

FORMAT FOR SENDING COMMENTS

Last Date for Comment is 31 August 2010

Document No.: Doc WRD 21 (507)C
Title: DRAFT INDIAN STANDARD ON SAFETY CODE FOR CONSTRUCTION, OPERATION AND MAINTENANCE OF RIVER VALLEY PROJECTS PART 1 GENERAL ASPECTS (FIRST REVISION TO IS 10386(PART 1))
Organization/ Individual:

Sl. No.	Clause/ Sub-clause Paragraph Figure/Table	Type Of Comment (General/ Technical/ Editorial)	Comments (Justification For Change)	Proposed Change
1.				
2.				
3.				
4.				

BUREAU OF INDIAN STANDARDS

Draft
Indian Standard

ICS No. 93.160

**SAFETY CODE FOR CONSTRUCTION, OPERATION AND MAINTENANCE OF RIVER
VALLEY PROJECTS PART 1 GENERAL ASPECTS (FIRST REVISION TO IS 10386(PART 1))**

(Not to be reproduced without the permission of BIS or used as standard)

Last date for receipt of comments is 31-08-2010

FOREWORD

(Formal clauses to be added later)

With large scale increase in construction activity of river valley projects, the number of major accidents has increased. The degree of safety achieved in project constructions have been a direct bearing on the amount of effort expended to avoid accidents by those who control the conditions and practices on the project.

This standard was first published in 1983. In this revision, new clauses for routine maintenance and typical accident report have been incorporated in the standard.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard (Part 1) lays down the requirements regarding safety programme, its enforcement, general qualifications of employees and training for safety, and contractor's/employer's overall responsibility regarding safety.

2. SAFETY PROGRAMME

2.1 Each contractor, private or government agency, shall have facilities for conducting a safety programme, commensurate with the magnitude of work under contract. Details of safety programme to be adopted by the contractor shall be given by the Contracting Officer/ Engineer-in-Charge, prior to the start of construction operation. The programme shall give details of the provisions proposed by the contractor, to provide for safety of the employees and for elimination of health hazards. In case the work is undertaken by a government agency itself, the chief executive or the chief authority shall constitute a unit/ cell to prepare a detailed safety programme to be approved by the Chief Executive.

2.2 Safety Personnel

Each contractor/government agency shall designate a competent employee, as a supervisor, responsible for carrying out the safety programme. He shall create a safety cell/ unit, commensurate with the project activities, consisting of other staff as required for suitable development.

2.2.1 At least one number safety supervisor, directly responsible to Engineer-in-Charge, should be earmarked for worksite to supervise normal safety measures i.e. repair to ladders, platforms, scaffolding, leakages etc. for safe working environment.

2.3 Pre-construction Safety Meetings

Representatives of contractor shall meet the Contracting Officer/ Engineer-in-Charge prior to start of construction activities for the purpose of discussing safety standards and requirements applicable to the work under contract. In case, government agency is executing the work, the manager of safety cell/ unit shall discuss with construction executive the safety programme before the start of work.

2.4 Joint Safety Policy Meetings

2.4.1 The contractor or his representative shall participate in joint safety policy meetings, which shall be held once in two months, along with the contracting agent and contractor or his representatives. These meetings shall be utilized to review the effectiveness of safety measures/ efforts, provided by the contractor and to improve and coordinate safety activities, as required.

2.4.1.1 In case of departmental work, the manager of safety cell/ unit shall hold meetings on safety programme to educate the workers about the necessity and meaningfulness of safety regulations, precautions and review the effectiveness of the efforts made by his safety cell/ unit.

2.4.2 The use of films on safety programmes shall be encouraged for education of the staff, contractors and workmen and their display shall be held at regular intervals at the project sites.

2.5 Safety Meetings - A minimum of one, 'on the job or tool box' safety meeting shall be conducted every month by all field supervisors or foremen and it shall be attended by all the mechanics and labourers at the work site.

2.5.1 The contractor shall also regularly organize safety meetings for all job supervisors at least once a month.

2.5.2 Regular safety meetings should be held at least once in a month at work site with workers by Engineer- in-Charge to create safety awareness amongst workmen with special reference to safety measures to be adopted for particular work site.

