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BUREAU OF INDIAN STANDARDS

AGENDA

Title of the Committee	Day and Date	Time	Venue
Canals and Cross Drainage Works Sectional Committee, WRD 13	Friday, 09 th August 2023	From 10:30 AM	<u>Hybrid Meeting</u> For Physical Participation : Energy Management Centre, Trivandrum
For Virtual Participation: Click here to join			
Link: https://bismanak.webex.com/bismanak/j.php?MTID=mdc9a15aaf592eb6c73e5a875470bf3f2			
Chairperson : Shri Vivek Tripathi, Chief Engineer, Design (N& W), CWC		Member Secretary : Shri Navdeep Yadav , Assistant Director, BIS	

ITEM 0 WELCOME REMARKS BY THE CHAIRPERSON

ITEM 1. CONFIRMATION OF THE MINUTES OF THE LAST MEETING

The 23rd meeting of WRD 13 was held on 21st November 2023 and the minutes duly approved by the Chairperson were circulated to members vide BIS email dated 19th December 2023. No comments have been received on the circulated minutes.

The Committee may CONFIRM the minutes as circulated.

ITEM 2. COMPOSITION OF THE COMMITTEE

2.1 The present composition along with attendance details of last three sectional committee meetings of WRD 13 is given in Annex 1.

The Committee may NOTE & REVIEW.

2.1.1 In the last meeting, the Committee requested BIS to approach the following member organizations for active participation/fresh nominations in the committee. In this regard, letters were sent requesting for fresh nominations in the committee vide BIS emails in last week of May 2024. The reply received is as follows.

S.No.	Organization	Reply
1.	Brahmaputra Board, Guwahati	Reply is awaited
2.	Indian Institute of Technology Delhi, New Delhi	
3.	WAPCOS Limited, Gurgaon	

4.	Water Resources Department, Govt. of Andhra Pradesh	
5.	Water Resources Department, Madhya Pradesh	
6.	Water Resources Department, Govt. of Maharashtra	

The Committee may NOTE and DECIDE.

2.2 As decided in the last meeting the following fresh nomination has been received after due pursue from Member Secretary for Co-option in the Committee:

S.No.	Organization	Name of the Nominated Member
1.	In Personal Capacity	Shri Rajendra Chalisgaonkar, Former Engineer-in-Chief, Uttarakhand Irrigation Department.

The Committee may NOTE & DECIDE.

2.3 The following nominations were received through the BIS portal for co-option into the committee. The CVs are attached with the agenda.

S. No.	Organization	Nominations
1	Megha Engineering & Infrastructure Ltd.	Smt Marina Nandyal
2	Irrigation and Water Resources Department Haryana, Panchkula	Shri Gulab Singh Narwal
3	Terre Armee India, New Delhi	Shri Soumendra Banerjee Shri Rishikesh Jagtap

The Committee may NOTE & DECIDE.

ITEM 3 PROGRAMME OF WORK

3.1 The present Programme of work of WRD 13 is given in Annex 2.

The Committee may NOTE.

3.2 Standards Due for Review

All Indian Standards shall be reviewed periodically, at least once in five years by the concerned Sectional Committee. The standards have been formulated by the technical committee and are now to be revalidated as national standards. Members must participate in the review exercise. While reviewing a standard, a committee has the following five options available:

- a). reaffirmation indicating the continuing of the current standard without change;
- b). amendment and reaffirmation indicating the continuing of the current standard with necessary changes to bring it up to date;
- c). take up for revision involving the routine procedure for new project and reaffirm for time being;
- d). Withdrawal indicating that the standard is no longer needed.
- e). Reaffirmation and archiving the standard.

