

K.C.H VIRAJ DE SILVA

Mechanical Engineering Executive | MEP Maintenance & Operations Engineer

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Summary

Mechanical Engineering Executive, MEP Maintenance & Operations Engineering with a strong industry background and a proven ability to deliver results independently under tight deadlines. Known for strong work ethics, adaptability, and the ability to perform effectively under pressure. Holds a **B.Eng. (Hons) in Mechanical Engineering from Lincoln University, Sri Lanka**, and a **Higher National Diploma in Mechanical Engineering (HNDE) - SLIATE from Labuduwa, Galle, Sri Lanka**. Skilled in developing innovative solutions, driving engineering projects to successful completion, and managing MEP engineering-related maintenance work.

Skills

Mechanical Design & Analysis (AutoCAD, SolidWorks, or similar CAD software)
MEP Mechanical Systems Design, Installation, Testing Commissioning, Maintenance and Troubleshooting (Expert-level understanding of HVAC, Piping, Plumbing, Fire Protection systems, Kitchen Equipment and structural systems Project Management, Planning, Scheduling, Budgeting)
Construction Management (Onsite supervision, Material selection, Safety regulations)
MEP Related Maintenance Management (Preventive and Predictive maintenance with Mechanical System for High Rise Mix Development Building)
Compliance with Codes and Standards (ASME, ISO, OSHA, etc.)
Problem-Solving (Mechanical Related Maintenance)
Team Leadership & Development (managing cross-functional teams, mentoring, and performance evaluation)
Communication Skills (report writing, client interaction, Approval Letter Preparation)
Strategic Planning (long-term maintenance and construction strategy)

Professional Experience

Mechanical Engineering Executive - (MEP Maintenance & Operations) at Colombo Lotus Tower Management Company (Pvt) Ltd. (14-Nov-2022 to Present)

*The **Colombo Lotus Tower**, standing at an impressive 350 meters, is the tallest self-supported structure in South Asia and the tallest skyscraper in Sri Lanka. Located in the heart of Colombo, this iconic tower serves as a major transmission hub for television and radio projects. Beyond its primary function, the tower offers a wide array of **leisure and entertainment options with Majestic Pride Casinos including Large Scale banquet halls, shopping centers, luxury hotel suites, South Asia first revolving Restaurants with Kitchen Operation, Digital museums, auditoriums,** and more.*

As a key member of the Engineering & Maintenance Division, I assisted the Chief Engineer in the full lifecycle management of mechanical systems — including design support, operational supervision, maintenance planning, emergency response, AMC management, and compliance monitoring. I

ensured uninterrupted operation, safety compliance, and long-term reliability across multiple building services and critical systems in a high-demand environment.

Responsibilities

Core Functional Responsibilities:

- Assisted in planning, designing, testing, operating, maintaining, and upgrading mechanical systems and equipment.
- Developed and monitored preventive, predictive, and reactive maintenance programs.
- Conducted inspections and supervised maintenance operations for all mechanical systems.
- Ensured high uptime and operational stability for all critical engineering systems.
- Maintained comprehensive technical documentation, log reports, and equipment history.

Annual Maintenance Contract (AMC) Responsibilities:

- Conducted AMC contractor pre-qualification, technical evaluations, and site assessments.
- Prepared tender documentation, BOQs, evaluation reports, and bid comparisons.
- Participated in tendering, negotiation, selection, and awarding processes.
- Monitored AMC vendor performance, SLA compliance, and reporting standards.
- Maintained system-wise AMC records, performance logs, and service certificates.
- Coordinated corrective works, warranty services, and rectification follow-ups.

System-Wise Maintenance Management:

1. Central HVAC Systems

- 450 TR Carrier Water-Cooled Chiller Plant
- 2 × 500 TR Cooling Towers
- 9 Nos Water-Cooled VRV Systems with closed circuit cooling tower loop
- Full HVAC chemical water treatment program
- AHUs, FCUs, extract fans, pressurization systems

2. Fire Protection Systems

- 320 kW Fire Pump System (8 pumps)
- Sprinklers, hydrants, hose reels, deluge, and suppression systems

3. Plumbing & Drainage

- Water supply pumps, transfer pumps, sewer & waste pumps
- Domestic water storage and tank systems
- Complete plumbing, drainage & valve control infrastructure

