

Terms of Reference for R&D Project

(Hydraulic Gates & Valves Sectional Committee, WRD 12, Water Resources Department, BIS)

1. Title of the Project: Study of Structural Design of Stoplogs

2. Background:

Stoplogs are essential hydraulic engineering tools used for water level control and maintenance in waterways and water control structures.

There is a notable absence of specific, comprehensive standards for material and design in stoplog construction. This gap underscores the need for developing new structural design criteria that are reflective of current technologies and engineering practices.

3. Objective:

3.1 The project's primary objective is to conduct extensive research to collect a broad range of information on stoplog design and application. This includes gathering insights from both primary and secondary sources.

3.2 Emphasis will be placed on compiling information on current practices, material advancements, and operational challenges associated with stoplogs in various settings.

3.3 The project aims to systematically analyse and synthesize this information to understand the prevailing trends in stoplog design and usage.

3.4 This information collection and analysis will serve as the Basic framework for the future development of guidelines and Indian standards.

4 Scope:

4.1 An extensive study of existing literature including guidelines related to stoplogs, focusing on their design, material properties, and application, research papers, journals, existing standards, and applicable regulations.

4.2 Visits of manufacturing facilities for investigation of specific aspects such as Raw Material Selection and Properties, Geometric Design Parameters, Load Analysis and Factors of Safety, Structural Stability and Support Systems, Hydraulic Considerations, Seismic Design Requirements, etc.

4.3 Identification and engagement with stakeholders like Regulatory Bodies, Researchers, and Academic Institutions.

4.4 Comparative analysis of different stoplog designs, materials, and applications to identify best practices.

4.5 Gathering user feedback to assess performance, reliability, and potential areas for improvement in current stoplog designs.

5 Research Methodology (In accordance with Item 4):

5.1 Review of Existing Guidelines: Conduct a comprehensive review of existing guidelines, standards, and research related to the structural design criteria for stoplogs.

5.2 Data Collection: Gather data relevant to stoplog design like technical specifications, prevalent methods of design and analysis, and performance data.

5.3 Manufacturing Facility Visits: Visit at least 3 manufacturing facilities to gather insights on manufacturing practices and collect first-hand data.

5.4 Project Site Visits: Visit at least 3 project sites with stoplogs to gather insights on the performance and issues faced with the use of stoplogs.

5.5 Stakeholder Engagement: Contact and engage with users, and other stakeholders such as Regulatory bodies, R&D Institutions, and manufacturers, through seminars or webinars for comprehensive information gathering and feedback through a structured questionnaire.

5.6 Documentation: Compile the findings, analysis, and recommendations into comprehensive reports and documents.

6 Deliverables (In accordance with Item 4):

A comprehensive final report enclosing the following:

- **Comprehensive Study Report:** A detailed report encompassing all research findings, including reviews of existing literature, guidelines, and standards.
- **Analysis of Manufacturer and Stakeholder Engagement:** Insights gathered from field visits and interactions with manufacturers, users, regulators, and other stakeholders.
- **Comparative Analysis:** A comparative study of various stoplog designs, materials, and applications, highlighting best practices.

7 Timeline and Method of Progress Review:

(Timeline is from the date of the award of the project)

S. No.	Stage	Timeline (Cumulative)
1	Report on Literature Review	60 Days
2	Stakeholder Engagement and visit to manufacturer and project sites	120 Days
3	First Draft	135 Days
4	Final Draft along-with report	150 Days

Interim review shall be carried out every 45 days.

8 Support from BIS:

BIS will provide access to the latest editions of Indian and International standards for the project.

9 Member Secretary & Sectional Committee:

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