The following list of standards is due for review in 2024-25 and the Committee may kindly review the standards:

S. No	IS No.	Title of Standard	Last Reaffirmation
1	IS 7784 (Part 1) : 2013Reviewed In : 2019	Design of cross drainage works - Code of practice: Part 1 general features (Second Revision)	2019
2	IS 10430 : 2000Reviewed In : 2019	Criteria for design of lined canals and guidance for selection of type of lining (First Revision)	2019
3	IS 10646 : 1991Reviewed In : 2019	Canal linings - Cementconcrete tiles - Specification (First Revision)	2019
4	IS 11809 : 1994Reviewed In : 2019	Lining for canals by stone masonry - Code of practice (First Revision)	2019
5	IS 3873 : 1993Reviewed In : 2020	Laying .cement concrete/stone slab lining on canals - Code of practice (Second Revision)	2020
6	IS 4410 (Part 15/Sec 4) : 1977Reviewed In : 2020	Glossary of terms relating to river valley projects: Part 15 canal structures: Sec 4 regulating works	2020
7	IS 4701 : 1982Reviewed In : 2019	Code of practice for earthwork on canals (First Revision)	2019
8	IS 5690 : 1982Reviewed In : 2019	Guide for laying combination lining for existing unlined canals (First Revision)	2019

9	IS 6004 : 1980Reviewed In : 2019	Criteria for hydraulic design of sediment ejector for irrigation and power channels (First Revision)	2019
10	IS 6522 : 1972Reviewed In : 2019	Criteria for design of silt vanes for sediment control in offtaking canals	2019
11	IS 7114 : 1973Reviewed In : 2019	Criteria for hydraulic design of cross regulators for canals	2019
12	IS 7495 : 1974Reviewed In : 2019	Criteria for hydraulic design of silt selective head regulator for sediment control in offtaking canals	2019
13	IS 7784 (Part 2/Sec 1) : 1995Reviewed In : 2020	Design of cross drainage works code of practice: Part 2 specific requirements: Sec 1 aqueducts (First Revision J	2020
14	IS 7784 (Part 2/Sec 2) : 2000Reviewed In : 2019	Code of practice for design of cross drainage works: Part 2 specific requirements: Sec 2 superpassages (First Revision)	2019
15	IS 7784 (Part 2/Sec 4) : 1999Reviewed In : 2019	Design of cross drainage works - Code of practice: Part 2 specific requirements: Sec 4 level crossings (First Revision)	2019
16	IS 7784 (Part 2/Sec 5) : 2000Reviewed In : 2019	Code of practice for design of cross drainage works part2 specific requirements: Sec 5 syphon aqueducts (First Revision)	2019
17	IS 7880 : 1975Reviewed In : 2019	Criteria for hydraulic design of skimming platform for sediment control in offtaking canal	2019
18	IS 7986 : 1976Reviewed In : 2019	Code of practice for canal outlets	2019

19	IS 8835 : 1978 Reviewed In : 2019	Guidelines for planning and design of surface drains	2019
20	IS 9698 : 1995 Reviewed In : 2020	Lining of canals with polyethylene film - Code of practice (First Revision)	2020
21	IS 9913 : 2000 Reviewed In : 2019	Code of practice for construction of cross drainage works (First Revision)	2019
22	IS 4410 (Part 15/Sec 3) : 1977 Reviewed In : 2020	Glossary of terms relating to river valley projects: Part 15 canal structures: Sec 3 flume.	2020

The Committee may NOTE & DECIDE.

3.2 Standards Taken for Revision

In the last meeting, the Committee deliberated and decided to reaffirm & revise all the standards which are due for review except 'IS 7873:1975: Code of Practice for Lime Concrete Lining for Canals' which has to be reviewed for option d), i.e., withdrawal by the members. In this regard, members are requested to review IS 7873:1975 in view of its relevance in the present context vide BIS email and requested to submit inputs on or before 10th July 2024. Inputs are still awaited.

The status of the documents which are taken for revision in the last meeting are placed below.

