

BIHAR VIKAS MISSION

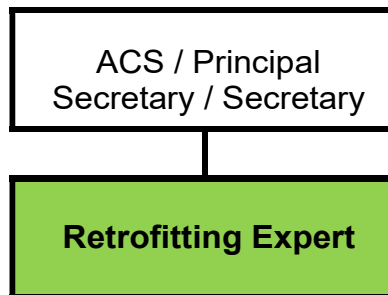
Job Description



1. General Information:

Position Title:	Retrofitting Expert
Report to:	ACS / Principal Secretary / Secretary–Building Construction Department
Department:	Bihar Vikas Mission

2. Organization Chart



3. Key Accountabilities

Strategizing and Expert Advisory

- Strategize and design the roadmap for achieving the objective of reducing the disaster vulnerability of the critical and lifeline buildings and infrastructure in Bihar, by providing technical advice regarding the techniques and measures to retrofit the existing building stock to earthquake-resistant standard
- Support the key officials and personnel in the Department to carry out physical assessment of significant buildings and infrastructure in the State to meet specifications of prevailing Indian standards or other specifications laid down by statutory bodies and Central Ministries and Government of Bihar
- Design and promote systematic, formal and technically sound retrofitting plans for deficient constructions, through precise measures for quality control and quality assurance, stringent techno-financial and techno-legal regimes and improved contracting practices
- Provide consultation and expert technical advice to the Department in the following aspects:
 - Adopting the suitable risk assessment methodology based on broad vulnerability characteristics of buildings and structures reflected in the broad sense
 - Reviewing of seismic hazard to locate areas with high hazard, and identify important / high-grade buildings that should be considered for retrofitting
 - Reviewing structural characteristics of the building, including its as-designed and as-built status, including its building typology and modifiers
 - Evaluating economic factors considering the building age, condition and occupancy, and other relevant performance objectives
 - Assessing expected performance level of building using simplified and / or systemic analysis techniques

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- Conduct cost-benefit assessment of various retrofitting measures, their complexity and other factors (like extent of disruption during retrofit process) to determine the most suitable measure to reduce risk to building's functionality
- Ensure that the plan and projects implemented to mitigate disaster aftermath are in line with the international and national standards and norms for seismic proof construction and retrofitting
- Lay down mandates for private builders / developers to carry out retrofitting of all private hospitals, cinema halls, shopping malls and multi-storied residential and office complexes
- Establish collaborations with organizations and institutes which have large-scale national seismic testing facilities, like the shake / shock table facilities at Central Power Research Institute Bangalore, Structural Engineering Research Centre Chennai, Indian Institute of Science Bangalore, Central Building Research Institute Roorkee and Indian Institutes of Technology Kanpur, Roorkee etc. to develop testing programs to support the retrofitting operations in the state
- Promote human resource development and up-gradation through a formal indigenous capacity building effort in the field of disaster resistant construction, by partnering with strong network of technical institutes, like Indian Institutes of Technology (IITs), National Institutes of Technology (NITs), Central Building Research Institute (CBRI), Central Road Research Institute (CRRI) and Structural Engineering Research Centre (SERC) and the Central Public Works Department (CPWD) etc.
- Initiate and encourage Research & Development projects to setup Hazard Safety Cell and specifically Retrofit Cells, in conjunction with relevant Departments, Bihar State Disaster Management Authority and other relevant bodies

Continuous Improvement

- Identify opportunities for continuous improvement of systems, processes and practices taking into account international and national best practices, in order to facilitate cost optimization and productivity improvement

Policies, Systems, Processes & Procedures

- Recommend improvements to functional procedures and follow all relevant departmental policies, processes, standard operating procedures and instructions so that work is carried out in a controlled and consistent manner

Related Assignments

- Perform other related duties or assignments as and when required

4. Qualifications and Experience

Essential

- Bachelor's degree or higher in Civil Engineering / Structural Engineering.
- Minimum 10 years of post-qualification experience in retrofitting and/or in infrastructure sector.

OR

- Superannuated personnel (including VRS) from State / Central Government or any other organization under the aegis of State / Central Government with minimum 10 years of experience in retrofitting and / or infrastructure (last held position should not be lower than Superintendent Engineer or equivalent level).

- Less than 65 years of age as on 1st August'2021.

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Preferred

- Experience in ensuring structural safety of buildings and infrastructure including safety assessments of buildings / developing and implementing retrofitting and / or disaster risk mitigation plans
- Proven track record of working with State / Central Government or any other organization under the aegis of State / Central Government/ bilateral / multilateral organizations (such as IMD, NDMA, SDMAs, SERC etc.) in relevant area.
- Master's degree or higher in Civil Engineering / Structural Engineering.
- Certificates / Courses (*duration not less than 15 days*) in Disaster Risk Reduction methodologies / Seismology or Earthquake Engineering from a Government of India recognized institute.
- Honors / Awards / Recognized publications in relevant area will be an added advantage.

5. Knowledge and Other Skills

- Excellent knowledge and understanding of large programs for seismic retrofitting of buildings and structures in earthquake affected countries.
- In-depth knowledge of standards and guidelines by Bureau of Indian Standards (BIS), IS: 13935-2009 Indian Standard Guideline for Seismic Evaluation, Repair and Strengthening of Existing Masonry Buildings, IS: 15988 - 2013 Indian Standard Guideline Seismic Evaluation and Strengthening of Existing Reinforced Concrete Buildings etc.
- Thorough knowledge about National Policy on Disaster Management and NDMA / SDMA guidelines.
- Proven experience in development of guidelines, manuals on retrofitting, construction, safety assessment.