केन्द्रीय मुहर विभाग-2

हमारा संदर्भ : के.मु.वि.-2/16: 10500 10 02 2020

विषय: पेयजल प्रमाणन हेतु

उपरोक्त विषय के संदर्भ मे परिपत्र संलग्न है।

(आदित्य दास)
वैज्ञानिक सी

प्रमुख (के.मु.वि.-2)

सभी क्षेत्रीय/शाखा कार्यालयो/ MSCD/LPPD को इंट्रानेट के माध्यम से परिचालित

प्रतिलिपि:

आई टी एस विभाग - बीआईएस इंट्रानेट पर अपलोड करने के लिए

CENTRAL MARKS DEPARTMENT-2

Our Ref: CMD-2/16:10500 10 02 2020

Subject: Regarding Drinking Water Certification

Please consider the attached circular

Aditya Das
Sc. C

HCMD-2

ROs/BOs/MSCD/LPPD

Copy to:

H ITSD - with a request to host this circular on intranet

CENTRAL MARKS DEPARTMENT-2

Our Ref: CMD-2/16:10500 10 02 2020

Subject: Regarding Drinking Water Certification

1. This has reference to the above.

2. Reference is also invited to the LPPD's mail dated 16 01 2020 to ROs/BOs regarding follow up action on one day workshop on ensuring Quality of Piped Drinking Water as per IS 10500:2012, conducted on 09.12.2019, wherein the state agencies were advised to identify at least one plant/project in their state for implementation and certification of IS 10500:2012 combined with HACCP on voluntary basis as a pilot project. (Integrated scheme combining Scheme III and Scheme IV)

3. CMD-2 have received queries regarding certification guidelines from BOs and Labs and also from Chief Engineer cum Director (WSSO), Irrigation and Public Health Department, Shimla, Himachal Pradesh.

4. In order to facilitate discussions with interested agencies regarding drinking water certification, the following **draft documents** prepared by CMD-2 are being shared with BOs **only for the purpose of discussions** on Drinking Water certification with the state agencies interested in BIS certification:

   i) Presentation on proposed Integrated Drinking Water Certification Scheme. **(Annex 1)**
   ii) Draft Inspection and Testing Plan (for Scheme IV) **(Annex 2)**
   iii) Draft Fee structure (Combining Scheme IV and Scheme III) **(Annex 3)**

5. Since the scheme was envisaged as a combination of Product Certification as per Scheme IV and System Certification (HACCP) under Scheme III, MSCD has also been requested to share any relevant documents in this regard with BOs to facilitate the interaction with interested agencies.

6. ROs/BOs are requested discuss the proposed Drinking Water certification scheme with the concerned state agencies interested in obtaining BIS certification for drinking water, obtain their feedback and send their comments to CMD-2 and/or MSCD, as applicable, as soon as possible.

Aditya Das
Sc. C

HCMD-2
ROs/BOs

Copy to:

HMSCD – With a request to share any relevant documents regarding HACCP part of certification of drinking water with BOs to facilitate the interaction with interested agencies

H LPPD- for kind information

H ITSD - with a request to host this circular on intranet

Annex-1

CERTIFICATION OF DRINKING WATER

BUREAU OF INDIAN STANDARDS

OVERVIEW OF DRINKING WATER SUPPLY AND DISTRIBUTION

Source
- Raw water from sources (Canals, rivers etc.)

Plant
- Water subjected to treatment, filtration, disinfection etc. in Water treatment Plants

Storage
- Drinking Water supplied from plants through distribution pipelines to pumping stations/storage tanks in different locations

Homes
- Drinking water supplied from pumping stations/ storage tanks to homes/public water supply points

INTEGRATED DRINKING WATER CERTIFICATION SCHEME

- **As per Scheme III of BIS Conformity Assessment Regulations 2018, certification for management system as per Indian Standard – Scheme III (Hazard Analysis and Critical Control Point (HACCP) as per IS 15000:2013) and**
- **As per Scheme IV of BIS Conformity Assessment Regulations 2018, certification as per requirements of IS 10500:2012**

GRANT & OPERATION

- **BIS to conduct testing and verification of processing and testing facilities, competency of personnel and implementation of HACCP system by Water Treatment Plants**

- **Subsequently, COC to be granted to the water treatment plant from where drinking water is treated and/or supplied**

GRANT & OPERATION

- **Each plant to adhere to a HACCP manual as per requirements of IS 15000:2013.**
- **An Inspection and testing plan to define the levels of control (frequency) of tests. It will also define which tests may be conducted in-house and which tests which may be subcontracted to labs.**
- **Each plant to adhere to a defined Inspection and testing plan for requirements of IS 10500**

