



# DISTRIBUTION TRANSFORMERS

*Part 1: Mineral Oil Immersed  
Guidelines to get BIS certification Mark*



PRESENTED BY

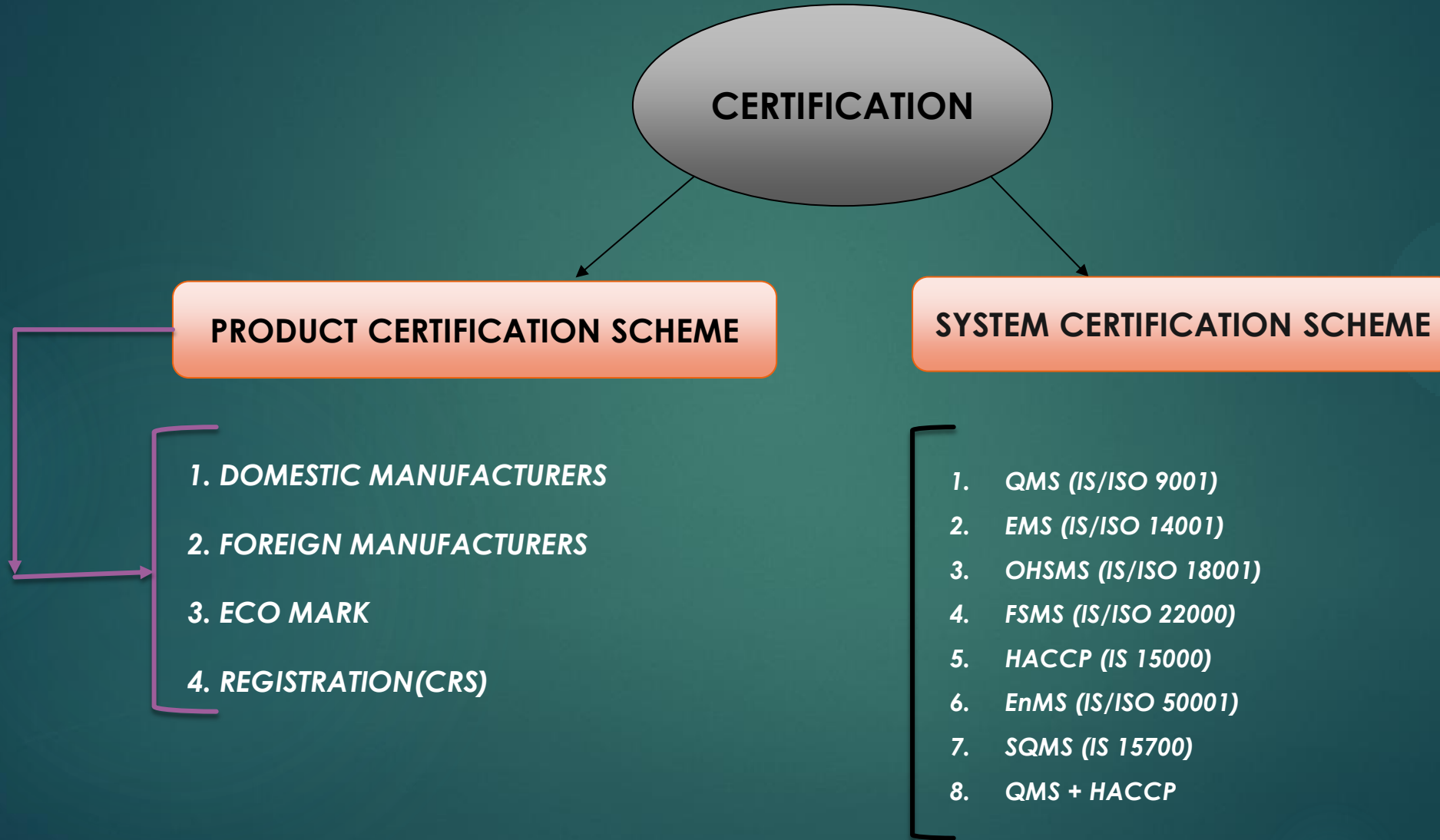
**ISHAN TRIVEDI**

**SCIENTIST-B**

BUREAU OF INDIAN STANDARDS

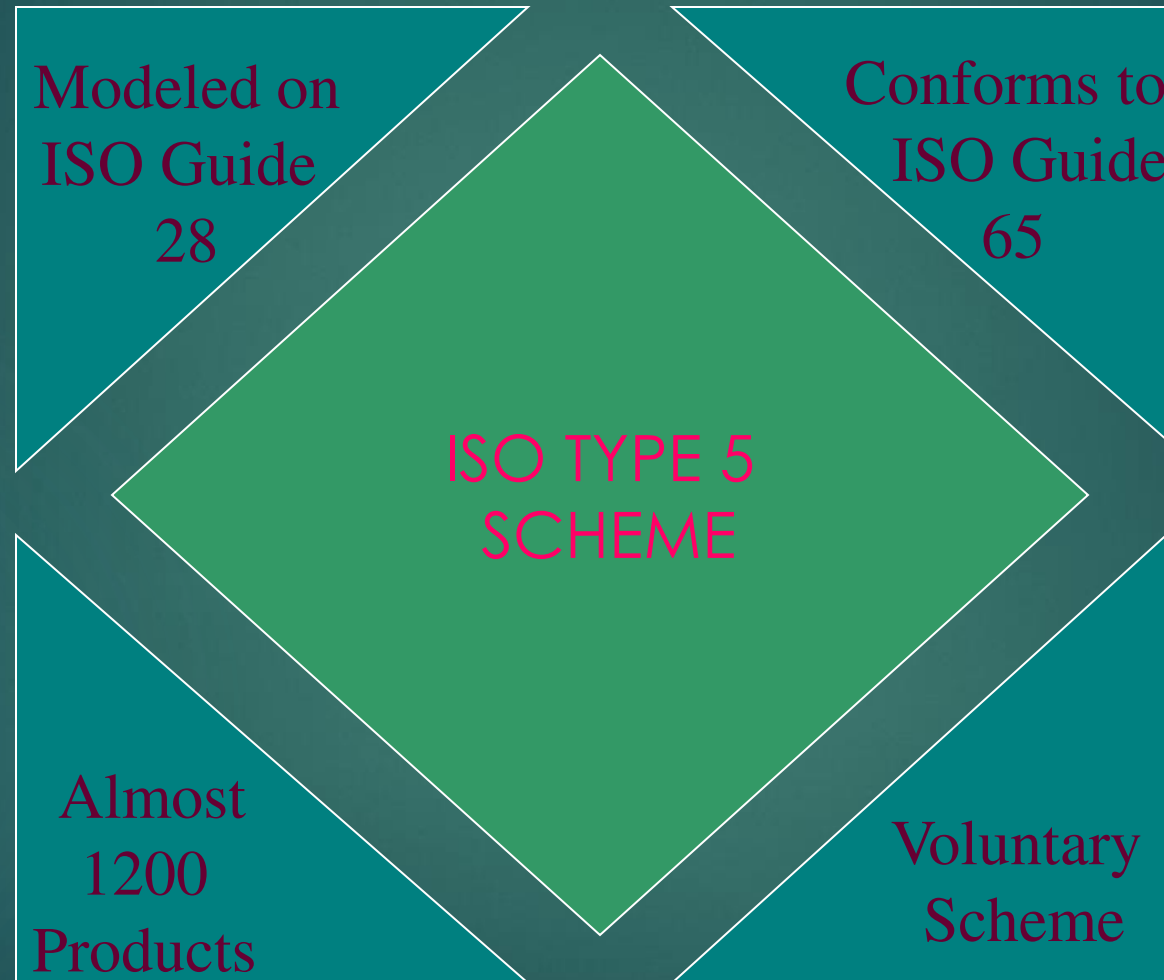
BHOPAL BRANCH OFFICE

# CERTIFICATION ACTIVITY:





# PRODUCT CERTIFICATION



# PRODUCT CERTIFICATION

- ▶ The **Product Certification Scheme of BIS** aims at providing Third Party Guarantee of quality, safety and reliability of products to the customer. Presence of ISI certification mark, known as **Standard Mark**, on a product is an assurance of conformity to the specifications. The conformity is ensured by regular surveillance of the licensee's performance by surprise inspections and testing of samples, drawn both from the market and factory. The manufacturer is permitted to self certify the licenced products after ascertaining its conformity to the Standard. Through its surveillance operations, the Bureau maintains a close vigil on the quality of certified goods.
- ▶ The Scheme started in 1955 & First licence was granted on 8 August 1955.
- ▶ Basically voluntary in nature. the Government of India, on considerations of *public health and safety, security, infrastructure requirements and mass consumption* has enforced mandatory certification on various products through **Quality Control Orders(QCOs)** issued from time to time under various Acts. While BIS continues to grant licences on application, the enforcement of compulsory certification is done by the notified authorities in the QCOs.
- ▶ In order to **safeguard the interest of consumers** against spurious marking/misuse of ISI mark, penal provision exists in BIS Act 1986 under section 33(1), as per which any person who contravenes the provisions of Section 11, Section 12, Section 14 or Section 15 shall be punishable with imprisonment for a term which may extend upto one year or with a fine which may extend upto Rs. 50,000 or with both.

# Product Certification

**MANDATORY certification** (109 PRODUCTS + 31 Electronics & IT Goods)

**VOLUNTARY certification**

- Cement
- Household electrical goods
- Food & related products
- Oil Pressure Stoves
- Automobiles Accessories
- Cylinders, Valves & Regulators
- Medical equipment
- Steel products
- **ELECTRICAL TRANSFORMERS**
- Electronics and IT goods under CRS for self-declaration of conformity

Criteria for Mandatory certification:

- # Public Health & Safety
- # Security
- # Infrastructure Requirement
- # Mass Consumption



## PROCEDURE FOR GRANT OF LICENCE:

a) **Normal Procedure** – In this procedure, grant of licence is considered provided the preliminary inspection is found to be satisfactory, samples drawn during this inspection are found to be conforming and the applicant agrees to implement the defined scheme of testing and inspection and pay the prescribed marking fee.

