

Elie Tawil, P.E., LEED AP BD+C

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Lead Mechanical Engineer

Licensed Professional Engineer with over 17 years of experience in the government and private sectors. Provided engineering design, consulting, technical review and code update, project management, cost estimating, and EPC services to various clients in several industries.

Education, Professional Licenses & Certifications

- New Jersey Institute of Technology, New Jersey, USA
 - ✓ Master of Science in Engineering Management
 - ✓ Bachelor of Science in Mechanical Engineering
- Licensed Professional Engineer in the State of New Jersey, No. 24GE04949200
- Leadership in Energy and Environmental Design Accredited Professional (LEED AP BD+C)
- HVAC Design Certificate, New York University, New York, USA

Skills:

HVAC Design, MEP Codes, LEED, Sustainability, Energy Management, Indoor Air Quality, Revit, Trace.

Work Experience

Continuing Education and Development, Inc. (CED) (www.cedengineering.com) Feb. 2007 – Present
New Jersey, USA

(CED is an approved online continuing education provider for licensed professional engineers in the US and Canada)

Director of Operations/Technical Reviewer

- Provided technical review of engineering courses based on various industry codes, rules and regulations
- Provided online continuing education courses to an approved sponsor that caters for Professional Engineers licensed in the US. Courses offered cover various topics within the mechanical engineering field.
- Involved in several projects and tasks pertaining to the website's operations and upgrades, such as, introducing new continuing education programs, designing a state-of-the-art online educational platform as well as engaged in launching a new website by managing and working closely with a team of professionals to ensure a smooth successful launch.

National Petroleum Construction Company (EPC), Abu Dhabi, UAE
Lead Mechanical Engineer (HVAC and Package Equipment)

Mar. 2014 – Dec. 2021

Prepared equipment specifications, datasheets, developed engineering drawings, calculations, raised material requisitions, reviewed Vendor technical offers, and issued clarifications as well as technical bid evaluation reports for several projects and enquiries pertaining to HVAC and various mechanical-package equipment installed on offshore platforms which include: chillers, condensing units, air-handling units, ventilation fans, slop pumps, chemical injection packages, pedestal cranes, flares, instrument air compressor package, fuel gas conditioning packages, jet fuel system, and hypochlorite package. I also supervised and mentored junior engineers and trainees.

Major Projects:

➤ **ADNOC – Umm Shaif Gas Cap Condensate Development– Phase 1 (FEED Project), UAE**

Design of New Accommodation Platform (NAP), two New Processing Platforms (Compression Platform CP-2 and Collector / Separator Platform CSP-2) and three New Wellhead towers (GP1, GP2 and GI1).

This FEED project was as a joint consortium between NPCC and Technip. NPCC's scope included the design and engineering of the living quarters at NAP along with the associated package equipment located at NAP and the wellhead towers. I was assigned as the Lead HVAC Engineer and conducted the following tasks:

- ✓ Prepared the HVAC design basis, HVAC equipment specification and performed preliminary heating and cooling load calculation for the 7-Level accommodation platform, which utilized a chilled water system that comprised of three air-cooled chillers designed for hazardous area classification (Zone 2, IIB, T3). The chillers were supplemented with three chilled water pumps to distribute chilled water to the respective air-handling units located in the HVAC room at each level.
- ✓ Conducted cost optimization study related to the HVAC system serving the accommodation platform. Some of the points included the selection of seawater water-cooled chillers instead of air-cooled chillers, reduced ventilation rates and installation of enthalpy wheels.
- ✓ Assisted Technips' team in developing their HVAC deliverables for the technical rooms (Electrical, Instrumentation and Switchgear) located at CP-2 & CSP-2.
- ✓ Reviewed the Sub-Contractor's Offer pertaining to the scope of HVAC systems serving the above-mentioned platforms.

➤ **ONGC – R-Series Ratna Field (EPC Project), India**

5 wellhead platforms, associated pipelines and tie-in modifications, offshore India.