S. No.	IS No.	Title	Status
1.	IS 11570: 1985	Criteria for hydraulic design of irrigation intake structures	Inputs are awaited
2.	IS 13143: 1991	Joints in concrete lining of canals - Sealing compound - Specification	Inputs are awaited
3.	IS 7871: 1975	Criteria for hydraulic design of groyne walls (Curved Wing) for sediment distribution at offtake points in a canal	Inputs are awaited

4.	IS 9097: 1979	Guide for laying lining of canals with hot bitumen or bituminous felts	Inputs are awaited
5.	IS 9452 (Part 1): 1993	Measurement of seepage losses from canals - Code of practice: Part 1 Ponding method	Comments received from WRD Rajasthan were placed in Annex 3 .
6.	IS 9452 (Part 2): 1980	Code of practice for measurement of seepage losses from canals: Part 2 inflow - Outflow method	Comments received from WRD Rajasthan were placed in Annex 3 .
7.	IS 9452 (Part 3): 1988	Code of practice for measurement of seepage losses from canals: Part 3 seepage meter method	Inputs are awaited
8.	IS 7873: 1975	Code of practice for limb concrete lining for canals	The Committee requested the members to review in view of its relevance in the present context and submit their inputs. Inputs are awaited

3.3 Review of Pre-2000 Standards:

In the last meeting, the committee deliberated on the review of pre-2000 standards and decided to categorize the standards by priority into Group 1 and Group 2. The committee further requested all members to send their inputs for priority Group 1 by 30th December 2023 and for priority Group 2 by 15th January 2024. In this regard, reminders were sent vide BIS email dated 4th July 2024. No inputs have been received.

Priority Group-1:

S. No.	IS No.	Title
1	IS 10646: 1991	Canal linings – Cement concrete tiles - Specification (First Revision)
2	IS 11809: 1994	Lining for canals by stone masonry - Code of practice (First Revision)
3	IS 3873: 1993	Laying cement concrete/stone slab lining on canals - Code of practice (Second Revision)

4	IS 4410 (Part 15/Sec 4): 1977	Glossary of terms relating to river valley projects: Part 15 canal structures: Sec 4 regulating works
5	IS 4558: 1995	Under - Drainage of lined canals - Code of practice (Second Revision)
6	IS 4701: 1982	Code of practice for earthwork on canals (First Revision)
7	IS 4839 (Part 2): 1992	Maintenance of canals - Code of practice: Part 2 lined canals (Second Revision)
8	IS 5690: 1982	Guide for laying combination lining for existing unlined canals (First Revision)
9	IS 6004: 1980	Criteria for hydraulic design of sediment ejector for irrigation and power channels (First Revision)
10	IS 6522: 1972	Criteria for design of silt vanes for sediment control in off taking canals

Priority Group-2:

S.No.	IS No.	Title
1.	IS 7114: 1973	Criteria for hydraulic design of cross regulators for canals
2.	IS 7495: 1974	Criteria for hydraulic design of silt selective headregulator for sediment control in off taking canals
3.	IS 7784 (Part 2/Sec 1): 1995	Design of cross drainage works code of practice: Part 2 specific requirements: Sec 1 aqueducts (First Revision)
4.	IS 7784 (Part 2/Sec 3): 1996	Code of practice for design of cross drainage works: Part 2 specific requirements: Sec 3 canal Syphons (First Revision)
5.	S 7784 (Part 2/Sec 4): 1999	Design of cross drainage works - Code of practice: Part 2 specific requirements: Sec 4 level crossings (First Revision)
6.	IS 7880: 1975	Criteria for hydraulic design of skimming platform for sediment control in off taking canal
7.	IS 7986: 1976	Code of practice for canal outlets
8.	IS 8835: 1978	Guidelines for planning and design of surface drains
9.	IS 9698: 1995	Lining of canals with polyethylene film - Code of practice (First Revision)

10.	IS 4410 (Part 15/Sec 3): 1977	Glossary of terms relating to river valley projects:Part 15 canal structures: Sec 3 flume
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The Committee may NOTE and DECIDE.