4. Generator & Power Backup System

- 2 × 2.2 MW MTU Diesel Generators
- Water-cooled heat exchanger & radiator systems
- Fuel storage and fuel transfer equipment

5. Kitchen & Gas Systems

- Operation & Maintenance of 180+ commercial kitchen equipment units
- Central LPG distribution network and storage system

6. Specialized Facility Maintenance

- South Asia's First Revolving Restaurant Engineering Systems
- Maintenance supervision of Sri Lanka's fastest, tallest, and highest-capacity elevator systems
- Responsible for full mechanical maintenance operations of Sri Lanka's largest casino facility Majestic Pride Casino located at Colombo Lotus Tower.
- Lotus Tower Petal Glass Curtain Wall facade cleaning system
- Rope access, safety monitoring & specialized cleaning oversight

Engineering Operations & Leadership:

- Supervised maintenance teams, contractors, and technical staff.
- Ensured recommended repairs and system recovery procedures were executed.
- Prepared incident reports, performance logs, and failure analysis reports.
- Coordinated emergency response & crisis maintenance operations.
- Assisted in WSH & EMS implementation, audits, and closure of non-compliance.
- Updated and monitored ERP engineering data and digital maintenance records.
- Scheduled manpower, job allocations, overtime approvals and rostering.

Safety, Compliance & Standards:

- Enforced Workplace Safety & Health (WSH) and Environmental Management Systems (EMS).
- Ensured legal compliance with engineering standards, fire code & OEM guidelines.
- Monitored contractor compliance with safety and operational policies.
- Maintained clean and safe working environments at all times.
- Ensured proper usage of PPE and safety equipment.

Administrative & Reporting Duties:

- Prepared weekly & monthly engineering reports for top management.
- Presented progress updates and system performance analysis.
- Maintained all technical documents, service records, and AMC data.
- Managed procurement processes with AMC vendors & suppliers.
- Supported internal audits and performance review meetings.

HR, Training & Team Development:

- Identified recruitment needs and skill gaps within the department.
- Coordinated with HR for hiring, training, appraisal & disciplinary actions.
- Conducted coaching, on-the-job training, and technical skill sessions.
- Encouraged continuous professional development among staff.

- Maintained discipline, uniform standards, and teamwork culture.

Professional Contributions:

- Supported continuous improvement initiatives and business operations.
- Implemented risk management and operational efficiency strategies.
- Optimized resource allocation and budget utilization.
- Built strong internal and external stakeholder relationships.
- Stay updated with new technologies, systems, and industry best practices.

Summary of Job Role

- **Maintenance Team Supervision:** Leading and overseeing the mechanical maintenance team, ensuring efficient coordination, task delegation, and workforce management.
- **Maintenance Planning & Scheduling:** Developing and implementing comprehensive maintenance schedules (both preventive and corrective) to ensure smooth operation of all mechanical systems.
- **Asset Management:** Managing and overseeing the lifecycle of all mechanical assets, including HVAC systems, elevators, and other critical infrastructure.
- **Budgeting & Cost Control:** Overseeing the maintenance budget, controlling costs while ensuring high standards of operation, and optimizing resources.
- **Vendor & Contractor Management:** Coordinating with external vendors, contractors, and suppliers to procure equipment, materials, and services as needed.
- **Energy Efficiency:** Identifying opportunities to enhance energy efficiency in mechanical systems and implementing sustainable practices.
- **System Monitoring & Troubleshooting:** Regularly monitoring and inspecting mechanical systems, including HVAC, elevators, and plumbing, to identify issues early and troubleshoot any malfunctions.
- **Equipment Testing & Calibration:** Ensuring that mechanical equipment and systems are routinely tested, calibrated, and maintained according to the manufacturer's specification.
- **Documentation & Records Management:** Maintaining up-to-date records of maintenance activities, equipment manuals, service logs, and compliance reports for auditing purposes.
- **Compliance & Safety:** Ensuring all mechanical systems and maintenance activities comply with safety regulations and industry standards (such as ASME, ISO, OSHA)

Assistant Project Engineer (MEP) – Hayles Fentons MEP Department. (2021 to 2022)