In this EPC project, I was assigned as the Lead HVAC Engineer and handled the HVAC scope by performing the following tasks during detailed engineering:

- ✓ Review of Sub Contractor's project deliverables for the HVAC system serving the building modules located at the five individual platforms (R-12B, R-13A, R-9A, R-7A and R-10A). Each HVAC system comprised of a DX System used to air condition and pressurize these buildings (i.e. Switchgear room, Instrument room and Shelter room). In addition, each platform included a Battery Room served by a dedicated mechanical ventilation system made up of supply & exhaust fans, ductwork, and filters.
 - o The deliverables included: Heating and Cooling Load calculations, Equipment, Duct and Pipe Layout Drawings, Equipment General Arrangement Drawings (Air Handling Units, Condensing Units, Fans, Sound Attenuators, etc.), as well as review of the material handling reports serving the HVAC equipment.
- ✓ Attended FAT for the above HVAC Equipment at JL Marine in Singapore.

➤ **SAUDI ARAMCO – 3 CRPOs (Contract Release and Purchase Orders) EPC Project, KSA**

1. CRPO 51: (1) EDP, (3) Slipovers & (12) PDMS Upgrade In ZULF Field.
2. CRPO 52: (1) ABSF EDP, (2) New ABSF PDMS & (4) BRRI Platforms Upgrade.
3. CRPO 54: (2) SFNY PDMS Upgrade, (3) New PDMS, (1) Single Well Upgrade and Associated Facilities in SFNY Field.

In this EPC project, I was assigned as the Lead Package and HVAC Engineer to handle the following major Equipment during detailed engineering:

- ✓ 20 no. of Corrosion Inhibitor Injection Packages (by M/S Petronash) located at various platforms of the ZULF, ABSF, BRRI, and SFNY fields. Fifteen packages constituted of horizontal cylindrical tanks and five constituted of vertical cylindrical tanks all of which are designed as per UL 142. All packages utilized API 675 controlled volume pumps and included all the necessary electrical, instrumentation and other auxiliary accessories.
- ✓ 1 no. of (Double Girder type) 7.5 MT Electric Overhead Travelling Crane (by M/S Saudi Cranes) located indoor at the Electrical Distribution Offshore Platform serving the GIS equipment.
- ✓ 2 no. of Pillar-type Jib Cranes (by M/S EMC) located at the Abu Safah (ABSF) Electrical Distribution Offshore Platform. One (1MT capacity) with a dynamic factor of 1.0 used for onboard lifts and another (2MT capacity)

with a dynamic factor of 2.0 used for offboard and onboard lifts. These jib cranes are used to handle HVAC components as well as other equipment located on the platform.

I was also responsible for the review of Sub Contractor's project deliverables for the HVAC system serving the switchgear buildings located at the ZULUF and ABSF electrical distribution platforms. Each HVAC system comprised of a DX System (2 x 100%) used to air condition and pressurize these buildings.

➤ **ADMA - Umm Lulu Field Package II (EPC Project) , UAE**

Installation of six new wellhead towers and the construction of a super complex consisting of six bridge-linked platforms, including a gas treatment platform, a separation platform, a riser platform, a utilities platform, an accommodation platform, a water disposal platform and two flare platforms.

This EPC project was awarded as a joint consortium to NPCC and Technip (as NTC). NPCC's scope included Engineering and Procurement activities for ULSP and ULRP platforms as well as the Living Quarters at ULAP. I was assigned as the Lead Engineer and handled the following Package Equipment during detailed engineering:

- ✓ 4 no. of Chemical Injection Packages located at the ULSP (Separation) Offshore Platform which are: Antifoam, Demulsifier, Flootation Aid and Corrosion Inhibitor Injection. The chemical injection packages constituted of rectangular tanks (designed as per Roark's & Young formula for Stress and Strain); utilized API 675 controlled volume pumps and included all the necessary electrical, instrumentation and other auxiliary & accessories. Attended FAT for all the above chemical packages at M/S Petronash in Jebel Ali, UAE.
- ✓ 1 no. of Pedestal Crane located at ULSP (Separation) Offshore Platform (hazardous area classification). The crane had an offboard capacity of 30MT at 13m radius and an onboard capacity of 30MT at 20m radius. Attended FAT for the pedestal crane at M/S Oil States Skagit Smatco in Houma, Louisiana, USA.
- ✓ 2 no. of (Double Girder type) Bridge Cranes located at the ULRP (Riser) Offshore Platform (hazardous area classification) used to handle various equipment such as valves and E&I components. One (18MT capacity) with a span of 24.5m and another (7MT capacity) with a span of 13.5m. Attended FAT for both bridge cranes at M/S Italkrane in Milano, Italy.