3.4 Standards National Action Plan (2022 – 27)

3.4.1 In the last meeting, the Committee reviewed the subjects for consideration in this sectional committee and identified the following subjects that can be taken as new subjects under this sectional committee.

1. Canal Automation
2. Evaporation Control in Canals

3.4.2 The Committee after deliberation constituted a working group to deliberate on the above identified subjects and further requested all the working group members to submit the draft documents on the above identified subjects. The draft documents on the identified subjects are awaited from the working group.

Composition of the Working group:

1. Central Water Power Research Station, Convener
2. Central Soil and Materials Research Station
3. WRD Punjab
4. Bhakra Beas Management Board
5. Central Water Commission
6. IIT Roorkee

The Committee may NOTE and DECIDE.

3.4.3 It is to be informed before the Committee that a panel has been constituted under the WRD 06 Sectional Committee to formulate standards in Canal Automation. The Committee requested to nominate expert/s from this Committee in the panel for effective liaison with this Committee.

The Committee may NOTE and DECIDE.

ITEM 5. DRAFT STANDARDS FOR APPROVAL FOR WIDE CIRCULATION

5.1 IS 3873:1993, Laying Cement Concrete/Stone Slab Lining on Canals - Code of Practice

5.2 IS 4558:1995 Underdrainage of Lined Canals - Code of Practice

5.3. IS 4701: 1982 Code of practice for earthwork on Canals

In the last meeting, it was decided that the BIS secretariat would share the P-drafts

received from CWC with all committee members and request that they review the P-drafts and submit their comments or suggestions to the BIS secretariat by February 10, 2024. In this regard, the P-drafts of the documents have been shared vide BIS emails along with reminders. In this regard, the comment received from WRD Punjab on IS 3873:1993 is placed below for deliberation.

Sl. No.	Committee/ Organization / Individual	Clause/ Sub clause Paragraph Figure/Table	Type of Comment General/ Technical/ Editorial	Comments (Justification For Change)	Proposed Change
1.	Canals and Cross Drainage Works Sectional Committee, WRD 13 Water Resources Department Punjab	5.2 Thickness of lining	Technical	Sometimes thickness of lining to be selected falls in different depth and discharge criteria and do not match with the table given. Ref: CWC Barrage & canal Design Directotare Letter no. 6/01/2017- BCD (N&W)/258 dated 04.10.2019	For this type of case where thickness of lining comes under different depth and discharge criteria. The thickness of lining should be selected from higher value of either depth or discharge.

The Committee may NOTE and DECIDE.

ITEM 6 DRAFT STANDARDS UNDER REVISION

6.1 IS 10646: 1991 Canal Lining – Cement Concrete Tiles – Specification

In the last meeting, the Committee decided and requested the BIS secretariat to write a reminder to the Irrigation Department, Punjab, and CSMRS to provide their inputs or comments. In this regard, a gentle reminder was sent vide BIS email dated 4th July 2024. No inputs have been received.

The Committee may NOTE and DECIDE.

6.2 In the last meeting, the Committee deliberated and categorized the standards into priority groups I and II. The standards categorized under priority groups I and II have already been taken for revision and are listed in agenda item **3.2**. except the standards listed below.

Priority-I

Sl. No.	IS No.	IS Title	Year	Revision
1	IS 5968	Guide for planning and layout of canal system for Irrigation (First Revision)	1987	2017
2	IS 7331	Code of practice for inspection and maintenance of cross drainage works (First Revision)	1981	2017

The Committee further decided to request all members to send their inputs by 10th January for Priority 1 standards and by 25th January for Priority 2 standards. In this regard, gentle reminder has been sent vide BIS email dated 4th July 2024. No inputs have been received.

The Committee may NOTE and DECIDE.