*Served as an **Assistant Project Engineer** for the prestigious **Cylex Mixed Development Project**, a 25-story mixed-use facility comprising luxury apartments and suites, office spaces, conference facilities, **12 specialty restaurants**, and **7 state meeting rooms**.*

*Key responsibilities included the supervision, coordination, and execution of complete **MEP systems**, ensuring seamless integration across:*

- ***Mechanical systems** and equipment installation*
- ***HVAC and Chilled Water Systems**, including central chiller plant*

- ***Electrical Infrastructure**, power distribution & ELV systems*
- ***Plumbing & Fire Protection Networks***
- *Ensured compliance with industry standards, project specifications, and safety protocols while coordinating with consultants, contractors, and suppliers to achieve timely and quality-driven project delivery.*

Responsibilities

- **MEP Systems Design Review**: Reviewing and ensuring the design of mechanical, electrical, and plumbing systems aligns with project specifications, local codes, and industry standards.
- **Coordination with Architects and Structural Engineers**: Collaborating with architects, structural engineers, and other design professionals to ensure seamless integration of MEP systems into the building design.
- **Drawing and Specification Management**: Managing detailed MEP drawings and ensuring their accuracy and consistency throughout the project lifecycle.
- **MEP Installation Oversight**: Supervising the installation of mechanical systems (HVAC, elevators, etc.), and plumbing systems (water supply, drainage, etc.).
- **System Testing and Commissioning**: Overseeing testing and commissioning of MEP systems, ensuring they function as intended before handing them over for use.
- **Regulatory Compliance**: Ensuring that all MEP installations comply with local building codes, safety standards (such as OSHA), and environmental regulations.
- **Documentation and Reporting**: Maintaining detailed records of MEP works, including progress reports, test certificates, and as-built drawings.

Assistant Project Engineer (MEP / Refrigeration & Air Conditioning) - Nawaloka MEP Concept's (Pvt) Ltd of Nawaloka Group of Company (2020 to 2021)

***Altair Colombo – 67-Storey Residential Towers Project, Sri Lanka**, worked as part of the core MEP team for the iconic **Altair Colombo Project**, a 67-storey luxury residential twin-tower development, recognized as one of the tallest and most architecturally unique structures in Sri Lanka.*

Responsibilities.

- Designed and engineering of **heating, ventilation and Air conditioning (HVAC) system** including at **site project survey, inspection and cost estimation, preparation of materials listing, drawings, installation, testing.**
- Planning, managing work force, scheduling and engineering for execution
- Project coordination between worksite, office, owners and suppliers andconsidered issues such as cost, safety and time constraints.
- Control and supervise workmen and subcontractors to make sure standards of building performance, quality, time and cost schedules, and safety are complied.
- Responsible for keeping daily work records including additional work claims to the clients and from the subcontractors.
- Good Documentation practice (GDP) for submission.
- Prepared the Daily, Weekly & Monthly progress reports, handing over documents and as

built drawings.

- Experienced in tender documents, quotations & BOQ.

- Supervised and coordinated **ACMV (Air Conditioning & Mechanical Ventilation) works** for the entire development
- Involved in the design review, installation, and commissioning of the **Central Chilled Water Air Conditioning System**
- Oversaw operation and integration of **4 × 500 TR Water-Cooled Chillers** (2,000 TR total capacity)
- Monitored MEP contractors to ensure adherence to project specifications, engineering standards, and QA/QC protocols
- Coordinated with consultants, subcontractors, and client representatives for smooth project execution
- Ensure proper testing and handover of HVAC services across residential levels, amenities, and service floors

Assistant Mechanical Engineer – Abans PLC Central Air Conditioning Department.
(2019 to 2021)

*Worked as an **Assistant Mechanical Engineer** on the prestigious, **Abans PLC – Central Air Conditioning Engineering Department (Mixed Development Project at Colombo City Center, Colombo 07)** the largest luxury mixed-use development Project.this landmark project includes residential towers each exceeding 40 stories, a 10-story office tower, a retail mall and parking space. I was responsible for overseeing key aspects of construction, ensuring high standards of quality and adherence to international specifications.*

Responsibilities.

