/operation trends to identify abnormalities and recommended for process/operational improvements. Prepared crucial documents for environmental permit renewal.
- Technical Expertise & Documentation : Developed SOP's, monitoring sheets, and checklists, to ensure comprehensive and common understanding of plant performance by team.
- Teamwork & Communication : Collaborated with operations and maintenance teams through daily meetings to review plant status and action plans.
- Safety & Risk Management : Prioritized safety and assessed & mitigated risks associated in all process engineering and O&M activities to ensure compliance with safety protocols.

### Operation leader

#### Veolia

04/2017 - 04/2018

Jubail, Saudi Arabia

Veolia operates & maintains an industrial wastewater treatment plant for Kemya company ( a JV of Sabic & Exxon Mobil).

##### Key achievements & responsibilities :

- Operational Excellence : Led a team of 15 members to ensure smooth operation of 8,000 m<sup>3</sup>/day industrial wastewater reuse plant consists of (MBR+RO+ZLD systems), achieving consistent overall compliance higher than 95% with environmental regulations.
- Cost Control & Budget Management : Reduced operational costs by 7% through effective monitoring and optimization of chemicals, energy, and sludge handling expenses.
- Process Troubleshooting & Optimization : Analyzed operational data, troubleshooted incidents, and implemented process modifications and improvements to enhance treatment performance, maintaining stable & optimized performance.
- Team Leadership & Training : Developed and implemented training programs for operators, ensuring high technical competence and safety awareness.
- Emergency Response : Developed and implemented emergency response plans to address incidents such as equipment failures, chemical spills, and extreme weather events.
- Safety & Compliance : Established and enforced safety procedures, ensuring adherence to OHSE protocols and SOPs.

### Projects Engineer

#### Veolia

04/2015 - 04/2017

Jeddah, Saudi Arabia

Veolia designs and builds water & wastewater treatment plants.

##### Key achievements & responsibilities :

- Project Leadership & Management : Successfully led the completion of a 45 million SAR water/wastewater treatment EPC projects (STP, RO, IWWTP) from initiation to completion, ensuring adherence to scope, budget, quality, safety, and schedule, achieving 15% under budget.
- Technical Expertise & Design Review : Reviewed and analyzed process designs, drawings, and technical submittals, ensuring compliance with specifications and engineering standards. Identified and suggested design improvements for enhanced efficiency, cost-effectiveness, and sustainability.
- Installation Management & Supervision : Oversaw mobilization, equipment installation, and construction activities, ensuring adherence to safety protocols and quality standards. Proactively identified and resolved installation challenges, coordinating with stakeholders and implementing solutions.
- Cost Control & Budgeting : Monitored project expenditures, identified cost-saving opportunities, and implemented measures to maintain project budget. Negotiated contracts with vendors and suppliers, securing favorable terms while upholding quality standards.
- Reporting & Documentation : Prepared comprehensive project reports, analyzing progress, identifying lessons learned, and documenting key decisions.
- Commissioning & Startup : Developed and executed commissioning plans, ensuring proper equipment installation, testing, and operation as per design specifications. Collaborated with operations team to optimize performance and ensured smooth plant handover.

## WORK EXPERIENCE

### Projects & Site Engineer

#### Washnah Trading & Contracting

03/2012 - 03/2015

Jeddah , Saudi Arabia

Washnah designs, builds, operates, & maintains water and wastewater treatment plants.

Key achievements & responsibilities :

- Project Planning and Management : Led planning activities, including scope definition, scheduling, budgeting, and resource allocation for > 140 million SAR water/wastewater EPC projects ensuring objectives, and deliverables are in alignment with client requirements and technical feasibility.
- Stakeholder Communication : Acted as the primary point of contact for stakeholders, ensuring effective communication and collaboration throughout the project life-cycles. Participated in client meetings, presenting project updates and addressing concerns.
- Technical Oversight : Provided technical oversight and guidance to project teams, reviewing design calculations, drawings , and construction activities to ensure compliance with standards and specifications.
- Risk Identification & Mitigation : Identified potential risks and developed mitigation strategies to proactively address challenges.
- Quality Assurance & Control : Implemented quality assurance and control measures to maintain high standards of workmanship and compliance with regulatory requirements.
- Project Delivery : Oversaw project execution, managing procurement of materials and equipment, monitoring progress, resolving issues, and ensuring timely and within-budget delivery. Oversaw commissioning and testing activities, ensuring they meet performance specifications.

### Operation Engineer

#### Water Services Dia Egypt

03/2008 - 03/2012

South Sinai, Egypt

Water Services Dia Egypt designs, builds, operates & maintains RO desalination and Wastewater treatment plants.