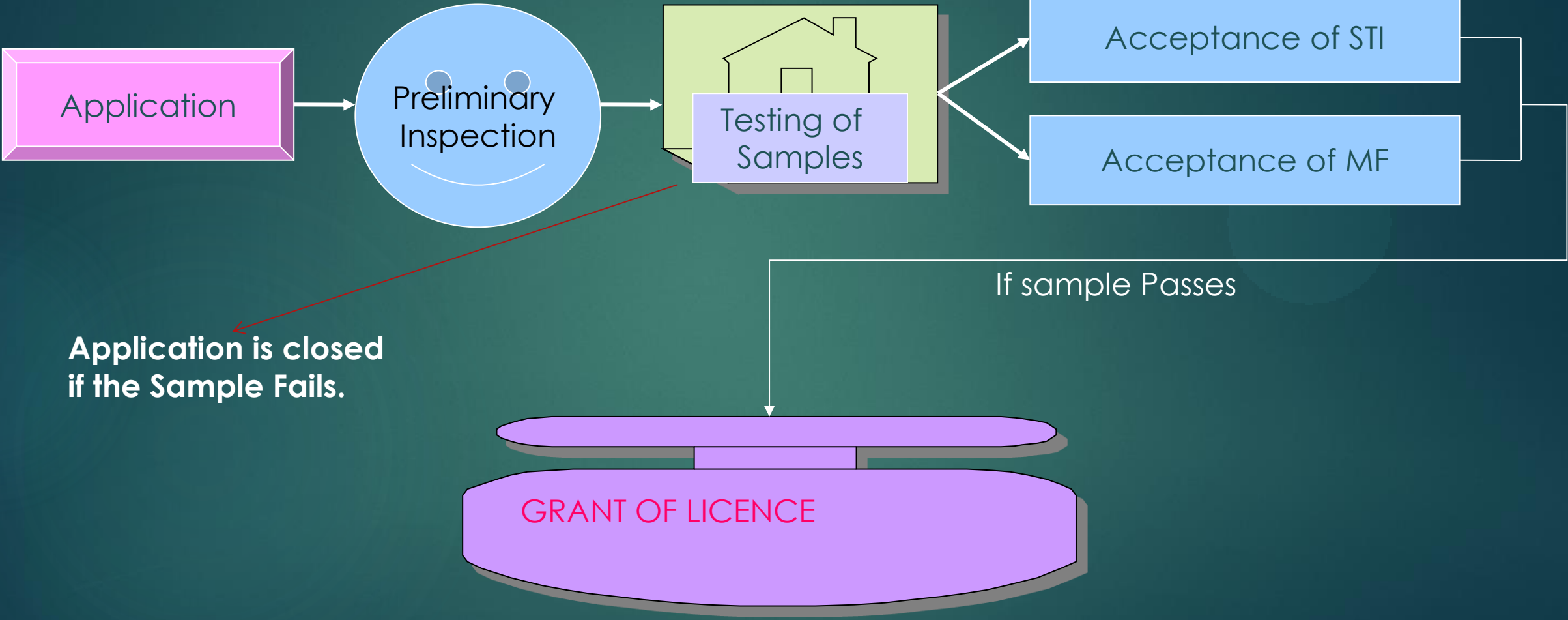
b) **Simplified Procedure** – In this procedure, the applicant is required to submit test report(s) from specified laboratories along with the application. Grant of licence is considered provided the verification visit is found to be satisfactory and the applicant agrees to implement the defined scheme of testing and inspection and pay the prescribed marking fee. Sample(s) is (are) drawn during the verification visit for independent testing, but the conformity of this sample does not form a pre-condition for grant of licence. However, the test result is used for review purpose.

Simplified procedure is applicable for GOL for all the products **except for the following:**

- a) products such as cylinders, valves, regulators, cement, etc., where a joint inspection or approval is required from another statutory authority;
- b) products for which licence is granted on the basis of factory testing; and
- c) Packaged Drinking Water (PDW) and Packaged Natural Mineral Water (PNMW).

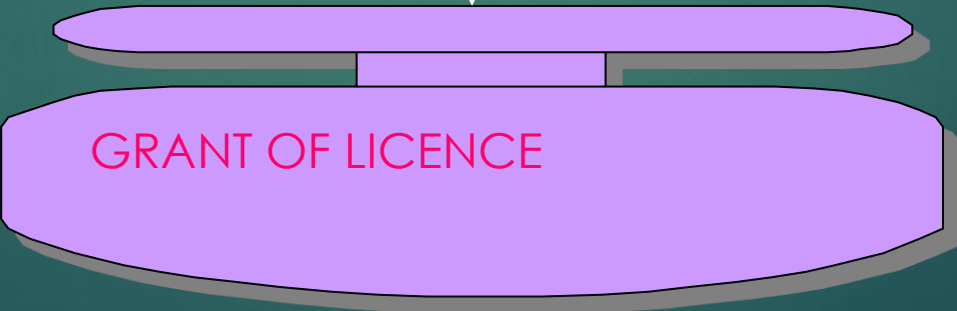


# Grant of Licence in Normal Procedure:



Application is closed if the Sample Fails.