I also, assisted the principal HVAC Engineer in reviewing the HVAC deliverables related to the technical rooms located at the ULSP.

➤ **Nawah Energy Company (Barakah Nuclear Plant), UAE**

Conducted a two-week site visit at Barakah Nuclear Plant to survey and assess the various HVAC equipment serving the nuclear plant. Prepared HVAC reports pertaining to the findings along with the recommended corrective measures.

- ✓ The site visit consisted of two parts: surveying the air-cooled condenser area by the seafront and the chillers located inside the nuclear facility.

Dar Al Handasah (Shair and Partners), Beirut, Lebanon
Mechanical Engineer

Jul. 2009 – Mar. 2014

Involved throughout the different stages of projects starting from the basis of design to bidding the construction documents for HVAC for several residential, commercial, and industrial building projects. Developed detailed engineering drawings, reports, and calculations. Prepared mechanical equipment BOQ as well as cost estimates for major construction projects.

Major Projects:

➤ **Dubai International Airport, Dubai, UAE**

Over 7 million sq. ft new expansion project at Dubai Airport which includes the construction of the new Concourse 4 to facilitate check-in and baggage servicing as well as the major renovations at Terminal 1 proposed to be connected to Concourse 4.

➤ **Kudai Towers, KSA**

Consists of 12 towers and a podium: Includes; hotels, ballrooms, conference areas, business lobbies, Tier III DataCenters, VIP lounges, prayer halls, food courts, retail shops, offices and five parking levels.

- **Rehabilitation and Renovation of Le Meridian Hotel, Amman, Jordan**
50,000 sq. ft Hotel Renovation Project: Includes; grand ballroom, new hotel entrance and two new restaurants.
- **King Abdullah II House of Culture & Art, Amman, Jordan**
290,000 sq. ft new Theatre Project: Includes; Main theatre (1,600 seats), small theatre (400 seats), several rehearsal rooms, two central lounges and a main restaurant.
- **Nikki Beach Resort & Spa, Doha, Qatar**
170,000 sq. ft beach resort & spa project located at the Porto Arabia, the Pearl: Includes: luxury villas with private pools, gym/spa, restaurants and bars, and a main beach club.

Vanderweil Engineers Inc., Princeton, New Jersey, USA
Mechanical Engineer

Feb. 2008 – Jul. 2009

Involved in the HVAC design of several pharmaceutical and science and technology facilities from the early stages of the project to bidding the construction documents. Developed detailed engineering drawings, reports, and calculations. Conducted extensive site survey of existing facilities to be renovated including research lab facilities, universities, and offices. Inspected existing HVAC equipment and conducted post construction punch-listing and commissioning of newly installed and developed building systems and equipment.

Major Projects:

- **Boehringer Ingelheim Pharmaceuticals, Inc., Danbury, CT**
50,000 sq. ft Research and Development Renovation Project: Includes vivarium, labs and office wing.
- **Princeton University, Princeton, NJ**
Jadwin Hall Renovation, (Headquarters of the physics department): Includes labs, classrooms and offices.
- **Fox Rothschild LLP, Philadelphia, PA**
12th, 19th and 21st floor office renovations.

CUH2A Inc., Princeton, New Jersey, USA
HVAC Designer

Apr. 2007 – Feb. 2008

Developed detailed engineering drawings, and calculations related to the HVAC design of several pharmaceutical and science and technology industries. Conducted post construction punch-listing and commissioning of newly installed and developed building systems and equipment (Air handling units, chiller and boiler plants, fans, and pumps).

Major Projects:

- **Medical Diagnostic Laboratories, L.L.C, Hamilton, NJ:**
60,000 sq. ft. New Construction Project: Includes a BSL3 facility, vivarium, labs and offices.
- **Columbia University Rosenfield, New York, NY:**
19th Floor Renovation and AHU replacement.
- **National Institute of Health (NIH) Baltimore, MD:**
Johns Hopkins Bayview Medical Center (commissioning and punch-listing).

NEW YORK UNIVERSITY

School of Continuing and Professional Studies

NYU Schack Institute of Real Estate

awards this certificate to

Elie W. Tawil

for satisfactory completion of the program in

HVAC Systems Design



Spring 2009


Associate Dean


Dean