Key achievements & responsibilities :

- Chemicals Management & Optimization : Implemented a data-driven approach to optimize chemicals dosing, achieving 8% reduction in chemicals costs while maintaining water quality & membranes lifespan. Led a team to identify and troubleshoot a critical equipment malfunction, minimizing downtime by 20% and preventing potential production losses.
- Operation Leadership : Oversaw and managed day-to-day operation of five BWRO & SWRO desalination plants, ensuring optimal performance, efficiency, and compliance with set-points and quality standards. Continuously monitored plant parameters, identified deviations, and implemented corrective actions to maintain stable operation.
- Process Design & Troubleshooting : Designed RO systems by using IMSD & ROSA projection software's, CIP, pre-treatment, & post-treatment systems, ensuring efficiency and cost-effectiveness. Conducted root cause analysis of issues and implemented corrective measures to prevent recurrence.
- Data Analysis & Reporting : Analyzed operational data, trends, and key performance indicators (KPIs) to identify improvement opportunities and optimize plant performance. Generated comprehensive reports summarizing plant performance, potential issues, and recommendations for actions.
- Safety & Environment : Ensured adherence to all safety protocols and procedures, maintaining a safe working environment for personnel. Monitored and reported on environmental parameters, ensuring compliance with environmental regulations.
- Team Management & Training : Led and motivated operation team members, providing technical guidance and training to ensure competence and efficient work. Fostered a collaborative and positive work environment, promoting continuous learning and improvement.

## EDUCATION

### Bachelor's Degree of Chemical Engineering & Petroleum Refining

#### Faculty of Petroleum & Mining Engineering, University of Suez Canal

2000 - 2005

Suez ,Egypt

## PERSONAL INFO

Birth Date : 18 July, 1982

Visa Status : KSA residency (transferable)

## TARGET JOB

Employment Type : Full time

Notice Period : 2 weeks

## CERTIFICATES

### PMP

from PMI, 2022, Credential ID#3210923

### Value Engineering VMA

from Save international, 2024, Credential ID#202405006

### Advanced diploma in wastewater treatment & recycling

from Alison, 2021

### ICDL (MS office)

from european computer driving foundation, 2012, S.N #UN09154278

### RMP

from PMI, 2023, Credential ID#3714537

### Lean six sigma yellow belt

from council for six sigma certification, 2024, ID#SluLYOfQ3p

### English language

from oxford institute, 2012

## COURSES

### QHSE

Veolia Water Technologies, 2016, KSA

### Utilities Operation

El Nasr Company of Oil Refinery, 2004, Egypt

## MEMBERSHIP

### PMI

"Since 2022 "

### Egyptian Engineers Syndicate

"Since 2005"

### Save International

"Since 2024 "

### Saudi council of Engineers

"Since 2012 "

## LANGUAGES

### Arabic

Native

### English

Professional

## PROJECTS

### O&M of 50,000 m<sup>3</sup>/day IGCC industrial wastewater treatment plant

KSA, Jazan economic city (End-User: Aramco and Royal commission)

### O&M of 8,000 m<sup>3</sup>/day Kemya Wastewater reuse treatment plant (consists of MBR+RO+BC systems)

KSA ,Jubail industrial zone (End-User: Sabic & Exxon Mobil joint venture)

### D&B of 15,000 m<sup>3</sup>/day King Khalid Air Base STP plant

KSA ,Khamis Mushat (End-User: Ministry of defense/Royal Air Forces)

### D&B of 12,000 m<sup>3</sup>/day Upgrading of existing Rafha BWRO plant

KSA ,Rafha (End-User: Ministry of Water&Electricity) .

### O&M of 148,000 m<sup>3</sup>/day TP8 industrial wastewater treatment plant & 100,000 m<sup>3</sup>/day STP

KSA ,Jubail industrial zone (End-User: Jubail Royal commission)

### D&B of 10,000 m<sup>3</sup>/day Abraj Kudai GW & TSE plants

KSA ,Makkah (End-User: Inma/Ministry of Finance).

### D&B of 20,000 m<sup>3</sup>/day Al Eis STP plant

KSA ,Al Eis (End-User: Ministry of Water&Electricity)

### O&M of 30,000 m<sup>3</sup>/day SWRO plant

EGY ,Sharm Al Sheikh (End-User: Coral bay resorts)

## TEACHING

### Fundamentals of wastewater treatment

Marafiq - 2019

### Regulations and compliance in water/wastewater treatment

Royal Commission -2020

### RO desalination plants optimization & troubleshooting

IDWT - 2011

### Advanced water treatment technologies

On-line Workshop - 2023

### Industrial wastewater treatment challenges

Kemaya Plant - 2017