ITEM 7 RESEARCH & DEVELOPMENT PROJECTS FOR FORMULATION AND REVIEW OF STANDARDS

BIS has realized the indispensable role of research and development (R&D) projects in the standardization process. Hence, BIS has started a scheme of awarding R&D projects for standards formulation. The guidelines for the same have been circulated with the agenda.

The Committee may NOTE.

ITEM 8. ANY OTHER BUSINESS:

8.1 Date and Venue for the next meeting.

ANNEX 1
(item 2.1)

**COMPOSITION OF CANALS & CROSS DRAINAGE WORKS SECTIONAL
COMMITTEE, WRD13**

SCOPE: Standardization of criteria for planning, location, design, construction, inspection, maintenance and other related aspects for canals and cross drainage works

Last 3 meetings	21 st – 19 Feb 2021	22 nd - 21 Jan 2022	23 rd - 21 Nov 2023			
	S. NO.	NAME OF THE ORGANIZATION	REPRESENTED BY	MEETINGS ATTENDED		
				21 st	22 nd	23 rd
1.	CENTRAL WATER COMMISSION, NEW DELHI	SHRI VIVEK TRIPATHI CHIEF ENGINEER DESIGN (N&W) (CHAIRPERSON)	Y	Y	Y	
2.	BRAHMAPUTRA BOARD, GUWAHATI	SHRI GAYA PRASAD SINGH SHRI SHYAMAL KR. DEKA (Alternate)	X	X	X	
3.	BHAKRA BEAS MANAGEMENT BOARD, PUNJAB	DIRECTOR DESIGN SUPERINTENDING ENGINEER (Alternate)	X	Y	Y	
4.	CENTRAL BOARD OF IRRIGATION & POWER, NEW DELHI	SHRI K. K. SINGH, DIRECTOR WR SHRI KAMAL KUMAR, MANAGER WR (Alternate)	X	Y	X	
5.	CENTRAL SOIL AND MATERIALS RESEARCH STATION, NEW DELHI	SHRI U. S. VIDYARTHI, SC E SHRI SHAHID NOOR SC. D (Alternate)	X	Y	Y	
6.	CENTRAL WATER & POWER RESEARCH STATION, PUNE	SHRI B. SURESH KUMAR, SC D DR. SREEKANTH SAMPATH, SC- C (Alternate)	X	Y	Y	

		SHRI ARUN KUMAR, SC C (Alternate)			
7.	CENTRAL WATER COMMISSION, NEW DELHI	SHRI SAMIR KUMAR SHUKLA, DIRECTOR, BCD (E&NE) SHRI S K SHARMA, DIRECTOR, BCD (N&W) (Alternate)	Y	Y	Y
8.	HINDUSTAN CONSTRUCTION COMPANY LIMITED	SHRI PRAVEEN H SHETTIGAR, CHIEF TECHNOLOGY OFFICER & HEAD. SHRI NACHIKET PETHKAR DEPUTY GENERAL MANAGER (Alternate)	NR	X	X
9.	INDIAN INSTITUTE OF TECHNOLOGY, DELHI	PROF. S. CHAKMA	X	X	X
10.	INDIAN INSTITUTE OF TECHNOLOGY ROORKEE, ROORKEE	PROF. MANOJ KUMAR JAIN, DEPTT OF HYDROLOGY PROF. S.K. SINGAL, DEPTT. OF HRED (Alternate)	Y	Y	Y
11.	IRRIGATION AND WATER RESOURCES DEPARTMENT, HARYANA	SHRI SANDEEP TANEJA, CHIEF ENGINEER / YWS(SOUTH) SHRI PRADEEP YADAV, SUPERINTENDING ENGINEER (Alternate)	X	Y	Y
12.	IRRIGATION & WATER RESOURCES DEPTT, MINISTRY OF JAL SHAKTI, UTTAR PRADESH	SHRI RAKESH KUMAR GUPTA, C.E. PLANNING SHRI UPENDRA NATH KUNWAR, DIRECTOR CENTRAL DESIGN DIRECTORATE (Alternate)	Y	X	X