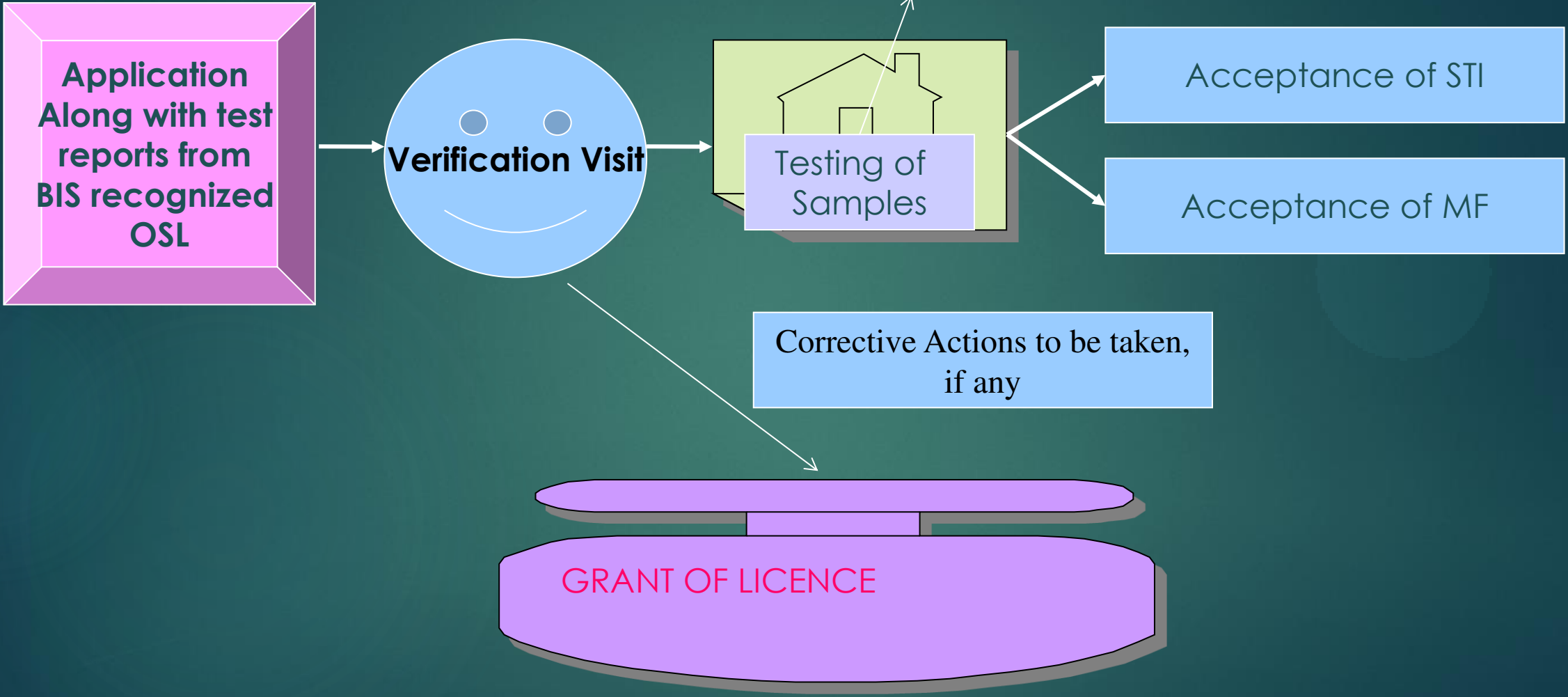
If sample Passes





# Grant of Licence in Simplified Procedure:

Testing Charges to be paid by the applicant initially





# APPLICATION



(नियमन 3 देखें) [See Regulation 3]  
**भारतीय मानक ब्यूरो**  
**BUREAU OF INDIAN STANDARDS**  
 उत्पाद प्रमाणन योजना  
 Product Certification Scheme  
**मानक चिह्न के उपयोग के लिए आवेदन के लिए आवेदन**  
**APPLICATION FOR LICENCE TO USE THE STANDARD MARK**



व्यक्ति अथवा फर्म का पूरा नाम  
 Full name of individual or firm

कार्यालय Office	पता Address					दूरभाष Tel	<input type="text"/>
	<input type="text"/>					फैक्स Fax	<input type="text"/>
						शहर City	ज़िला District
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

फैक्टरी FACTORY	पता Address					दूरभाष Tel	<input type="text"/>
	<input type="text"/>					फैक्स Fax	<input type="text"/>
						शहर City	ज़िला District
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

शीर्ष प्रबंध Top Management		तकनीकी प्रबंध Technical Management	
नाम Name	पदनाम Designation	नाम Name	पदनाम Designation
1.	<input type="text"/>	1.	<input type="text"/>
2.			
3.			
4.			
प्रबंध Management			
संपर्क किये जाने वाले व्यक्ति व दूरभाष सं. CONTACT PERSON & Tel No.			
<input type="text"/>			

पत्राचार का पता CORRESPONDENCE ADDRESS	कार्यालय Office	फैक्टरी Factory	मूल SCALE	बड़ा Large	छोटा Small	क्षेत्र SECTOR	सार्वजनिक Public	निजी Private
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यह आवेदन-----पर मानकचिह्न के मानक चिह्न के उपयोग के लिए किया जा रहा है।  
 This application is being made to use the BIS Standard Mark on -----

उत्पाद PRODUCT	<input type="text"/>		
भारतीय मानक INDIAN STANDARD	अंक सं. IS: अंक Part: अंक Sec:	ग्रेड/टाइप/क्लास GRADE/TYPE/CLASS	<input type="text"/>

वर्तमान संस्थापित क्षमता PRESENT INSTALLED CAPACITY (उत्पादन प्रतिवर्ष) (Production per annum)	उत्पाद की इकाइयों Units of Production	मात्रा Quantity	मूल्य (₹.) Value (Rs.)
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

अन्य ब्यूरो अधिनियम के अंतर्गत पिछले निरस्त/बंद  
 बन्धन/बन्धन, यदि कोई है, के विवरण  
 DETAILS OF PREVIOUS CANCELLATION/CONVICTION  
 IF ANY UNDER BIS ACT

फर्म की सील  
 SEAL OF FIRM

हस्ताक्षर  
 Signature  
 नाम  
 Name  
 पदनाम  
 Designation  
 आवेदन की तिथि  
 Date of application

- महत्व - 1. आवेदन पर फर्म के शीर्ष/उप-अध्यक्ष/अध्यक्ष/अधीनस्थ प्रतिनिधि के हस्ताक्षर हों।  
 2. विदेशी निर्माताओं से आवेदन की तिथि में उनके अधिनियम/भारतीय प्रतिनिधि के भी प्रति हस्ताक्षर आवेदन पर हों।  
 3. कृपया सूचित करें कि आपके पास अन्य किसी उत्पाद(एड) के लिए मानकचिह्न उपयोग है।

Important: 1. Application should be signed by CEO of the firm, or in his absence by authorized representative.  
 2. Application from Foreign Manufacturers should be countersigned by authorized Indian representative.  
 3. Please inform whether you are holding BIS license(s) for any product(s).

