

Anupama Nilay Ramnavmiwale

C Eng (EC-UK), MStructE (UK), MIE (India)

Address: C-604, Kumbare Hermitage, Kumbare Township, Kothrud, Pune 411038, INDIA

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Area of Technical Specialization:

Analysis and Design of

- a) Industrial plants and irrigation structures
 - b) Pump stations and bridges, Substations, Hydro and thermal power plant (Allied structures)
 - c) Oil and Gas industry structures/ equipment supporting structures
 - d) Machine foundation
 - e) Blast resistant design of structural components
 - f) Air cooled condenser support structure and allied structures in Power Plant Industry
- Finite Element Analysis and design, FSI
 - a) Water tanks, ETP/STP
 - b) Penstock and RC Pile foundation
 - Worked on the design codes for the countries viz India, Australia, New Zealand and USA
 - Budget Estimating and costing
 - Proposal Coordination and Project management
 - Proof Checking of Pre-Engineered building Designs and shop drawing review
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PROFESSIONAL EXPERIENCE (15 years 6 months as on Dec 2018)

ASETS LUX CONSULTING LLP

Feb 2018- Feb 2019 – Technical Structural Manager

HOLTEC ASIA PVT. LTD (A subsidiary of HOLTEC INTERNATIONAL, USA)

Feb 2015- Feb 2018 - Lead Structural Engineer

MWH Resource net India Limited

April 2011 – Feb 2015 – Senior Structural Engineer

TATA CONSULTING ENGINEERS LIMITED

Apr 2010 – Mar 2011-Assistant Manager – Civil (E3)

Apr 2008 – Mar 2010 – Senior Engineer – Civil (E2)

Apr 2005 – Mar 2008 - Engineer-Civil (E1)

CONSULTING ENGINEERS CORP, Hinjewadi, PIP, Pune

Nov 2003 – Apr 2005 - Design Engineer

Technical Responsibilities Handled:

- Understanding process/piping/ HVAC/ electrical requirements & transforming the same in planning & design of building system for maximum possible utilization.
- Project planning and detail engineering of Main plant buildings, administrative building, Tank farm area , UGWT, utility racks-planning & design, storm water drainage & rainwater harvesting of the plot, ETP scheme for the plot.
- Dealt with Design review of pre-engineered building, Blast resistant design of part of plant building & design of firewall as per NBC.

- Planning & designing supporting systems for electrical & mechanical utilities, UGWT etc, Design & detailing of UGWT, OHWT, HSD storage tank, switch yard, transformer foundation & other utility structures
- Planning the layout of building considering demolition of existing structure & re-building the structure over same location.
- Designing a steel building for gantries of various tonnages.
- Preparing basic study note for ascertaining feasibility of the PEB building over conventional building system.
- Modeling, Analyzing and Designing of RCC & steel+RC Composite structure, Analysis & design of special structural elements like shear walls etc.
- Preparation of feasibility report & calculation of payback period for nalla diversion schemes.
- Experience in Quality Management System (QMS)
- Experience in business development activities namely preparing scope of services for consultant, MH estimates and block cost of project.
- Working for a cloud based technology which is developing a structural engineering tool considering SAAS concept (Software as a service platform)
- Preparing structural engineering inputs for the developers, Co-coordinating with the software developers in transferring the technical inputs, getting them executed through software and validating the outputs (RESULTS) as obtained from the coding done by the developers

EDUCATIONAL QUALIFICATION:

Master of Technology- Civil Engineering (Structural Engineering) 2013,

Gold medalist for standing first in Government College of Engineering Pune

Presented a technical paper at IIT Bombay in a National Level Technical Conference

B.E. (Civil), 2003,

University of Pune (India)

Silver medalist for standing Second University of Pune

Secured first rank in Government College of Engineering Pune

D.C.E, 2000,

Cusrow Wadia Institute of Technology, Pune

Gold medalist for standing first in the College and in final year project

Certification

ISO 9001-2008 Certified Internal Auditor (*Trained by faculty from TATA Quality Management services (TQMS)*)