13.	IRRIGATION DEPARTMENT, GOVT. OF KERALA	SHRI ALEX VARGHESE, C.E. IRRIGATION SHRI MANJU BALAKRISHNA (Alternate)	X	Y	X
14.	IRRIGATION RESEARCH INSTITUTE, ROORKEE	SHRI DINESH CHANDRA, C.E. LEVEL – 1 SHRI NAVEEN SINGHAL, S.E., RESEARCH (Alternate)	Y	Y	Y
15.	NATIONAL HYDROELECTRIC POWER CORPORATION LTD., FARIDABAD	SHRI SHRISH DUBEY, GM (CIVIL) SHRI PRSHANTH JAISWAL, DGM (CIVIL) SHRI DEEPAK VERMA, DM (CIVL), (Alternate)	Y	X	Y
16.	NARMADA WATER RESOURCES, WATER SUPPLY & KALPASAR DEPT., GUJARAT (GERI)	SHRI R. M. PATEL, CHIEF ENGINEER AND DIRECTOR SHRI N. R. MAKWANA, JOINT DIRECTOR (IRRIGATION) (Alternate)	X	X	Y
17.	SARDAR SAROVAR NARMADA NIGAM LTD., GUJARAT	DIRECTOR(CANALS) CHIEF ENGINEER (DESIGN)(Alternate)	Y	Y	X
18.	WAPCOS LIMITED, GURGAON	SHRI SHAMBHU AZAD, EXECUTIVE DIRECTOR (WRD) SHRI A.K. GEHLOT (Alternate)	X	X	X
19.	WATER RESOURCES DEPARTMENT, GOVT. OF ANDHRA PRADESH	SHRI A. SURI BABU , SUPERINTENDING ENGINEER (RETIRED) SUPTDG ENGINEER(CANAL) (Alternate)	X	X	X
20.	WATER RESOURCES DEPARTMENT GOVT. OF BIHAR	SHRI MD. MAHMOOD ALAM, EXECUTIVE ENGINEER	Y	Y	X

21.	WATER RESOURCES DEPARTMENT, CHHATTISGARH	SHRI R. K. NAGARIA, EXECUTIVE ENGINEER SHRI U. R. RATHOR ASSISTANT ENGINEER (Alternate)	X	Y	X
22.	WATER RESOURCES DEPARTMENT, KARNATAKA	NOMINATION AWAITED	X	Y	X
23.	WATER RESOURCES DEPARTMENT, MADHYA PRADESH	SHRI V. K. WASHIK, CHIEF ENGINEER SHRI BHAGWATI PRASAD GUPTA, DEPUTY DIRECTOR (CANAL) (Alternate)	X	X	X
24.	WATER RESOURCES DEPARTMENT, GOVT. OF MAHARASHTRA	SHRI RAJENDRA PAWAR, SUPERINTENDING ENGINEER, CANAL CIRCLE SHRI M.M. PARATE SUPERINTENDING ENGINEER (Alternate)	X	X	X
25.	WATER RESOURCES DEPARTMENT, GOVT. OF PUNJAB	SHRI H.S. MENDIRATTA, DIRECTOR EXECUTIVE ENGINEER RC CDO. (Alternate)	Y	Y	Y
26.	WATER RESOURCES DEPARTMENT GOVT. OF RAJASTHAN	CHIEF ENGINEER SWRPD DIRECTOR (CANALS ID&R) (Alternate)	X	X	Y
27.	WATER RESOURCES ORGANIZATION, PUBLIC WORKS DEPT. TAMIL NADU	SUPTDG ENG DESIGN WRD SUPERINTENDING ENGINEER (Alternate)	Y	Y	X
28.	IN PERSONAL CAPACITY	PROF. S K MAZUMDAR	Y	Y	X
29.	IN PERSONAL CAPACITY, JAIPUR	SHRI Y.C. AGRAWAL	Y	X	X