- Maintaining quality & industrial standards of project work.
- Planning and monitoring the project progress.
- Preparing Method statements, Quality control procedure and Inspection test plans as per project requirements.
- Coordination with structural contractors & MEP contractors.
- Technical evaluation of MEP contract.
- Inspection for installation, testing and commissioning of Electrical, HVAC, plumbing system are done as per the approved drawings & project specifications.
- Heating, Ventilation and Air Conditioning (HVAC) System Including at site project Penthouses Installation. (VRF Ducted Type Systems)
- Fully learn and Practices about full testing & commissioning, Troubleshooting VRF Air Conditioning System and Any Service.
- **HVAC System Design**: Developing comprehensive HVAC system designs that meet the project's specifications and comply with local codes and industry standards.
- **Load Calculations**: Performing thermal load calculations to determine the cooling requirements for different areas of the project.
- **Equipment Selection**: Selecting appropriate HVAC equipment, such as chillers, air handling

units, and VRV systems, based on performance, efficiency, and budget.

- **Project Coordination**: Collaborating with architects, structural engineers, main contractors and other disciplines to ensure seamless integration of HVAC systems within the overall building design.
- **Schedule Management**: Developing and maintaining project schedules for the HVAC installation, coordinating with contractors and subcontractors.
- **Site Supervision**: Overseeing the installation of HVAC systems, ensuring compliance with design specifications and quality standards.
- **Quality Control**: Conducting inspections and quality checks during installation to ensure that work meets the required standards and specifications.
- **Problem-Solving**: Addressing and resolving any technical issues or challenges that arise during the installation phase.
- **Documentation**: Preparing detailed documentation, including test reports, operation manuals, and as-built drawings for HVAC systems.
- **Health and Safety Oversight**: Promoting safe work practices on-site and ensuring adherence to health and safety guidelines throughout the project.

Mechanical Engineering Intern (Trainee Assistant Mechanical Engineer) - Abans PLC Central Air Conditioning Engineering Department (2018-Apr to 2018-Oct)

*Worked as a **trainee Assistant Mechanical Engineer** of the (Mixed Development Project at Colombo City Center, Colombo 07 & FPA Project, Colombo)*

Responsibilities.

- Installation, testing, commissioning and troubleshooting of Electrical andHVAC Services.
- Coordination of MEP drawings.
- [Colombo City Center Project – Colombo, Sri Lanka]
- Heating, ventilation and Air conditioning (HVAC) system including at siteproject Installation and inspection, drawings, testing & Commissioning
- Responsible about installation of the Multi Split Air Conditioning Systems &Ducted type VRF, FCU units.
- Responsible about installation of the plumbing & drainage system.
- Responsible about installation of the Toilet & Kitchen Exhaust Duct systemand Multi split, VRF Copper piping system.
- Human resource & Time management in workplace.
- **[FPA Project - Narahenpita]** Learned and practiced about full testing andCommissioning VRF Air conditioning System.
- Learned about Design, Tendering and Estimating full HVAC System.
- I worked at Abans PLC Maintenance Division.
- Ability About Duct Design & HVAC Design
- Coordinate and manage sub-contractors, labourers, and materials for the installation of a chiller system.

- Progress monitoring and assist the project engineer to complete the project on schedule.
- Preparation and documentation of daily progress reports, daily work program, weekly and monthly programs, material sample submissions and document transmittals.

Education

B.Eng. (Hon's) in Mechanical Engineering 2024 – 2025
Lincoln University of Malaysia

Higher National Diploma In Engineering (Mechanical) - HNDE 2016 – 2019
Mechanical Engineering, Refrigeration & Air-conditioning Engineering,
Ministry of Higher Education, Sri Lanka Institute of Advance Technology Education HNDE Labuduwa, Galle.

GEC Advance Level (C-2 ,S-1) Physical Streem 2019
S.T Servatius Collage , Matara

Certificates

Ordinary Soldier
National Cadet Crops - Sri Lanka 2010 – 2011

Membership in Professional Institutions

- Associate Member of the Institution of Inorporated Engineers, Sri Lanka – **IIESL (AM 8919)**
- Engineering Diplomate Member of the Engineering Council, Sri Lanka - **(ECSL)**
- ASHRAE Student Co-Activities - **(2019)**

Referees

Mrs. Chandrani Thennakoon
Senior Lecture – HOD Mechanical Department

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I do here by declare that the above information is true to the best of my knowledge, and I bear the responsibility for the correctness of the above details.

15/11/2025
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Date

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Signature