

Alaa El-Din Mohamed

Operation & Maintenance Engineer

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Military Service : Completed
(Oct. 2018 - Dec. 2019)

EDUCATION

Bachelor's Degree in Special Chemistry
Faculty Of Sciences, Suez Canal University
(Oct. 2013 - Jan. 2018), Ismailia

- **Grade:** Very good
- **GPA :** 2.9
- **Graduation Project:**

"Thiazole derivatives" with a grade
(Excellent).

SKILLS

SOFT SKILLS

- Operations management.
- Research abilities.
- Knowledge of manufacturing processes.
- Quality focus.
- Reporting skills.
- Attention to details.
- Troubleshooting.
- Analytical thinking.

SUMMARY

Hard-working "Operation & Maintenance Engineer" experienced in operation for **RO, water & wastewater plants**, with the ability to identify and solve operational problems in a plant. studying system functioning, investigating complaints, assessing operational objectives, identifying operational solutions, calculating costs, determining action impact on the entire system, and implementing changes.

EXPERIENCE

O&M ENGINEER

Hassan Allam Holding – INTECH
Water and Wastewater Plants (Mar. 2022 – Present)
6th of October Potable Water Treatment Plant, Phase 3
Capacity (400.000 m³/d)
(Jun. 2022 – Present)

Responsibilities:

- Conduct on Commissioning & Start up for water treatment plant.
- Conduct on Process Design of Wastewater Treatment Plants.
- Check and follow up all pipes – flanges-pumps -flash Mixers -paddle flocculator-Lamella sheets- rapid sand filters- Air Blowers – Generators.
- Performing system updates.
- Follow up the operating condition for the plant to make troubleshooting.
- Training staff on new procedures and safety standards.
- Conducting experiments to study the effects of chemicals used in treatment process, such as
- **Jar Test** : to help select the proper coagulant and dose for the reduction of the turbidity value .
- **Breakpoint Test** : to reach the point where enough chlorine has been to a quantity of water to satisfy its disinfecting demand.
- Follow up chlorine injection system and adjust the regulator according to required Dose.
- Follow up the preparation of chemicals used in the treatment process , as Aluminum Sulfate , Alum (Al₂(SO₄)₃ · 14 H₂O).
- Conducting tests on water samples hourly to determine chemicals composition , pH level , Turbidity , free chlorine and other factors.
- Make daily and Monthly Reports about the Technical Condition of the plants.

COMPUTER SKILLS

- Excellent user of Ms-office 2016 (Word,Power Point, Excel 2016).

INTERNSHIP

Trainee Chemist

Suez Oil Processing Company (SOPC),Suez
(Aug. 2016 - Sep. 2016)

Trainee Chemist

Medical Union Pharmaceuticals (MUP),Ismailia
(Jul. 2016 - Aug. 2016)

LANGUAGES

Arabic : Native

English : very good

Hurghada Waste Water Treatment Plant

Capacity (90.000 m³/d)

(Mar. 2022 – Present)

Responsibilities:

- Conduct on Process Design of Wastewater Treatment Plants.
- Check and follow up all pipes - flanges – pumps – diffusers – screens – Vortex Chamber – Air Blowers – Generators.
- Follow up the operating condition for the plant to make troubleshooting.
- Conduct on Decanter Centrifuge for sludge Dewatering.
- Conduct on slow sand Filter for Tertiary Treatment.
- Follow up chlorine injection system and adjust the regulator according to required Dose.
- Conduct on lab test such as MLSS – MLVSS – SVI – SV30 – COD – BOD – TSS – TDS – PH – DO – Microscopic.
- Adjust Q-RAS & Q-WAS – DO – F/M – SRT – SVI – Efficiency according to result lab.

Operation Engineer

Maskoub International For Water Treatment

RO Desalination Plants - Alarish, Cement Factory

(Jan. 2020 – Mar. 2022)

Capacity (6000 m³/d)

Responsibilities:

- Follow up all parameters of the BWRO Plants.
- Conduct and Follow up competency Birm filters and sand filters and Calculate the filters efficiency.
- Preparation and follow up calcium hypochlorite dosing of feed and permeate water for disinfection and (caustic soda, soda ash, calcium hydroxide “hydrated lime”, sodium bicarbonate) to adjust PH.
- Preparation and follow up SMBS dosing of feed water before Cartridge Filters to make a reduction of all free chlorine.
- Conduct jar test for aluminum sulfate to determine the best dose and some chemical analysis.
- Conduct Antiscalant projection software then apply it to the plant.
- Adjust chemical dosing according to the required dose based on water analysis.
- Calculate the dosing pump deviation percent of required chemicals consumption.
- Conduct flushing for RO membranes during plant stoppage, and preservation with SMBS Solution.
- Measure the SDI for Cartridge Filters and sand Filters.
- Measure LSI for permeate water to decrease the corrosion or the scaling.
- Conduct chemical cleaning for physical fouling and chemical fouling “scaling” & organic fouling.
- Conduct the probing test and flow test.
- Calculate recovery, salt rejection, salt passage, concentration factor, flux, plugging factor.
- Calculating high pressure pump hydraulic power, high pressure pump efficiency, Turbo efficiency.
- Calibration of all measuring devices “ HANNA “.