ANNEX 2
(item 3.1)

PROGRAMME OF WORK

S. NO.	IS NO.	TITLE
1	IS 3872: 2002	Lining of canals with burnt clay tiles - Code of practice (First Revision)
2	IS 3873: 1993	Laying cement concrete/stone slab lining on canals - Code of practice (Second Revision)
3	IS 4410 (Part 5): 2023	Glossary of Terms Relating to River Valley Projects Part 5 Canals (Second Revision)
4	IS 4410 (Part 15/Sec 1): 2023	Glossary of Terms Relating to River Valley Projects Part 15 Canal Structures Section 1 General Terms
5	IS 4410 (Part 15/Sec 2): 2023	Glossary of Terms Relating to River Valley Projects Part 15 Canal Structures Section 2 Transitions
6	IS 4410 (Part 15/Sec 3): 1977	Glossary of terms relating to river valley projects: Part 15 canal structures: Sec 3 flume.
7	IS 4410 (Part 15/Sec 4): 1977	Glossary of terms relating to river valley projects: Part 15 canal structures: Sec 4 regulating works
8	IS 4410 (Part 15/Sec 5): 2023	Glossary of Terms Relating to River Valley Projects Part 15 Canal Structures Section 5 Cross-Drainage Works
9	IS 4515: 2002	Stone pitched lining for canals - Code of practice (Second Revision)
10	IS 4558: 1995	Under - Drainage of lined canals - Code of practice (Second Revision)
11	IS 4701: 1982	Code of practice for earthwork on canals (First Revision)
12	IS 4839 (Part 1): 1992	Maintenance of canals code of practice: Part 1 unlined canals (Second Revision)
13	IS 4839 (Part 2): 1992	Maintenance of canals - Code of practice: Part 2 lined canals (Second Revision)
14	IS 4839 (Part 3): 1992	Code of practice for maintenance of canals: Part 3 canal structures, drains, outlets, jungle, clearance, plantation and regulation (Second Revision)

15	IS 5256: 1992	Sealing expansion joints in concrete lining of canals - Code of practice (First Revision)
16	IS 5690: 1982	Guide for laying combination lining for existing unlined canals (First Revision)
17	IS 5968: 1987	Guide for planning and layout of canal system for irrigation (First Revision)
18	IS 6004: 1980	Criteria for hydraulic design of sediment ejector for irrigation and power channels (First Revision)
19	IS 6522: 1972	Criteria for design of silt vanes for sediment control in offtaking canals
20	IS 6531: 2021	Canal head regulators criteria for design (Second Revision)
21	IS 6936: 1992	Guide for location, selection and hydraulic design of canal escapes (First Revision)
22	IS 7112: 2002	Criteria for design of cross -: Sec for unlined canals in alluvial soil (First Revision)
23	IS 7113: 2003	Soil - Cement lining for canals - Code of practice (First Revision)
24	IS 7114: 1973	Criteria for hydraulic design of cross regulators for canals
25	IS 7331: 1981	Code of practice for inspection and maintenance of cross drainage works (First Revision)
26	IS 7495: 1974	Criteria for hydraulic design of silt selective head regulator for sediment control in offtaking canals
27	IS 7784 (Part 1): 2013	Design of cross drainage works - Code of practice: Part 1 general features (Second Revision)
28	IS 7784 (Part 2/Sec 1): 1995	Design of cross drainage works code of practice: Part 2 specific requirements: Sec 1 aqueducts (First Revision)
29	IS 7784 (Part 2/Sec 2): 2000	Code of practice for design of cross drainage works: Part 2 specific requirements: Sec 2 super passages (First Revision)
30	IS 7784 (Part 2/Sec 3): 1996	Code of practice for design of cross drainage works: Part 2 specific requirements: Sec 3 canal syphons (First Revision)