► **LIST OF DOCUMENTS TO BE ATTACHED WITH THE APPLICATION:**

SI No	Title of Documents
1	In case the application is filed under “simplified Procedure”, the test report(s) in original from BIS or its recognized laboratories for all the requirements of the product and, where applicable, of raw material(s)/ component(s)
2	Document of Central/State Government (e.g. Registration Certificate, Memorandum of Articles, etc.) authenticating the address and purpose of the establishment of the manufacturing unit for which the application is made for grant of licence
3	In case the applicant applies as SSI unit, copy of valid Registration Certificate from the Local / State authority or from a Chartered Accountant?
4	In case the application is signed by the authorized signatory of the applicant, authorization letter from CEO in the name of the authorized signatory.
5	Process Flow-chart covering all processes of manufacture (from raw material to finished product stage), including details of in-process controls at each stage, even for those stages which have been outsourced?
6	Complete list of manufacturing machinery, clearly indicating the name of the machinery, the details of the process for which it is used, its capacity and quantity

8	In case some of the manufacturing processes are outsourced, provide details of such processes and the controls exercised by you before receipt of such material/components, etc. Also attach an authenticated copy of the agreement.
9	Complete list of testing facilities, clearly indicating the name of the equipment, the test for which it is used (mention clause No. of the Indian Standard), range / least count / accuracy of the test equipment, calibration status and quantity
10	Copies of calibration certificates of testing equipment valid at least till 3 months of acceptance of Application
11	Where applicable, 'consent letter' from BIS recognized laboratory (for requirements which have got to be and / or are proposed to be got tested from outside lab for which the applicant does not have in-house test facilities)
12	Plant Layout clearly indicating location of manufacturing machinery, lab, office, workshop, amenities, storage area, etc., available in the factory premises, with the application?
13	Appointment letter of QC personnel indicating names, experience, qualifications, date of appointment and also attach a copy each of the qualification certificates
14	Copy each of the test reports/suppliers' test certificates for each of the raw materials / components.
15	Copy of in-house or independent test report for the product covering all requirements as per the relevant Indian Standard

## STANDARD RAW MATERIALS:

Major materials used in the transformer shall confirm to the following Indian Standards:

1. Cold rolled grain oriented electrical steel- IS 3024
2. Copper/ Aluminum conductor – IS 191, IS 1897, IS 7404, IS 12444, IS 13730/ IS 6162 series as given in Annex-A of IS 1180 (part 1) : 2014.
3. Kraft paper – IS 9335 series as given in Annex-A of IS 1180 (part 1) : 2014 (IEC 60554)
4. Press board – IS 1576 (IEC 60641)
5. Mineral oil – IS 335
6. Gasket – IS 4253
7. Bushings – IS 2099/7421 & dimensions as per IS 3347

# LIST OF MANUFACTURING MACHINERIES(not exhaustive):

Sl no	Machinery	Remarks
1	Oil Filtration Double Stage	Oil filtration
2	Semi Automatic HV Coil Winding Machine (Front Loading)	HV Coil Winding
3	HV Coil Winding Machine (back Tension)	HV Coil Winding
4	LV Coil Winding Machine	LV Coil Winding
5	Electric/Gas Oven	Drying of Transformers
6	Gas Brazing sets	Brazing
7	Mig Welding Sets	Welding
8	Welding machine Inverter	Welding
9	Hydraulic Press Break	Bending

10	Hydraulic Shearing Machine	Shearing
11	Radial Drilling machine/ drilling machine	Drilling
12	Pug Machine	Profile cutting
13	Hydraulic Hacksaw	Cutting
14	Angle grinder	Grinding
15	Air Compressor	Air Pressure
1	Spray Painting set	Painting
16	Electric hoist/ Hydraulic Mobile crane	Lifting
17	Digital weighing Bridge	weighing
18	MS Circle Cutting Machine	Insulation Cutting
19	Raw Oil Storage tank	Storage
20	Processed Oil storage tank	storage



# LIST OF TEST EQUIPMENTS

Sl No	Test equipment	Test Used with
1	Digital Insulation Tester	Measurement of Insulation Resistance
2	Turn Ratio Meter	Measurement of voltage ratio and check of vector relation
3	Winding resistance mater	Measurement of winding resistance
4	Digital power meter	i) Measurement of No load loss & current ii) Measurement of impedance voltage and load loss
5	Multi Channel Scanner	Measurement of winding resistance
6	HV test Set	Separate source voltage withstand test
7	Digital multi meter	i) Induced over-voltage withstand test ii) Measurement of voltage ratio and check of vector relation
8	Potential Transformer	Measurement of impedance voltage and load loss
9	Current Transformer	Measurement of impedance voltage and load loss
10	Pressure Gauge	Pressure test
11	Vacuum Gauge	Vacuum test

12	Sound Level Meter	Determination of Sound Level
13	Booster Transformer	Measurement of No load loss & current
14	Motor & Generator Set	i) Induced over-voltage withstand test ii) Measurement of voltage ratio and check of vector relation
15	Variac	i) Measurement of No load loss & current ii) Measurement of impedance voltage and load loss
16	Nitrogen Cylinder	Oil Leakage Test
17	Vacuum Pump & Compressor	Measurement of air pressure test

