

Rimal Mukesh Patel

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SUMMARY:

- Lead Engineer with 9+ year experience in multi-physics environment including load analysis, strength assessment of onshore & offshore steel/ hybrid structures.
- Strong focus on solving technical aspects, improving project performance and driving commercial impact.

WORK EXPERIENCE:

VESTAS TECHNOLOGY R&D CHENNAI PVT. LTD, CHENNAI. (January 2017 to Present)
Tech Lead Engineer-E2 (Team RM) on deputation from HCL TECHNOLOGIES.

As Load engineer working on design of Site-Specific Tower & Foundations worldwide, tasks include:

- Site-specific load assessment of WTG on 200+ cases to facilitate tower and foundation structural design.
- Load calculations as per IEC61400-1 Ed3 and DiBT 2012 standards/ misc. National codes.
- Providing mitigation strategies to reduce extreme/ fatigue loads and noise, optimizing steel costs.
- Dynamic analysis in time & frequency domains for various turbine-tower combinations.
- Implementing specific-controller solutions to overcome critical issues.
- Power Curve simulation & Annual Energy Production change assessment.
- Alignment with certification bodies (DNV/ NKK) for site-specific assessment certification.
- Deep-diving into statistical impact of site wind on WTG component loads.
- Establishing process checks & workflow for ISM team to achieve best possible results.
- Co-ordinating with Global Sales team for selling options to our existing and potential customers; helping Vestas gain an edge at securing the winning bids in Global auctions Site Specific Tower markets.

NRP PROJECTS PVT. LTD, CHENNAI (December 2014 to January 2017)
Senior Structural Design Engineer – Structural Civil (Onshore)

As a Structural Engineer working on Structural packages, work included:

- Providing structural analysis for Tanking steel work & Pipeline projects (*Client: EIL-MRPL Projects, BPCL*).
- Maintaining safety check criteria and establishing quality scheme for minimizing wastage/ reworks cost.
- Overseeing Site construction analysis and providing critical practice oversight and corrections.

CYBERMARINE KNOWLEDGE SYSTEM PVT. LTD, MUMBAI (August 2014 to November 2014)
Senior Structural Engineer, Structural Analysis Team - Offshore

As a structural lead in the offshore structures department, I primarily carried out review and worked on :

- Conceptual (First Principle) Design of a Non-class A-frame supported on a modular pontoon to meet specific operational constraints. Ideated and translated into working solution. (*Client: Adani Ports Pvt. Ltd.*)
- Basic load calculation and static analysis of structures on Jacket rigs as per offshore codes like API, ABS MODU, ASD, AISC and SNAME guidelines etc.
- Solid FE Modeling and In-place Spectral Fatigue analysis of critical leg-mat connections for jackets EP5 & EP7. (*Client: Rig Masters Pte., Singapore*)
- Carrying out Dynamic analysis - Eigen frequency checks of burner boom frame, kingpost assembly due rig motions. (*Client: Transocean, Singapore*) .

Additional achievements included:

- Meetings and liaison with FE tool providers in establishing new FE tool (MSc-NASTRAN) in structures dept.
- Troubleshooting existing issues in the FE modules; structural tools to merge CAD/ engineering team outputs.

INDIAN REGISTER OF SHIPPING, HEAD OFFICE, MUMBAI
Assistant Surveyor (Plan Approval), New Construction Department

(July 2009 to August 2014)

While at the New Construction department-Marine of the IACS member Classification society, I worked on:

- IACS-HCSR rule development project – Developing FE mesh of VLCC/Bulkers; carrying out global and local Strength Analysis using MSC-PATRAN/NASTRAN.
- Local Stress analysis considering static, hydro-dynamic loads (wind, wave-action, environmental, inertial) or specification based load criteria and finding ways to dissipate stress concentrations.
- Develop acceptable structural arrangement following post-processing in FE simulation of various:
 - Supporting structures and foundations of equipment such as winches, gen-sets, crane pedestals.
 - Lifting/ anchoring/ mooring/ towing appliances such as cranes, davits, bollards, deck fittings.
- Assess Hull girder longitudinal strength, plate and column buckling checks to ensure adequacy of scantlings.
- Verify overall structural integrity, approving welding schedules, EN calculations.
- Achieve the above through extensive reading and familiarizing with requirements of design standards/ guidelines (*ISO standards, IACS UR, GL DNV LR for steel ships, CAP437 heli-deck standards*) and safety requirements (*IMO guidelines*).
- Class Rule-based design appraisal of structural plans for various marine and industrial structures.
- Detail design calculations for modifications on existing strength decks, ship hulls, caisson gates etc.

Other Class Functions include:

- Type Approval of marine products based on IMO/SOLAS requirements.
- Assessment of Safety plans- Structural fire protection, life-saving appliances, tonnage, crew accommodation.
- Ensuring audit readiness and Improvement of in-house approval procedures through constructive feedback.

SOFTWARE SKILL SET:

FEA Packages	VTS (Flex5/ HAWC2); DNV GENIE-SESAM v6.2, ANSYS-12, STAAD-Pro 6, MSC-PATRAN +MSC-NASTRAN solver, NEi Fusion 2013 (Solidworks + Nei-NASTRAN)
Class Rule Software	DNV NAUTICUS, IRS Rules Software
Misc. Package	MS Sharepoint, JIRA, AutoCAD, MS Office;

EDUCATIONAL QUALIFICATION

YEAR	COURSE	INSTITUTION	AGGREGATE
May 2009	B.Tech (Civil Engg.)	National Institute of Technology, Tiruchirappalli (NIT)	7.62 (CG)
Mar 2005	CBSE Class XIIth	Sindhi.Model.S.S.School, Kilpauk, Chennai	73%
Mar 2003	CBSE Class Xth	Sindhi.Model.S.S.School, Kilpauk, Chennai	85%

ACADEMIC PROJECTS:

- “Simulation and Optimization of Traffic Network Flow in Trichy city using PASSER-V” - Dr. Moses Santhakumar, Head of Department, Civil Engineering, NIT Tiruchirappalli (*May 2009*).
- “Simulation and design of Vibration Adaptor used for testing PSLV Shell” using MSC NASTRAN- Scientist ‘G’ Dr. S Balakrishnan, Structural Dynamics Division at VSSC, ISRO, Thiruvananthapuram (*June 2008*).
- “Mechanics Review” course with 87% and “Energy-101” with 97% through edX.

REFERENCES :

• Pradeepkumar Zinjade	• Senior Manager, Control Engg I & O, Vestas Chennai.	• Contact: +91-9500060431
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• Sreenidhi Chinnari Devendra	• Lead-Tower, Vestas, Portugal	• Contact: +91-9164118926
• Kunain Ali	• Manager, NRP Projects Pvt. Ltd., Chennai	• Contact: +91-9841468388
• Saumya Sengupta	• Engineering Manager, Cybermarine Knowledge Systems Pvt. Ltd., Mumbai	• Contact: +91-9167451895
• Venugopal C R	• Chief Surveyor & HOD, Technical Services, IRS, Mumbai	• Contact: 022-30519404

PERSONAL DETAILS:

Date of Birth : 22nd October 1987
 Nationality : Indian
 Marital Status : Married
 Passport No. : G6415036
 Languages known : English, Hindi, Gujarati, Tamil.
 Hobbies : Swimming, Basketball, Reading Non-fiction, Problem-solving