31	IS 7784 (Part 2/Sec 4): 1999	Design of cross drainage works - Code of practice: Part 2 specific requirements: Sec 4 level crossings (First Revision)
32	IS 7784 (Part 2/Sec 5): 2000	Code of practice for design of cross drainage works part2 specific requirements: Sec 5 syphon aqueducts (First Revision)
33	IS 7871: 1975	Criteria for hydraulic design of groyne walls (Curved Wing) for sediment distribution at offtake points in a canal
34	IS 7873: 1975	Code of practice for limb concrete lining for canals
35	IS 7880: 1975	Criteria for hydraulic design of skimming platform for sediment control in offtaking canal
36	IS 7986: 1976	Code of practice for canal outlets
37	IS 8835: 1978	Guidelines for planning and design of surface drains
38	IS 9097: 1979	Guide for laying lining of canals with hot bitumen or bituminous felts
39	IS 9447: 2023	Assessment of Seepage Losses in Canals by Analytical method- Guidelines (First Revision)
40	IS 9451: 2022	Guidelines for Lining of Canals in Expansive Soils (Third Revision)
41	IS 9452 (Part 1): 1993	Measurement of seepage losses from canals - Code of practice: Part 1 Ponding method
42	IS 9452 (Part 2): 1980	Code of practice for measurement of seepage losses from canals: Part 2 inflow - Outflow method
43	IS 9452 (Part 3): 1988	Code of practice for measurement of seepage losses from canals: Part 3 seepage meter method
44	IS 9698: 1995	Lining of canals with polyethylene film - Code of practice (First Revision)
45	IS 9913: 2000	Code of practice for construction of cross drainage works (First Revision)
46	IS 10430: 2000	Criteria for design of lined canals and guidance for selection of type of lining (First Revision)
47	IS 10646: 1991	Canal linings – Cement concrete tiles - Specification (First Revision)

48	IS 11570: 1985	Criteria for hydraulic design of irrigation intake structures
49	IS 11809: 1994	Lining for canals by stone masonry - Code of practice (First Revision)
50	IS 12331: 1988	General requirements for canal outlets
51	IS 12379: 1988	Code of practice for lining of water - Courses and field channels
52	IS 13143: 1991	Joints in concrete lining of canals - Sealing compound - Specification
53	IS 16238: 2017	Planning of parallel canals - Guidelines
54	IS 16472: 2016	Design and construction of water courses - Guidelines

ANNEX 3
(item 3.3)

Comments from WRD Rajasthan:

A) IS 9452 (Part 1):1993					
Measurement of Seepage Losses from Canals- Code of Practice Part 1- Ponding Method					
Sl. No.	Committee/ Organization/ Individual	Clause/ Sub Clause/ Paragraph /Figure Table	Type of Comment	Comment (Justification forchange)	ProposedChange
1.	Director Canal, ID&R	3.2	Editorial	Extra bracketwith no opening bracket	Remove bracket
2.	Director Canal, ID&R	Fig. 1	Editorial	Arrow indicating LDPE filmpoints at earth cover.	Arrow should point at LDPE film.
3.	Director Canal, ID&R	7.2	Editorial	Full stop used in the middle of sentence	Comma should be Used in place of full stop.
4.	Director Canal, ID&R	9.1 (b)	Editorial	Spelling of “warrents” is wrong.	Replace with “warrants”.
B) IS 9452 (Part 2):1980					
Measurement of Seepage Losses from Canals- Part 2- Inflow-Outflow Method					
Sl. No.	Committee/ Organization/ Individual	Clause/ Sub Clause/ Paragraph /Figure Table	Type of Comment	Comment (Justification forchange)	ProposedChange
1.	Director Canal, ID&R	2.1	Editorial	in	Replace with “of”.

2.	Director Canal, ID&R	7.1	Editorial	The numbering of advantages is 7.0 and the advantages are numbered as 7.1, 7.2 instead of 7.1.1 and 7.1.2	Correct Accordingly.
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