PROFESSIONAL MEMBERSHIP:

Chartered Engineer- ISTRUCTE since April 2016

Associate Member of Institute of Civil Engineers India

Graduate member of IPENZ (Institute of Professional Engineers New Zealand)

Courses Attended

- Earthquake Resistant Structures' in Institute of Engineers Pune
- Hydraulic Design of Structures' in GCOE Pune.
- Admixtures in concrete in GCOEP co-organized by Gujarat Ambuja Cement Co.
- Design of RCC Liquid Retaining Structures' organized by Institute of Engineers India at Pune
- Applications of Geo-physical investigations in Civil Engineering' conducted by CWPRS
- Refresher course on IS 800-2007: Code of practice for design of steel structures, prearranged by INSDAG

Software Competency:

Staad Pro, Strand, Ansys, C Programming, MS Project, Micro station, Revit-A

Self Enhancement Programs

Attended various workshops on communication skills, inter-personnel skills, finance etc

PROJECTS ANNEXURE: Holtec Asia Prvate Limited

Title Combined Cycle Power plant- Sewaren

Client PSEG Fossil LLC

Duration April'15 – Oct'16

Location Woodbridge, NJ, USA

Role Lead Structural Engineer

Details As a lead structural engineer, Anupama was responsible for understanding the functionality of the Air Cooled Condenser (ACC) for designing its supporting structure and erection as a modular arrangements system by HOLTECs process team. Anupama assisted the sales team in preparing and submitting the pre-bid estimate based on preliminary design of the ACC along with the allied structures. The bid was awarded to HOLTEC in which the role of HOLTEC was supply the steam tube bundles for ACC and its supporting steel structure. The structure comprises of 20 ACC cells each measuring 13m x13m in plan thus contributing to 70mX55m foot print and 25m in height above ground. The assignment also included static and dynamic analysis of vibrating equipment supports, analysis and design of steel structure measuring about 1600MT, review of design drawings, review of shop drawings by fabricator, responding to the RFI by the US contractor, interdisciplinary co-ordination with heat transfer division within HOLTEC etc. Anupama has also got a chance to work in Finite Element Analysis of pipe flanges, nozzles of heat exchangers, steam duct supports and its connections etc. based on ASME Division B Section VIII which is related to mechanical checking of the equipments subjected to heavy heat and pressure loads similar to pressure vessels. As a part of the site execution, Anupama also assisted contractor's team in resolving site modifications during erection and actual fitment of the superstructure.

Title Combined Cycle Power plant- Bridgeport

Client PSEG Fossil LLC

Duration Nov'16 – Dec'17

Location Bridgeport, USA

Role Lead Structural Engineer

Details As a lead structural engineer, Anupama was responsible for understanding the functionality of the Air Cooled Condenser (ACC) for designing its supporting structure and erection as a modular arrangements system by HOLTECs process team. Anupama assisted the sales team in preparing and submitting the pre-bid estimate based on preliminary design of the ACC along with the allied structures. The bid was awarded to HOLTEC in which the role of HOLTEC was supply the steam tube bundles for ACC and its supporting steel structure. The structure comprises of 20 ACC cells each measuring 13m x13m in plan thus contributing to 70mX55m foot print and 25m in height above ground. The assignment also included static and dynamic analysis of vibrating equipment supports, analysis and design of steel structure measuring about 1600MT, review of design drawings, review of shop drawings by fabricator, responding to the RFI by the US contractor, interdisciplinary co-ordination with heat transfer division within HOLTEC etc. Anupama has also got a chance to work in Finite Element Analysis of pipe flanges, nozzles of heat exchangers, steam duct supports and its connections etc. based on ASME Division B Section VIII which is related to mechanical checking of the equipments subjected to heavy heat and pressure loads similar to pressure vessels. As a part of the site execution, Anupama also assisted contractor's team in resolving site modifications during erection and actual fitment of the superstructure.