GRANT & OPERATION

- **Test Certificate shall be issued by the BIS certified Water Treatment Plant for supply of water declaring that the water supplied meets the requirements of IS 10500. This certificate and test results to be displayed on water supply body website.**
- **Surveillance visits to be paid to each BIS certified Water Treatment plant and samples to be drawn on random basis for each season during the year from consumers' premises or public drinking water supply point, or both for testing as per the requirements of IS 10500**

STAGES OF INTEGRATED DRINKING WATER CERTIFICATION

I. GRANT OF Conformity

1. Submission of applications for grant of conformity along with requisite fees
2. Scrutiny of applications
3. Conducting of combined audit
4. Grant of Licence and Certificate of Conformity

STAGES OF INTEGRATED DRINKING WATER CERTIFICATION

II. OPERATION OF Schemes

1. Critical control points to be identified from source up to consumer's end by certified plant
2. Documents/test records to be maintained by certified plant
3. One surveillance visit per year for each certified plant
4. One sample to be drawn on random basis for each season during the year from consumers' premises or public drinking water supply point or both for testing as per the requirements of IS 10500

STAGES OF INTEGRATED DRINKING WATER CERTIFICATION

III. RENEWAL: Renewal/recertification shall be done for a period of 3 years

IV. COMPLAINTS: Considering the importance of drinking water and health aspects involved, investigation of the complaint to be done on priority by Water Treatment Plant. Records to be maintained for complaints received and action taken by the plant.

THANK YOU

INSPECTION AND TESTING PLAN FOR CERTIFICATION OF DRINKING WATER AS PER IS 10500:2012 UNDER SCHEME IV OF BIS (CONFORMITY ASSESSMENT), REGULATIONS 2018

1.0 LABORATORY -A laboratory shall be maintained which shall be suitably equipped and staffed with competent testing person(s) to carry out the different tests in accordance with the methods given in the Indian standards. Testing person(s) shall be science/engineering graduate from disciplines such as chemistry/chemical engineering/ microbiology/ biotechnology/ biochemistry/ food technology/ botany and other biological/ life sciences. Engineering graduates from disciplines such as chemical engineering may also be engaged as testing persons.

2.0 TEST RECORDS - All records of analysis and tests shall be kept in suitable forms approved by the Bureau of Indian Standards (BIS) for a minimum period of 3 years. Copies of any records that may be required by BIS shall be made available at any time on request.

3.0 TEST CERTIFICATE - For each day's supply of drinking water conforming to this specification there shall be a test certificate which shall contain the batch number/date of supply and the corresponding test results. The means adopted for water treatment shall also be declared on the test certificate. Each day's test certificate shall be hosted prominently on the website of the water supply body along with the details of the areas/location to which the water was supplied.

3.1 Since for many parameters, tests may not be completed in a day, the test certificate may be updated as and when test results are available. For the parameters for which test results are not available at a point in time, "test result awaited" may be mentioned.

4.0 LEVELS OF CONTROL -The tests as indicated in Table 1 and at the levels of control specified therein, shall be carried out on the whole supply of the unit covered by this Scheme and appropriate records maintained in accordance with clause 2 of this Scheme.

5.0 CONTROL UNIT - For the purpose of this Scheme, the quantity of drinking water treated/processed from each processing line and supplied in one day shall constitute a Control Unit.

5.1 On the basis of tests and analysis results, the decision regarding conformity or otherwise of a Control Unit to the given requirements shall be made.

5.2 In respect of all other clauses of the Standard (other than those mentioned under Levels of Control– Table 1 of this Scheme) the water supply bodyshall maintain appropriate controls and checks to ensure that the water supplied conforms to the requirements of the standard.

6.0 SOURCE WATER - The source water used in production of Drinking Water shall be initially tested for Organoleptic and physical parameters (Table 1), Chemical requirements (Table 2), and all microbiological requirements possible to be tested in house. Subsequently, its quality may be regularly assessed at least once in three months through in-house testing for Colour, Odour, Taste, Turbidity, pH, Total Dissolved Solids and Microbiological requirements. In addition, any other requirements as considered necessary for process control, are to be tested where the incidence of their presence in higher levels has been detected during the previous tests.

6.1 Whenever, the quality of treated water is found to be not in conformity with the requirements of IS 10500 for the tested parameters, the source water shall be checked again for such parameters to decide the necessary controls to be exercised for ensuring the conformity of processed water to IS 10500.

6.2 In case non-conformity is observed for radioactive substances, the source of water shall be abandoned and water shall be recalled immediately.