3. ENFORCEMENT OF REGULATIONS

3.1 The Contracting Officer/Engineer-in-Charge shall ensure that the contractor is exercising at all times, reasonable and proper precautions for the safety of people at work and is complying with the provisions of current safety rules according to relevant Indian Standards, ***Indian Electricity Rules*** and construction codes of State Governments. In case of any negligence or default, he shall be penalized suitably and a clause to this effect shall always be incorporated in the contract. A register may be maintained or OK cards may be introduced, duly signed by the Contracting Officer or his representative and the representative of contracting agency, before the start of any item of work. It may be reviewed monthly.

3.2 The safety staff shall prepare safety posters, signs, displays, leaflets, bulletins, etc, and display them on neat attractive bulletin boards. Cartoons may also be displayed. Suggestions from the workers may also be obtained by means of suggestion boxes which may be kept at various places.

3.3 Vehicular traffic on Project roads should be regulated by setting of Traffic check Posts at important crossings & Highway Tunnels in the project area. Supervisor should be deputed in work area with Magnetic Probes to remove Nails, Steel debris, sharpeners scattered on Haul roads/ working areas to avoid deflating of tyres of Equipment / Machinery.

4. QUALIFICATIONS OF EMPLOYEES

4.1 Requirement

Throughout the course of contract, persons employed shall be physically fit and qualified to perform their assignments/duties. Employees shall not knowingly be permitted or required to work in a manner that their ability or alertness is impaired because of fatigue, illness or any other reason, that it may expose them and/ or others to injury.

4.1.1 In case of mechanical jobs, the operators shall not be less than 18 years of age and shall have a operator's/ driver's licence or permit for the equipment being operated by them, issued by the competent authority, as per the requirement of *Motor Vehicle Act*. Marine divers shall be fully qualified with respect to training, experience and physical condition to perform the required type of diving and to perform the work involved. A current physical fitness certificate from project medical officer or any other medical officer authorized by project authority shall be required for all diving personnel.

4.2 Minors and Women Workers

Contractor/ government agency shall comply with all applicable State bye-laws and codes related to employment of minors and women.

4.3 Physical Fitness

Hoist operators, shovel/ crane operators, tractor/bull dozer operators, vehicle drivers or any other hauling-heavy equipment operators, shall be examined and a physical fitness certificate shall be obtained once in a year during service from a project medical officer or any other medical officer authorized by project authority. A copy of such certificate shall be submitted to the Contracting Officer/ Engineer-in-Charge by the contractor/ government agency executing the work, if so required.

5. TRAINING FOR SAFETY

5.1 The contracting agency/contractor shall impart industrial safety courses to its officers, safety managers, safety supervisors, foremen, etc. In plants, training on industrial safety may be conducted for the construction supervisors. The engineering staff may impart training course to the artisans, operators, mechanics, foremen and other allied supervisors.

5.1.1 Safety equipment shall be issued to the workers for this use.

5.2 Each employee shall be provided with the initial indoctrination, including instructions related to pertinent job, reporting of accidents and availability of first-aid and medical facilities.

5.2.1 Safety course may be organized at least once a year so that the safety cell/ unit is abreast with the latest techniques and bye-laws. The foremen, safety supervisors may impart lectures to the workmen regularly and watch the effectiveness of the programme.

5.3 Employees shall not leave naked fires unattended. Smoking shall not be permitted around fire prone areas and fire fighting equipment as per relevant Indian Standards shall be provided at crucial locations.

5.4 Employees under the influence of any intoxicants shall not be permitted to remain at work.

6. CONTRACTOR/ CHIEF EXECUTIVE'S SPECIAL RESPONSIBILITIES

6.1 It is the prime duty of the contractor/ chief executive to ensure that the safety manager be given the status necessary to enable him to carry out his duties in collaboration with all grades of line management. He shall be specialized in accident prevention and general safety. He should try to ensure that basic safety principles are incorporated in the planning stage of operation of machines, equipment, process work, storage, distribution, etc. He should not only provide a safe working environment but also help to facilitate production.

6.1.1 Special safety techniques may be employed to remove causes of accidents. Broadly, these fall into two categories, (a) those which try to remove the physical causes by providing safe working environment, (b) those try to create a correct personal attitude.