# Verifications during Preliminary Inspection

- Machinery & Testing Facilities
- Competency of Testing Personnel
- Factory Testing
- Documents submitted with Application
- Drawl of Sample

## BIS Recognized Labs for Transformer:

Sl No	Lab Name	Lab Code	Address
1	<b>Central Power Research Institute</b>	8100924	Switchgear Testing & Development Station, Govindpura, BHOPAL-462023 , Madhya Pradesh
2	<b>Central Power Research Institute</b>	6101024	Prof.Sir C.V.Raman Road, Sadashivanagar, Sub Post Office, P.B. No.8066,Bangalore-560080 Karnataka
3	<b>Electrical Research &amp; Development Association</b>	7132925	R-336, TTC Industrial Area, MIDC, RABALE, Thane- Belapur Road, Navi Mumbai-400701, Maharashtra
4	<b>Electrical Research &amp; Development Association</b>	7101125	P.B. No. 760, ERDA Road, Makarpura Industrial Estate Vadodara-390010, Gujarat

\* For current status of Lab, & their Testing charges please visit [www.bis.org.in](http://www.bis.org.in)

**SAMPLE SIZE: 1 TRANSFORMER**

# MARKING FEE :

IS No : IS 1180 : Part 1 : 2014

Unit : 1 kVA

MMF (large scale) : 142,000.00

MMF (small scale) : 114,000.00

Slab rate : 3.00

Slab Quantity : ALL

Effective Date: 24.08.2016



# Guidelines for Certification of Outdoor Type Distribution Transformers as per IS 1180 :

► The tests on the transformers are classified into Routine test, Type test and Special test as given below:

<b>Routine Test</b>	<b>Type Test</b>	<b>Special Test</b> (As agreed between Manufacturer and purchaser)
Measurement of winding resistance IS 2026 (Part 1)	Lightning impulse test IS 2026 (Part 3)	Determination of sound levels IS 2026 (Part 10)
Measurement of voltage ratio and check of phase displacement IS 2026 (Part 1)	Temperature-rise test IS 2026 (Part 2)	Short-circuit withstand test IS 2026 (Part 5) (above 200 kVA)
Measurement of short circuit impedance (principal tapping, when applicable) and load loss at 50 percent and 100 percent load IS 2026 (Part 1)	Short-circuit withstand test IS 2026 (Part 5) (up to 200 kVA)	No load current at 112.5 percent voltage
Measurement of no-load loss and current IS 2026 (Part 1)	Pressure test	Paint adhesion tests. The test is performed as per ASTM D3359 (Standard Test Methods for measuring adhesion by Tape test)



Measurement of insulation resistance IS 2026 (Part 1)		BDV and moisture content of oil in the transformer (IS 335)
Induced over-voltage withstand test IS 2026 (Part 3)		
Separate-source voltage withstand test IS 2026 (Part 3)		
Pressure Test		
Oil Leakage Test		

## GRANT OF LICENCE:

The applicant shall clearly indicate in the application, the ratings of the transformers for which BIS licence is required.

Samples shall be drawn as per the grouping guidelines mentioned below:

1. During Preliminary Inspection, samples shall be drawn from the following group to cover all the ratings of Three Phase Transformers:

Nominal System Voltage	Standard Ratings	
	Up to and including 200 kVA, 3 Phase	Above 200kVA and up to & including 2500 kVA, 3 Phase
3.3 kV, 6.6kV & 11 kV	One sample of highest rating	One sample of highest rating
Above 11 kV & Up to & including 22 kV	-do-	-do-
Above 22 kV & Up to & including 33 kV	-do-	-do-

2. For Single phase transformers, samples shall be drawn as per the following to cover all the ratings:

Nominal System Voltage	Standard Ratings
11 kV	One sample of highest rating
22 kV	-do-
33 kV	-do-

3. During Preliminary Inspection, **one sample of highest rating from each group, shall be selected to cover the entire range within the group for which licence has been applied for, as per the above mentioned table. In case it is not possible to draw the highest rating within the group, then scope of the licence shall be restricted to range up to the rating of sample tested for a particular group.** The relevant drawings of the samples of transformer shall also be collected and sent to the laboratory with the samples.

- ▶ For Sealed and Non-Sealed construction, separate samples are not required to be drawn for Independent testing. If sealed sample is already drawn, non-sealed variety can be included in the scope of the licence after its conformity to pressure test requirements as per IS 1180(Part 1): 2014 and vice-versa. This testing may be done in factory or independent testing. Inspection charges as applicable shall be collected for factory testing.
- ▶ Separate sample of transformer is required for change in the core material (CRGO/Amorphous) and winding material (Aluminium/Copper).
- ▶ Non preferred ratings within the group as mentioned in Table-1 of the ISS may be covered in the scope of the licence based on the declaration submitted by the manufacturer w.r.t design calculations, maximum total losses and declared technical parameters.
- ▶ If transformers with higher energy efficiency level is drawn for testing and found passing, the scope of licence shall also cover transformers with lower energy efficiency levels, as specified in the ISS within the group.
- ▶ An undertaking from the applicant that the ratings/varieties, which are covered in the scope of the license without testing, by virtue of the grouping guidelines, will conform to the requirements of the ISS before applying the standard mark and that the firm at the first instance shall get the transformer tested at BIS recognized laboratories/**Group-2 category** of Laboratory for all parameters under Routine Tests and Type tests shall be obtained. Such test reports of conformity shall be produced to BIS for records.

