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Indian Standard

RECOMMENDATIONS FOR PROVISION OF FACILITIES OUTSIDE THE DAMS

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

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Price Group 1

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards after the draft finalized by Dams (Overflow and Non-overflow) Sectional Committee had been approved by River Valley Division Council.

When a dam is constructed, the area around it is required to be developed by providing certain amenities and facilities. The required facilities depend upon the importance and size of dam and potential of the lake formed, being used as a tourist place. The facilities like lighting, water supply and sanitary arrangements, tourist spot, gardens, transport system, medical facilities and safety agent outside army attack are covered in this standard.

Provisions regarding lighting and facilities inside dams have been covered in IS 9297 : 1979 'Recommendations for lighting, ventilation and other facilities inside dams'. Provisions regarding drainage system for dams have been covered in IS 9429 : 1980 'Code of practice for drainage system for earth and rockfill dams' and IS 10135 : 1985 'Code of practice for drainage system for gravity dams, their foundations and abutments (*first revision*).

Provision of check-posts and watchmen's cabins, kiosks etc, on roads leading to dam approaches, adit entrances and other vulnerable points be also made in addition to the above facilities.

Indian Standard

RECOMMENDATIONS FOR PROVISION OF FACILITIES OUTSIDE THE DAMS

1 SCOPE

This standard covers the recommendations for provision of facilities outside the major and medium dams.

2 LIGHTING

2.1 Sufficient and proper lighting is a necessity outside the dam. Lighting installations should provide satisfactory illumination, for proper vigilance, and monitoring of the dam and appurtenant works.

2.2 Lighting System

2.2.1 The lighting system on approach and service roads, top of dam and surrounding areas should generally consist of flourescent light tubes or high pressure mercury vapour lamps. In areas where dense fog is expected, sodium vapour lamps should be provided in operation areas. The spillway, irrigation sluice, power outlets, downstream face of dams, abutments etc. should be flood lit by properly located flood lighting units. The spacing of poles for tube-lights may be about 30 m c/c.

2.2.2 Special lighting arrangements for earth dam for vigilance at night, after gorge filling would be necessary.

2.2.3 All wiring joints should be made in the junction boxes provided for the purpose through procelain connectors. Precaution to prevent entry of rain water, flood water, leakage water, etc, in the electrical installation should be taken. Additional plug points of adequate capacity may be provided at suitable locations. The design and layout of generator, transformer, electrical circuits, conduits and cables, switches, etc, should be properly coordinated with the layout and design of the main components of the dam.

2.2.4 Since, in the projects areas, heavy mist is likely to hamper visibility, a series of sodium vapour lamps may also be installed at vulnerable points. This will additionally add to the beauty of the area when such locations become popular tourist spots.

3 WATER SUPPLY AND SANITARY ARRANGEMENTS

3.1 Water supply is required for drinking purposes, sanitary blocks, fire fighting, gardens etc. In some projects provision of water supply to nearby town is also made. The location and diameter of water supply pipe should be selected to meet individual requirement of the project. Suitable control valves, if required outside the dam, should be properly installed for safe and convenient operation of the system.

3.2 Raw Water Supply

Suitable pumps with stand-by capacity according to actual requirements should be installed for supply and distribution of raw water for fire fighting, gardens, sanitary blocks etc. Raw water supply should also be provided near the entrance of the grouting and drainage galleries so that necessary maintenance operation can be carried out. Arrangements should also cover other areas in the abutments where drainage holes or grouting and other protection works are needed. The pipe line should provide for required valves and suitable hose connections spaced at required interval based on overall planning.

3.3 Drinking Water Supply

To cater for the requirements of drinking water, suitable raw water tanks, treatment plant and pure water sumps or elevated services reservoir, with valves and distribution system should be provided. Drinking water facilities should be made around the dam complex at suitable locations including the approach road.

3.4 Sanitary Arrangements

Toilet facilities including wash basins and urinals should be provided at suitable locations to serve project staff and tourists. At least one toilet on each bank is recommended. Sewage and waste water should be disposed through drainage system and septic tanks.

4 TOURIST SPOT

4.1 Irrigation projects have aroused public interest resulting in increasing seasonal visitors both during and after construction. Large lakes created by the project are points of interest and potential tourist areas. Various facilities as under may be considered and provided where required for tourists and visitors to the project:

a) Tourist bunglows and dormitories
b) Parking areas
c) View points
d) Information centre
e) Telephone
f) Model room
g) Fishing, Boating, Water Sports such as skiing

h) Gardens
j) Canteen
k) Bus Stop, Post Office, Dispensary, Police Station, etc.
m) Toilets — at least one on each bank
n) Notice Board and Sign Boards.

4.2 The extent and type of facilities to be provided for tourists will depend on potential of the project for development as a tourist centre.

4.3 The areas under submergence may have uneven topography, rocks, trees and area vulnerable for land sides, etc, which may endanger the lives of tourist when boating and fishing. These areas should be properly demarcated and unauthorized persons should not be allowed in these areas. Life boats and other life saving arrangements may be made in the vicinity.

5 GARDEN

Well planned gardens, orchards, tree plantation and landscaping on downstream side of the dam is an essential feature of irrigation projects. Suitable fountains, water courses, ete, will add to attractiveness of the garden.

6 TRANSPORT

A public transport system for the visitors should be provided from the nearest township. Transport facilities be provided to students going to schools or colleges from township to nearby town.

7 MEDICAL FACILITIES

Necessary health care facilities should also be provided which should also include the provision of ambulance van and other requisite equipment to meet any contingencies.

8 PROVISION OF LIGHTNING CONDUCTORS

Lightning conductors should be provided at suitable locations on concrete and masonry structures.

9 SAFETY AGAINST OUTSIDE ARMY ATTACK

From strategic point of view dam proper, other structures, buildings nearby dam, light poles, etc, should be provided with camouflage colours as these being protected structures.

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BUREAU OF INDIAN STANDARDS

Headquarters :

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002
Telephones : 331 01 31, 331 13 75

Telegrams : Manaksanstha
(Common to all Offices)

Regional Offices : Telephone

Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002 — 331 01 31, 331 13 75

Eastern : 1/14 C.I.T. Scheme VII M, V.I.P. Road, Maniktola, CALCUTTA 700054 — 37 86 62

Northern : SCO 445-446, Sector 35-C, CHANDIGARH 160036 — 53 38 43

Southern : C.I.T. Campus, IV Cross Road, MADRAS 600113 — 2350216

Western : Manakalaya, E9 MIDC, Marol, Andheri (East), BOMBAY 400093 — 6 32 92 95

Branches : AHMADABAD. BANGALORE. BHOPAL. BHUBANESHWAR. COIMBATORE. FARIDABAD. GHAZIABAD. GUWAHATI. HYDERABAD. JAIPUR. KANPUR. PATNA. THIRUVANANTHAPURAM.

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