6.3 As and when there is change in source water or addition of new source of raw water, it shall be intimated to BIS. The raw water collected from the new source shall be tested in accordance with Clause 6 as above and the treated water produced from such source water shall be tested for conformity to IS 10500 before commissioning for regular production and marking, and records of the same be maintained.

7.0 HYGIENIC CONDITION - The source water shall be collected, processed, handled, and stored in accordance with the hygienic practices given under Annex B of IS 14543:2016. Other clauses shall also be complied with in day to day production and quality control activities. Schedule for each activity for this purpose shall be displayed prominently in the premises and records of compliance shall be maintained for scrutiny by the Bureau. The hygienic conditions shall also be maintained at the site of water source.

8.0 ROUTINE SURVEILLANCE - Routine surveillance of drinking water supplies should be carried out by the relevant authorities to understand the risk of specific pathogens and define proper control procedures. The WHO Guidelines for Drinking Water Quality, may be referred to for specific recommendations on using a water safety approach incorporating risk identification. Precautions/Care should be taken to prevent contamination of drinking water from chlorine resistant parasites such as cryptosporidium species and giardia.

9.0 REJECTION - Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016. A separate record providing the detailed information regarding the rejected control units and mode of their disposal shall be maintained. Such material shall in no case be stored together with that conforming to the specification.

DRINKING WATER

(IS 10500:2012)

TABLE 1 LEVELS OF CONTROL

(Para 4 of the of Inspection and Testing Plan)

(1)				(2)	(3)		
Test Details				**Test equipment requirement** R: required (or)S: Sub-contracting permitted	**Levels of Control**		
Cl.	Requirement	Test MethodClause	Test Method reference		No. of Sample	Frequency	Remarks
Table 1 Organoleptic and Physical Parameters							
i)	Colour,		**IS 3025** Part 4	R	One	Each Control Unit	
ii)	Odour		**IS 3025** Part 5	R	One	Each Control Unit	
iii)	*p*H value		**IS 3025** Part 11	R	One	Every four hours	
iv)	Taste		**IS 3025 Part 7 and 8**	R	One	Each Control Unit	
v)	Turbidity,		**IS 3025 Part 10**	R	One	Each Control Unit	
vi)	Total dissolved solids		**IS 3025 Part 16**	R	One	Each Control Unit	
Table 2 General Parameters Concerning Substances Undesirable in Excessive Amounts							
i)	Aluminium		IS 3025 (Part 55)	R	One	Once in a week	
ii)	Ammonia (as total ammonia-N),		IS 3025 (Part 34)	R	One	Once in a week	
iii)	Anionic detergents (as MBAS)		Annex K of IS 13428	S	One	Once in a month	
iv)	Barium		Annex F of IS 13428	S	One	Once in a month	
v)	Boron		IS 3025 (Part 57)	S	One	Once in a month	
vi)	Calcium		IS 3025 (Part 40)	R	One	Once in a week	

vii)	Chloramines		IS 3025 (Part 26)	R	One	Once in a week	
viii)	Chloride		IS 3025 (Part 32)	R	One	Each control unit	
ix)	Copper		IS 3025 (Part 42)	S	One	Once in a month	
x)	Fluoride		IS 3025 (Part 60)	S	One	Once in six months	
xi)	Free residual chlorine		IS 3025 (Part 26)	R	One	Each control unit	To be applicable only when water is chlorinated. Tested at consumer end.
xii)	Iron		IS 3025 (Part 53)	S	One	Once in a month	
xiii)	Magnesium		IS 3025 (Part 46)	R	One	Once in a week	
xiv)	Manganese		IS 3025 (Part 59)	S	One	Once in a month	
xv)	Mineral oil	Clause **6**	IS 3025 — (Part 39) Infrared	S	One	Once in a month	
xvi)	Nitrate (as NO3),		IS 3025 (Part 34)	R	One	Once in a week	
xvii	Phenolic compounds (as C6H5OH),		IS 3025 (Part 43)	S	One	Once in a month	
xvii	Selenium (as Se),		IS 3025 (Part 56) or IS 15303	S	One	Once in six months	
xix)	Silver	Annex J	IS 13428	S	One	Once in six months	
xx)	Sulphate		IS 3025 (Part 24)	R	One	Each control unit	
xxi)	Sulphide		IS 3025 (Part 29)	R	One	Once in a week	
xxii	Total alkalinity as calcium carbonate		IS 3025 (Part 23)	R	One	Each control unit	
xxii	Total hardness (as CaCO3)		IS 3025 (Part 21)	R	One	Once in a week	
xxiv	Zinc		IS 3025 (Part 49)	S	One	Once in a month	
Table 3 Parameters Concerning Toxic Substances							
i)	Cadmium		IS 3025 (Part 41)	S	one	Once in six months	
ii)	Cyanide		IS 3025 (Part 27)	S	one	Once in six months	