Title Proposal for 3X800 MW ACC for Patratu-BHEL

Client National Thermal Power Corporation India

Duration Nov'17 – Feb'18

Location Ranchi-India

Details This was a bid stage estimate of ACC support structure for an equipment support structure 80 ACC cells having height about 52 m and measuring each cell as 30m x30m in plan. The

structure was surrounded by a 13m high Windwall. The 52m high columns were RCC pylon (hollow RC columns similar to RC chimney) structure to sustain heavy wind and seismic loads as per Indian Standards. The approximate estimate of structural steel turned around to be 17000MT.

PROJECTS ANNEXURE: MWH Resource net India Limited

Title American Municipal Power-US based hydro Power Project
Client American Municipal Power
Duration Oct'12 – May'13
Location Ohio, USA
Role Specialist Engineer
Details As a structural engineer, Anupama was responsible for shop drawings review for reinforced concrete lift drawings, reinforcement, embedded parts, draft tubes, sheet piles, cofferdam, lifting gates, spillways etc for a hydro power generation purpose dam. The proposed hydro power plant situated on Ohio River and Consists of 4 sites viz Meldahl, Cannelton , Smithland & Willow Island owned by American Municipal Power (AMP).

Title Fiji Bridges
Client Fiji Government
Duration Oct'12 – May'13
Location Ohio, USA
Role Specialist Engineer
Details As a structural engineer, Anupama was responsible for providing permanent solution for Strengthening of the existing bridges in Fiji under the Fiji Roads Authority. The assignment involved analysis and design of bridge deck as steel concrete composite structure and its connection with the existing abutment. The design was based on New Zealand codes

Title Australia Pacific Liquefied Natural Gas-QLD
Client Australia Pacific Liquefied Natural Gas & Origin Energy
Duration Oct'12 – May'13
Location Queensland, AUS
Role Specialist Engineer
Details As a structural engineer, Anupama was responsible for shop drawings review for reinforced concrete lift drawings, reinforcement, embedded parts, draft tubes, sheet piles, cofferdam, lifting gates, spillways etc for a hydro power generation purpose dam. The proposed hydro power plant situated on Ohio River and Consists of 4 sites viz Meldahl, Cannelton , Smithland & Willow Island owned by American Municipal Power (AMP).

Title Red Rock Hydroelectric project
Client US Hydro
Duration Feb'12 – June'12
Location Chicago, USA
Role Specialist Engineer
Details As a structural Engineer, Anupama was involved in analysis and design of reinforced concrete horse shoe shaped penstock and pile foundation for penstock. The design was done using US Army corporation manuals. The analysis was involved various loading cases including effect of soil dynamics and their appropriate load combinations.
Anupama has also worked on the analysis and design of steel structure for power house building of about 1900sq m area carrying 140Tone crane. The design was based on the IBC2009 and aimed to extract the quantities for steel members for tender purpose.

Title Cerro Verde WWTP
Client Enlozada WWTP
Duration Aug'12 – Dec'12
Location Brazil

Role Specialist Engineer
Details As a structural engineer, Anupama was responsible for the detailed design of foundation and connection for the chemical storage areas like Ferric chloride storage tanks, sodium hypochloride storage tank etc all. The assignments was also included the analysis and design of Primary influent meter vault and; analysis and design of 15 m diameter clarifier. The scope was included the interdisciplinary co-ordination amongst various disciplines such as process mechanical, electrical, piping, tank manufacturer etc all.

Title **Hadath & Hazmieh Reservoir**
Client **Republic of Lebanon**
Duration Mar'12 – Aug'12
Location Dubai
Role Specialist Engineer
Details As a structural engineer Anupama was responsible for analysis, design and detailing of 4 huge water reservoirs (supported on ground) 30mx30m each in size and 15 m deep each. Lebanon code along with UBC 2000 was used for design. Also, the task involved analysis and design of some L shape cantilever and counterfort type retaining walls.

