

Terms of Reference for R&D Project

(Safety in Construction, Operation and Maintenance of River Valley Projects Sectional Committee, WRD 21, Water Resources Department, BIS)

1. **Title of the Project:** Review the best Safety Practices in the Operation and Maintenance of Canals and Cross Drainage Projects.

2. **Background:**
 - 2.1 River valley projects, including canals and cross-drainage works, are vital components of water resource infrastructure.
 - 2.2 The existing standard IS 10386 (Part 9): 1998 outlines safety practices in the operation and maintenance of canals and cross-drainage works.
 - 2.3 Changes in technology, safety practices, and project management necessitate the review of existing safety practices as covered in the above standard.

3. **Objective:**
 - 3.1 Conduct a comprehensive study of current industry safety practices and technological advancements in the Safety Practices in the Operation and Maintenance of Canals and Cross Drainage Projects.
 - 3.2 Update safety codes to incorporate new standards, practices, and guidelines relevant to the operation and maintenance of canals and cross-drainage works.
 - 3.3 Enhance safety measures, protocols, and guidelines to ensure the well-being of personnel involved in river valley projects.

4. **Scope:**
 - 4.1 Review the current Safety Practices and identify outdated safety practices and guidelines.
 - 4.2 Conduct a thorough literature review to capture emerging safety standards and concepts in canal and cross-drainage works.
 - 4.3 Engage with industry safety experts, practitioners, and stakeholders to gather insights and recommendations for inclusion in the revised safety code.
 - 4.4 Review the relevant international safety standards to ensure alignment with global best practices.
 - 4.5 Provide clear and detailed safety guidelines to eliminate hazards and enhance overall safety in the operation and maintenance of canals and cross-drainage works

5. **Deliverables (In accordance with Item 4):**
 - 5.1 A document incorporating updated safety measures, protocols, and guidelines.
 - 5.2 Comprehensive report detailing the changes made, rationale behind revisions, and a summary of stakeholder consultations.

6. Research Methodology (In accordance with Item 4):

- 6.1 Review of the existing safety practices and relevant safety literature.
- 6.2 Expert consultations with safety professionals, engineers, project managers, and academics.
- 6.3 Visit at least 5 relevant sites and gather inputs and ground reality of the safety protocols to make the Safety Guidelines more inclusive and practical.
- 6.4 Review the relevant international safety standards.
- 6.5 Iterative review and validation process involving multiple rounds of feedback from safety experts and stakeholders.

7. Timeline and Method of Progress Review: 6 months

- 7.1 Initiation, Planning, and Literature Review: 1 months
- 7.2 Expert Consultations and Stakeholder Engagement: 2 months
- 7.3 Drafting of report and Internal Review: 15 days
- 7.4 Public Consultation and External Review: 2 months
- 7.5 Submission of final report: 15 days

8. Support from BIS:

BIS will provide access to latest available editions of Indian standards and/ or international standards relevant to the project, on request.

9. Sectional Committee & Member Secretary:

Safety in Construction, Operation and Maintenance of River Valley Projects, Sectional Committee, WRD 21

Member Secretary: Ajay Meena

Email: wrd@bis.gov.in