- ▶ In view of the above, following has been approved by the Competent Authority for compliance by BOs:
  - (a) Manufacturer may submit Original TR to BIS to ensure conformance as per Clause I (i) of the guidelines.
  - (b) If the Manufacturer requests for returning the Original TR, BOs may return the same after retaining a copy duly attested by the Dealing Officer (with legible signature and stamp).
  - (c) However, due to any reason, if the Manufacturer is unable to produce Original TR to BIS, he/she may obtain additional copy of TR authenticated by the laboratory and submit to BIS.



# Guidelines Regarding Special Tests

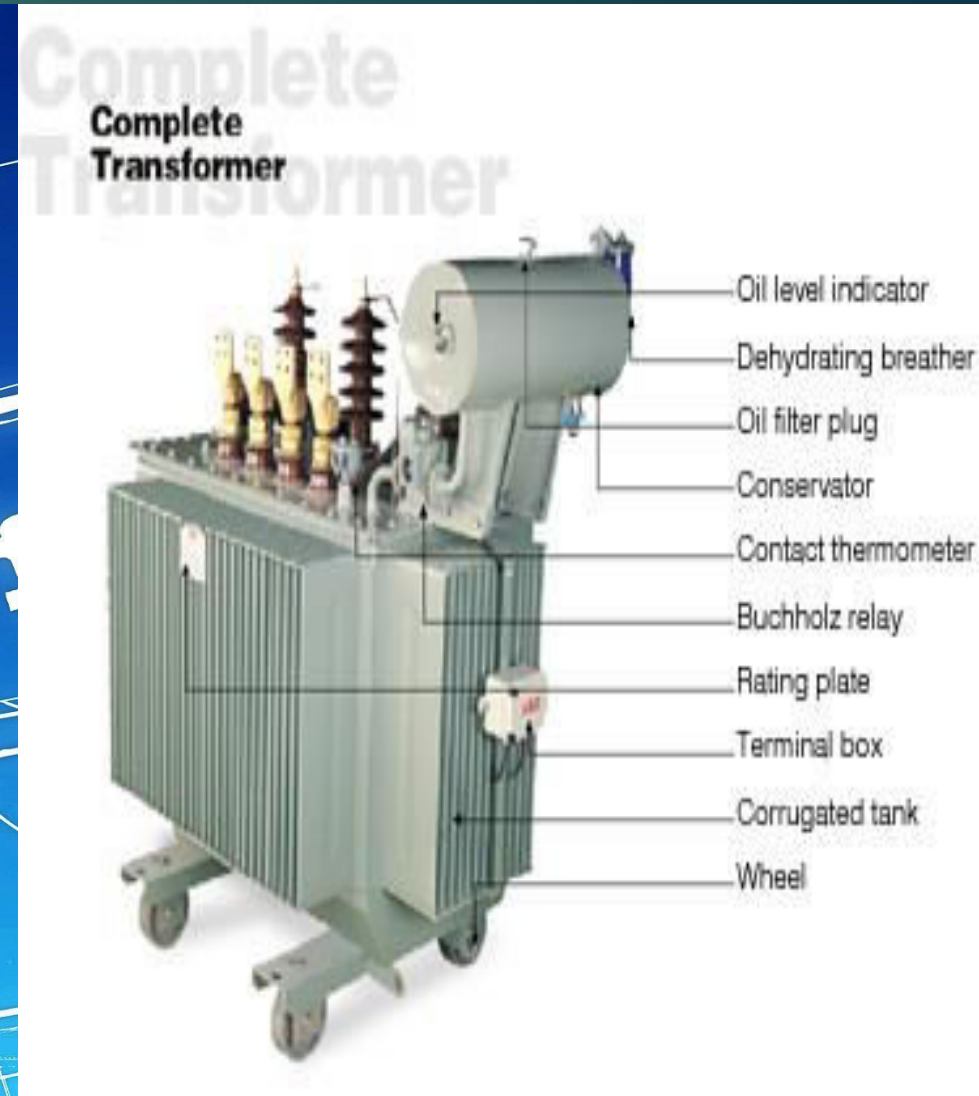
- ▶ Special tests as per clause 21.4 of IS 1180 (Part 1): 2014, carried out by mutual agreement between the user and the supplier, are normally not required to be conducted for Grant of Licence/ Inclusion. In case any manufacturer insists for carrying out Special Test(s), before conducting such Special test(s) an undertaking shall be obtained from the Authorized signatory of the manufacturer stating that *“I/We, ----- have submitted an application to BIS for Grant of Licence/Inclusion for the product Transformers as per IS 1180 (part 1): 2014. In connection with the sample(s) offered by us, I/We fully understand that special tests, carried out by mutual agreement between the user and the supplier, as per clause 21.4 of IS 1180 (Part 1): 2014 are normally not required to be conducted for Grant of Licence/ Inclusion. However, on my/our request, sample sealed by BIS would be subjected to special tests as per clause 21.4 of IS 1180 (Part 1): 2014. I/We also fully agree that if any failure is observed in Special Test(s) it would be considered as a failure of the Sample and may lead to rejection of my/our application for Grant of Licence/Inclusion. Any decision taken by BIS in this regard for grant of licence/inclusion shall be acceptable to me/us.”*
- ▶ **If any Test Report shows failure in Special Test(s), including those submitted by the Manufacturer as per Simplified Procedure, such Test Reports shall not be considered for processing Grant of Licence/Inclusion.**