Title **COOROY STP -Design of STP facility (Australian Project under AP region)**
Client Unity Waters AUS
Duration April'11 – Sept'11
Location Queensland, AUS
Role Lead Structural Engineer
Details As a structural engineer, Anupama was responsible for analysis and design of various treatment units in STP plant. The project was re-design of the anaerobic tanks, sullage receivable pumping station, balance tank, grit tank foundation (slab on grade), sludge thickener etc as per Australian code of practices for liquid retaining structures

PROJECTS ANNEXURE: Tata Consulting Engineers Ltd

Title **Consulting Engineering Services for Proposed Automotive manufacturing Plant**
Client Mahindra Automotive Limited
Duration Oct'07 – Mar'10
Location MIDC Chakan, Pune
Role Specialist Engineer
Details

- Work involved consultancy services for project planning and detail engineering of various buildings as per process & logistics requirements for automotive manufacturing facility by MAL.
- Worked as Specialist Engineer for carrying out detailed engineering of 'Press shop building' (90m x200m approx, 18m in height), Body Shop Building (140m x215m) in proposed project.
- The scope of buildings involved:
 - ⇒ Preparation of a Basic Study Report for finalization of structural configuration of building. Total 9 alternatives were introduced & studied for selection of structural steel columns of building & based on that a comparative statement was prepared on the basis of quantity of material consumed, cost, time of erection etc.
 - ⇒ Analysis & design of a super-structure Steel building to carry overhead gantry cranes having load of lifting capacity of 50 Ton as well as tandem operated.
 - ⇒ The sub-structure within the building involved was 2 Press Pits (on which press machines have to be located) + 2 Tunnels (for carrying conveyor).
 - ⇒ The RCC design of these machine foundations were done taking into consideration the process requirements specified

Title **Consulting Engineering Services for Proposed Paint & Powder Manufacturing Plant**

Client Jotun India Private Limited
Duration Sept'06 – Sept'07
Location MIDC Ranjangaon, Pune
Role Specialist Engineer
Details

- Jotun is world's second largest paint manufacturing industry.
- Client wished to build their first plant in India with world class process techniques & facilities.
- TCE was involved right from development of plot plan, planning other facilities, obtaining sanctioning/approval from concerned local authorities in addition to the design & engineering of the buildings.
- Analysis & Design of combined steel +RCC structure to support heavy containers/tanks/equipments (which was a part of process operations) in the building.
- The tolerance limits were so keen for the all process building.
- Main plant buildings were designed to satisfy 4 hour fire rating (as per regulations specified in National Building Code Of India)
- Preparation of layout for tank farm as per norms by concerned authorities.
- Design of foundations for huge steel tank carrying liquids viz solvents & binders mainly used in manufacturing of paint.

Title **Consulting Engineering Services for Proposed Plant At MIDC Ranjangaon, Pune**
Client 3M India Limited
Duration Sept'06 – Sept'07
Location MIDC Ranjangaon, Pune
Role Specialist Engineer
Details 3M India Limited intended to develop a facility for operations of their IATD – Industrial Adhesives and Tapes Division, EMD – Electrical Markets Division, DDS – Drug Delivery Systems Division, and Other Divisions in future

Title **Expansion plant at Pune**
Client Atlas Copco (India) Limited
Duration 2006
Location Pune (Existing ACIL factory)
Role Specialist Engineer
Details

- The work involves consultancy services for project planning and detail engineering of Proposed Pre-engineered building (PEB) for Compressor plant at Pune of approx area of 50,000 sqft.
- Drafting specifications for a pre-engineered building as well as demolition of existing building.
- Preparation of tender & Bill of Quantities for Civil & PEB works, detail engineering of RC/Steel structures & design review of pre-engineered building. (Modeling, Analyzing and Designing of RCC/Steel structures) of the project.