7. REPORTS

7.1 Each employer/ contractor shall maintain an accurate record and shall report to the contracting officer in the manner and on forms prescribed by the Contracting Officer, all cases of injuries/deaths, occupational diseases, disabilities, etc, arising out of or in the course of employment on the work under contract. Monthly reports of all accidents shall promptly be submitted by the contractor to the Engineer-in-Charge giving such details as may be prescribed by the project authorities. A typical format for accident report has been given at Annex A.

7.1.1 All accidents shall be reported by the contractor immediately to the Contracting Officer/Engineer-in-Charge on a prescribed proforma laid down by the project authorities and every assistance shall be given in the investigation of accident including submission of a comprehensive narrative report. Further, other accidental occurrences with serious accident potential such as equipment failures, slides, cave-ins, etc, shall likewise be reported by the contractor to the Contracting Officer/Engineer-in-Charge immediately.

7.2 A well designed injury reporting system shall be introduced on each project. It will automatically bring out a lot of valuable information useful in accident prevention work.

8 ROUTINE MAINTENANCE

8.1 Routine maintenance should be done annually as per norms for all river valley projects.

ANNEX A

(Clause 7.1)

TYPICAL FORMAT FOR ACCIDENT REPORT

A-1 FORMAT FOR REPORTING ACCIDENT AT PROJECT SITE

1. Date and time of accident
2. Date and time of reporting
3. Name ,Designation and Address of the Party who reported the Accident
4. Location of the accident (Premises of Licenses or Board or other lines or Consumer). Give details
5. Name(s) of the casualty(ies)
6. Age of casualty(ies) and sex
7. Residence of casualty(ies)
8. Occupation of casualty(ies)
 - a) Departmental or non-departmental
 - b) If departmental, whether an authorized person
9. Cause and manner of accident, give details
 - a) Whether casualty is an employee
 - b) Whether safety appliances such as gloves, belt rope were in use and earthing of lines etc., were there at the time of accident
10.
 - a) Whether L.C was availed
 - b) Whether safety appliance were used
 - c) Whether all safety precautions were taken
10. Classification
Fatal /non-fatal serious/ non-fatal major/ minor
12. Whether Police and concerned authorities Informed
13. Voltage to earth
14. Other remarks
15. Action taken to prevent the recurrence

Date: Signature

Time Name

Designation / Occupation Address of the person reporting

A-2 FORMAT FOR REPORTING ELECTRICAL ACCIDENT

1. Date and time of Accident::
2. Place of Accident and District:
3. System and Voltage of supply:
4. Name and the licensee (or) person/persons (or) supplier use of energy whose premises (or) jurisdiction the accident occurred
5. a) Name of the person(s) injured
b) Address of such /each person
6. Occupation and designation of such person / persons (and in particular) whether employed in electrical works or working else where
7. Brief description of the job undertaken if any
8. Authority under which such person was / were allowed to work on the job state. Also whether he / they was / were authorized person / persons
9. Describe fully nature and extent of injuries e.g. fatal, disablement of any portion of body or other Injury etc.,
- 10 Detailed cause leading to the accident
- 11 Action taken regarding First Aid Medical attendance etc immediately after the occurrence of the accident
- 12 Whether appropriate Govt. /District Magistrate and Police Station were informed (if so give details)
- 13 Steps taken to Preserve the evidence in Connection with the accident to the extent Possible
- 14 Name and designation of the person(s) assisting the person(or) injured
- 15 What safety equipment were given to and used by the person/s who met with the accident (Rubber gloves, rubber mats, Safety belt and ladder, etc)
- 16 Whether isolating switches and other Sectionalizing devices were employed to deaden the sections for working on the same. If so whether these were earthed
- 17 Whether the work on the line was undertaken by an authorized person(s). If so the name and designation of such person(s) may be given
- 18 Whether artificial respiration treatment was given to the person who met with electric accident if so how long was it continued before its abandonment
- 19 Steps proposed to be taken to avoid recurrence
- 20 Name and designation of person(s) present at the time of accident
- 21 Any other remarks:

Date:

Signature

Time

Name

Designation / Occupation Address of the person reporting