iii)	Lead		IS 3025 (Part 47)	S	one	Once in six months	
iv)	Mercury		IS 3025 (Part 48)/ Mercury analyser	S	one	Once in six months	
v)	Molybdenum		IS 3025 (Part 2)	S	one	Once in six months	
vi)	Nickel		IS 3025 (Part 54)	S	one	Once in six months	
vii)	Polychlorinated biphenyls		ASTM 5175	S	one	Once in six months	
viii)	Polynuclear aromatic hydrocarbons (as PAH)		APHA 6440	S	one	Once in six months	
ix)	Total arsenic		IS 3025 (Part 37)	S	one	Once in six months	
x)	Total chromium		IS 3025 (Part 52)	S	one	Once in six months	
xi)	Trihalomethanes						
xii)	Bromoform		ASTM D 3973-85 or APHA 6232	S	one	Once in six months	
xiii)	Dibromochloromethane		ASTM D 3973-85or APHA 6232	S	one	Once in six months	
xiv)	Bromodichloromethane		ASTM D 3973-85or APHA 6232	S	one	Once in six months	
xv)	Chloroform		ASTM D 3973-85or APHA 6232	S	one	Once in six months	
Table 4 Parameters Concerning Radioactive Substances							
i)	Alpha emitters		**IS 14194** Part 2	S	one	Once in five years	
ii)	Beta emitters		**IS 14194** Part 1	S	one	Once in five years	
Table 5 Pesticide Residues							
i)	Alachlor		USEPA 525.2, 507	S	one	Once in six months	
ii)	Atrazine		USEPA 525.2, 8141 A	S	one	Once in six months	
iii)	Aldrin/ Dieldrin		USEPA 508	S	one	Once in six months	

iv)	Alpha HCH		USEPA 508	S	one	Once in six months	
v)	Beta HCH		USEPA 508	S	one	Once in six months	
vi)	Butachlor		USEPA 525.2, 8141 A	S	one	Once in six months	
vii)	Chlorpyriphos		USEPA 525.2, 8141 A	S	one	Once in six months	
viii)	Delta HCH		USEPA 508	S	one	Once in six months	
ix)	2,4-Dichlorophenoxyacetic acid		USEPA 515.1	S	one	Once in six months	
x)	DDT (*o, p* and *p, p* – isomers of DDT, DDE and DDD)		USEPA 508 OR AOAC 990.06	S	one	Once in six months	
xi)	Endosulfan (alpha, beta, and sulphate)		USEPA 508 OR AOAC 990.06	S	one	Once in six months	
xii)	Ethion		USEPA 1657 A	S	one	Once in six months	
xiii)	Gamma — HCH (Lindane)		USEPA 508 OR AOAC 990.06	S	one	Once in six months	
xiv)	Isoproturon		USEPA 532	S	one	Once in six months	
xv)	Malathion		USEPA 8141 A	S	one	Once in six months	
xvi)	Methyl parathion		USEPA 8141 A OR ISO 10695	S	one	Once in six months	
xvii)	Monocrotophos		USEPA 8141 A	S	one	Once in six months	
xviii)	Phorate		USEPA 8141 A	S	one	Once in six months	
Table 6 Bacteriological Quality of Drinking Water							
i)	*E. coli* or thermotolerant coliform bacteria		IS 15185	R	One	Each control unit	
ii)	Total coliform bacteria		IS 15185	R	One	Each control unit	
4.2	**Virological Requirements**						

i)	MS2 phage		USEPA method 1602	S	One	Once in a year	
ii)	Polymerase Chain Reaction (PCR) method	Annex B	IS 10500 or USEPA method in Manual of Method for Virology Chapter 16, June 2001	NA	NA	NA	To be conducted only if MS2 phage are detected in the drinking water
4.3	**Biological Requirements**						
i)	General biological examination	4.3.1 to 4.3.7	IS 10500	S	one	Once in a month	Draft amendment to IS 10500 is being considered wherein these parameters have been specified for guidance purpose only.
ii)	Cryptosporidium		USEPA method 1622 or USEPA method 1623* or ISO 15553 : 2006	S	one	Once in six months	
iii) .	Giardia		USEPA method 1623* or ISO 15553 : 2006	S	one	Once in six months	
iv)	Freedom from microscopic organisms	**4.3.10**	IS 10500	S	one	Once in a month	Draft amendment to IS 10500 is being considered wherein these parameters have been specified for guidance purpose only.