Title **Consulting Engineering Services for Proposed Biscuit Manufacturing Plant At Bangalore**
Client ITC Limited, Bangalore
Duration May'05 – Jun'06
Location Bangalore, India
Role Specialist Engineer
Details

- The work involves consultancy services for project planning of Industrial set up on a plot of 12 acres and detail engineering of various Industrial Plants accounting to approx area of 2,40,000 Sq.Ft along with all the utility buildings.
- Overall plot consists Main process buildings, HSD Tanks, underground water tanks, conveyor supporting structures, switch yards, utility buildings, external as well as internal mechanical-electrical utilities etc.

Title **Consulting Engineering Services for Proposed Biscuit Manufacturing Plant At Bangalore**
Client ITC Limited, Bangalore
Duration May'05 – Jun'06
Location Bangalore, India
Role Specialist Engineer
Details

- The work involves consultancy services for project planning of Industrial set up on a plot of 12 acres and detail engineering of various Industrial Plants accounting to approx area of 2,40,000 Sq.Ft along with all the utility buildings.
- Overall plot consists Main process buildings, HSD Tanks, underground water tanks, conveyor supporting structures, switch yards, utility buildings, external as well as internal mechanical-electrical utilities etc.

Title **Expansion of Plant at Nashik**
Client Atlas Copco India Limited
Duration May'06 – Aug'06
Location Nashik
Role Working t Engineer
Details

- The work involves consultancy services for project planning and detail engineering of 4 Industrial Plants accounting to total approx area of 60,000 sqft along with all the utility buildings.
- Working as Specialist Engineer on this assignment and is involved in detail engineering of office Building (Modeling, Analyzing and Designing of RCC structures) & Overhead RCC water tank.

Title **Condition Survey of Intake Tower Gates at Dam Pump House**
Client The Tata Steel Ltd
Duration Sept'05 – Oct'05
Location Jamshedpur
Role Working t Engineer
Details Worked as Specialist Engineer on this assignment and is involved in study of existing arrangement of flow controlling devices in the 75 year old Intake Structure on the basis of data available from underwater survey report, preparation of drawing of as built structure & present condition of underwater structure as on the date of survey, proposing the type of gates for control of flow from lower cooling pond & detailing out the arrangement of proposed gate in the intake structures below water.

Title **Feasibility study of Nallah Diversion Scheme at Bhivpuri for Kusur I, II & Padharwadi II.**
Client Tata Power Company Ltd
Duration Apr'05 – Jun'05
Location Mulshi Dam
Role Working Engineer
Details

- Worked as Specialist Engineer on Nalla Diversion scheme at Padarwadi, Kusur & Male (work in progress) near Mulshi Dam for preparing feasibility reports taking into consideration different alternatives.
- The work consists of design of weir section, water conductor systems with alternatives as PSC/NP/Box culvert to ascertain which is economical, Calculation of Quantities & preparing detailed estimates, Deciding the pay-back period for the scheme

**Residential Projects in STATE OF ARIZONA & CALIFORNIA, USA
Nov'03 – Apr'05 Design Engineer - Civil**

- Obtained experience in design of Lumber structures using American codes viz. Uniform Building Code, International Building Code (IBC2000), International Residential Code (IRC2003), California Building Code (CBC2000), ACI 318. Design consists of Gravity & Lateral Analysis of Structural system. Lateral analysis was given due importance due to Light wt. of structure, High Wind speed & Seismic Zone requirement. Main parameters in Lateral design were Shear walls & Diaphragms.
- Done a commercial structure design of Composite steel –concrete construction using ENERCALC 5.0.
- Worked on design & detailing of Retaining walls, Basement walls & Sound barrier walls.
- Involved in Retaining walls of Concrete as well as prefabricated Concrete masonry units (CMU) more or less similar with Reinforced Brick Masonry in India
- Experience in design of Steel structures using AISC manual with exposure to connection design & detailing.
- Design of Truss & its supporting system consists of members made up of Cold Formed Steel Sections with reference of AISC manual.

-End-