

IRF Seminar on “Environmental Protection and Safety during Construction”

13th – 14th July, 2018

New Delhi, India

KEY RECOMMENDATIONS

Session – I – Design for Safety

- Safety audit should be carried out at all stages of road development, viz, feasibility study, preliminary design, on completion of detailed design, at the construction stage and operation to minimize road fatalities. IRC:SP:88 – 2010 Manual on Road Safety Audit should be referred for carrying out the safety audits. Procedure for mandatory implementation of the recommendations of the RSAs should be put in place.
- There should be special focus on intersections, interchanges, road signs and markings during Road Safety Audit.
- For removal of blackspots, the engineering design and drawings for the mitigation measures should be finalized on priority. These should be implemented through running rate contracts, to be formalized by the implementing Agencies.
- MoRTH/ NHA should review the EPC and other Contract documents to incorporate the relevant clauses for road safety and ensure their due compliance.
- All such safety related provisions should preferably be paid items in the Contract.
- Contract should provide for definite punitive measures for any non-compliance of safety related works.
- There is a need to impart training on specialized safety and traffic management and safety during construction for contractors personnel.
- EHS (as a mandatory Policy) should be implemented to cover all business processes, ensuring compliance with statutory and other applicable requirements together with provision for structured training.
- For workers safety during high risk activities elaborate procedure to be laid down and strictly followed in accordance with the EHS Policy.

Session – II – Environmental Protection of Construction Projects

- Development of green corridor, i.e. avenue plantation currently has been included in the DPRs vide clause 8 of NHA OM No. 1.1.24/2017 dated 18.12.2017 regarding policy guidelines for Green Highways Projects.
- It is recommended that locations for avenue plantation shall be identified considering existing trees that could be saved along the alignment. In such a case plantation plan shall be prepared after completion of tree inventory. Since, detailed tree inventory is done as part of tree felling / forest clearance procedure, preparation of plantation plan shall be linked to the same.
- To ensure preparation of an effective plantation plan a provisional sum shall be allocated in the DPR contract

- A scientific manual for tree transplantation including species and girth/age wise specific measures, etc. needs to be developed and implemented by MoRTH, NHAI and State PWDs.
- Enforcement of “Development of Green Corridors” should be ensured for all roads.
- It is recommended to include green rating system (as per draft IRC code) as part of DPRs.
- Greenhouse gas assessment for life cycle of the pavement should be mandatorily done at the DPR stage for appropriate decision for implementation.
- CHANGER has evolved as one of the most user-friendly and effective calculator for GHG assessment of pavement life cycle at a very meagre cost and should be adopted.
- Measures for conservation of resources, minimizing waste generation and emissions must be adopted for all roads.
- Items of work for compliance to green rating system (currently in draft form of code with IRC), EMP and EHS guidelines should be made paid items in the contracts to ensure their implementation.
- PPE kit shall be mandatorily provided to all construction workers and most importantly, they should be sensitized to use the PPE kits.

Session – III – Technology

- Use of modern project management tools for the purpose of optimizing resource, cost and time needs to be promoted systematically.
- Application of design and modeling / simulation tools for visualizing in 3-D, aiming to reduce risks and to maximize safety in construction needs to be adopted,
- The cities of the future should have proper instrumentation with sensors to measure the quality of air, water and soil in the biosphere, giving timely alerts for monitoring and remedial action.
- Road infrastructure in urban areas should be equipped with ITS, for which policy initiative for implementation must be undertaken.
- Regular monitoring of the level of green house gases, in addition to carbon and ozone depleting substances should be done and instructions issued for minimizing the same as and when the situation arises.

Session – IV – Safety during Construction

- The compliance of IRC Special Publication 55 – 2014 Guidelines for Traffic Management in Work Zones should be ensured for meticulous implementation.

- Proper traffic management plan should be evolved based on IRC Guidelines and should be approved by the competent authority for implementation during construction.
- Signages, markings and barricades should be appropriately used at construction site, zones complying to the provisions of IRC Guidelines.
- Practices adopted in developed countries such as the Regulatory Framework in UK concerning Construction Zone Safety, etc. need to be studied, and best practices to be adopted and implemented.

Session – V – Safety Issues & Risk

- Every organization (Road Authority) should opt for appropriate road traffic safety management system. Duly certified as is being done in UK, lead auditor of ISO39001-Road Traffic Safety Management System, should be engaged for safety management.
- Article 21, 24, 39 (E&F) and 42 of Constitution of India, Directive Principles of State Policy and National Policy on Safety Health and Environment at work place, implementation of IS-18001:2000, Occupational Health and Safety Management System, Building and Other Construction Workers (Regulation of Employment and Conditions of Service) (BOCW) Act, 1996, The Building and Other Construction Workers Welfare Cess Act, 1996 and Workmen Compensation Act 1923 with supporting judgements need to be brought to the knowledge of all stakeholders. The provisions of various Acts should be strictly implemented and enforced to ensure maximum impact and minimum circumvention.
- The Acts should be amended, as needed from time to time, to remove ambiguities and for fixing responsibilities.
- Publicity be done systematically through all types of media that there would be no legal implications for helping road accident victims according to Good Samaritan Law.
- Pre-opening audit of Road Projects upon completion of construction and before opening to traffic should be a mandatory requirement.