Note-1: Whether test equipment is required or sub-contracting is permitted in column 2 shall be decided by the Bureau and shall be mandatory. Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empaneled by the Bureau.

Annex 3

DRAFT

SUMMARY OF FEE STRUCTURE FOR DRINKING WATER CERTIFICATION

Sl.No.		Scheme III (HACCP)	Scheme IV (CoC)
1.	Application Fee*	(a)Large Industrial Enterprises- (b)Medium, Micro and small Industrial Enterprises- Rs. 7,000/- (c)Central/State Govt. Organisations: (i) upto 100 employees: Rs. 7,000/- (ii)above 100 employees: Rs. 15,000/-	**Rs 1000/-**
2.	Audit fee:*	Rs. 12,000/- per manday	**Rs 7000 per day**
3.	Licence or certificate of conformity fee/Recertification or Renewal Fee	(a) Large Enterprises Rs. 60,000/- (b)MSME - Rs. 30,000/- For three years	(a) Large Enterprises Rs. 50,000/- (b)MSME - Rs. 40,000/- **Per year**

(i)Travel limited to a distance of 250 km from the location of the unit and stay of auditors on actual basis shall be borne by the applicant or licence holder or certificate of conformity holder.

(ii) The holder of licence or certificate of conformity shall bear all expenses, including cost to BIS of the man-days spent by BIS certification officer(s) in connection with the audit (from the time of departure from the place of posting till return thereto), as decided by BIS in its absolute discretion.

Details of Fee for Scheme III and IV enclosed

Scheme III fee structure

Fee Structure

1. Application Fee*

(a)Large Industrial Enterprises- Rs.15, 000/-

(b)Medium, Micro and small Industrial Enterprises- Rs. 7,000/-

(c)Central/State Govt. Organisations:

(i) upto 100 employees: Rs. 7,000/-

(ii)above 100 employees: Rs. 15,000/-

All 'Libraries, Laboratories, Schools, Colleges, Polytechnics, Training Institutes and health Care Establishments' of the Central/State/Local government irrespective of their size shall be considered as small enterprises.

2. Audit fee:*

(a) For units located within India:

(i)Rs. 12,000/- per manday shall be chargeable.

(ii)Travel limited to a distance of 250 km from the location of the unit and stay of auditors on actual basis shall be borne by the applicant or licence holder or certificate of conformity holder.

(b) For units located outside India:

(i) Rs. 12,000/- per manday shall be chargeable.

(ii)The holder of licence or certificate of conformity shall bear all expenses, including cost to BIS of the man-days spent by BIS certification officer(s) in connection with the audit (from the time of departure from the place of posting till return thereto), as decided by BIS in its absolute discretion.

3. Licence or certificate of conformity fee*/re-certification fee for three years

(a) Large Enterprises	-	Rs. 60,000/-
(b)Medium, Micro and Small Enterprises	-	Rs. 30,000/-

4. Flexibility in Fee - Discount of up to 50% in Licence or certificate of conformity Fee can be given by the Bureau

Note: (i)For each subsequent systems certification licence to first licence, the application fee shall be Rs. 7000/-

(ii)20% discount in licence fee for subsequent Licences and licence holders of other Conformity Assessment schemes of Bureau.

(iii)For organisations with multiple service outlets - For each additional site (with similar activities) to be covered under the scope, additional licence fee to be paid for each site shall be as follows:

Up to 10- @ Rs.12,000/- per site

11 and above- Rs. 1,20,000 + Rs.8,000 for each additional site above 10

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* - Taxes Extra

-Classification of enterprises will be based on 'The Micro, Small and Medium enterprises Development (MSMED) Act, 2006(27 of 2006).

Scheme IV fee structure

Fee

1. (1) The application fee and renewal application fee shall be rupees one thousand each.

(2) The annual certificate of conformity fee for the use of certificate of conformity shall be paid in advance which shall be rupees fifty thousand for large scale industries per year:

Provided that a concession of twenty percent shall be given to micro small and medium enterprises.

Explanation.-For the purpose of this proviso, the expression micro small and medium enterprises shall have the meaning assigned to it in the Micro Small Medium Enterprises Development Act, 2006(27 of 2006).

(3)The annual certificate of conformity fee shall not be refunded if certificate of conformity is cancelled.

(4) In case of extension of scope, an amount of rupees five thousand shall be chargeable per endorsement.

(5)For any inspection other than surveillance inspection or inspection carried out for complaint investigation, an inspection fee rupees seven thousand per day shall be levied from the applicant;

(6) The cost of the samples and the testing fee of samples drawn for surveillance or complaint investigation, shall be borne by the applicant or the holder of certificate of conformity.