# Amendment No. 1 to IS 1180(Part 1): 2014

Clause	Requirement
---	Indoor type transformers included.
4	Provision of suitable ventilation for transformers installed in an enclosure
6.4,7.4, 8.4	<ul style="list-style-type: none"><li>• Minimum BIL instead of Rated Basic BIL.</li><li>• To ensure Insulation coordination of all relevant fittings and accessories corresponding to higher BIL</li></ul>
7.1	New Standard rating included
8.1	Non-preferred ratings included
10.1.5	Dimensions of bushings specified for heavily polluted atmosphere
10.2	Rating of bushing changed
14.1, 14.2	Change in dimensional requirements for mounting arrangement
15.1.1	Minimum thickness at the corrugations of transformer tanks specified
16.1	For sealed type transformers conservator is not required
20.1	<ul style="list-style-type: none"><li>• Some of the standard fittings deleted.</li><li>• The following standard fittings added:<ul style="list-style-type: none"><li>▪ Dehydrating breather for non-sealed type transformers.</li><li>▪ Pressure relief device or explosion vent [for sealed type transformers (for all ratings) ]</li><li>▪ Arcing horns for HT side</li></ul></li></ul>
21.2 (g)	Test voltage and duration specified for single phase transformer with $11/\sqrt{3}$ or $22 / \sqrt{3}$ or $33/\sqrt{3}$ kilo volts and with 1.0 kV neutral bushing

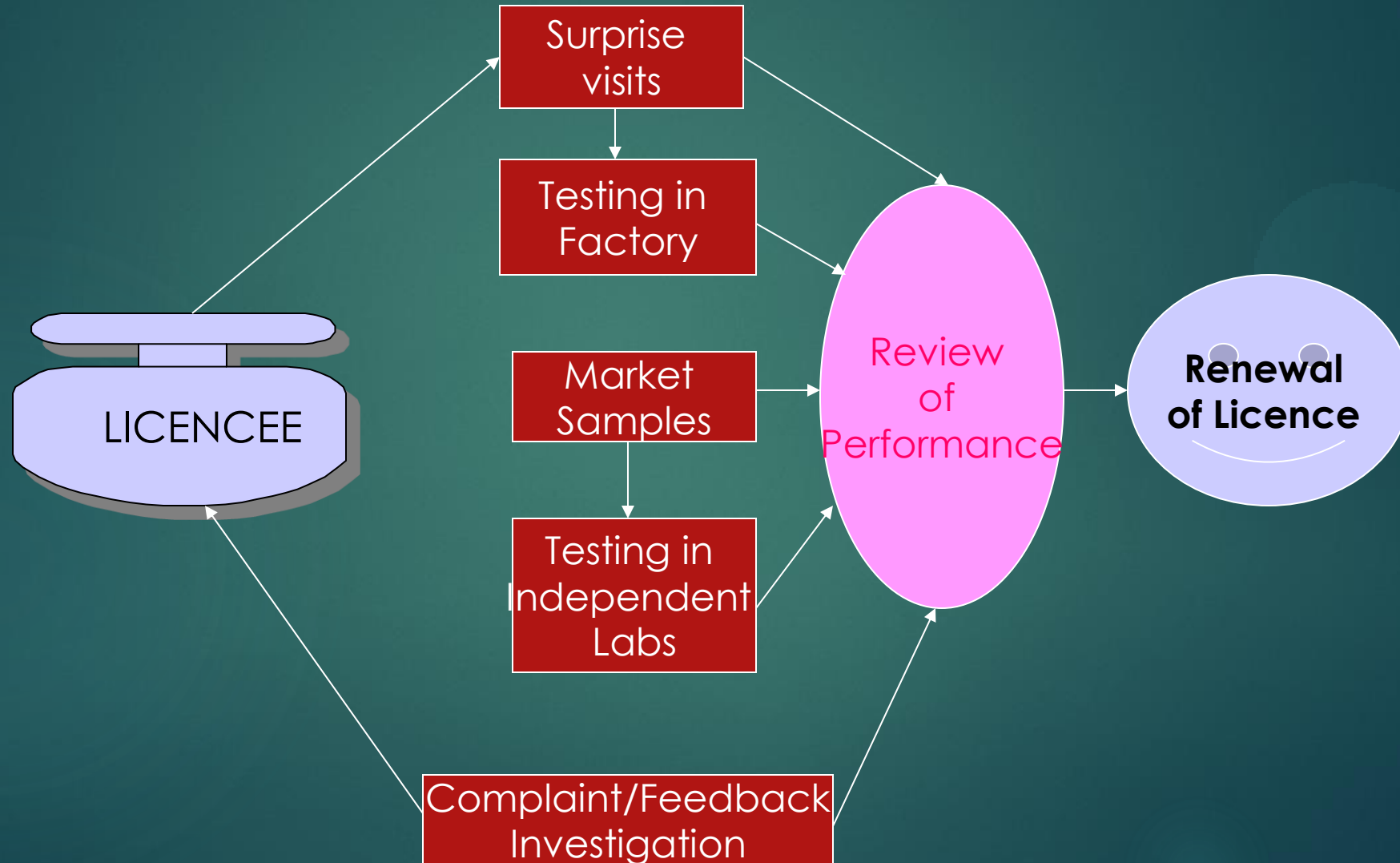
5. The applicant is mandatorily required to have testing facilities in-house for all routine tests. In-house testing facilities for type tests i.e. 'Lightning Impulse Test', 'Short Circuit Test', 'Temperature Rise Test' & 'Permissible Flux Density & Over-fluxing Test', are desirable. However, considering the facts of specialized nature of tests and costly testing equipment, testing facilities of BIS recognized laboratories may be availed by the applicant.



## SCOPE OF LICENCE:

- ❖ Standard Rating in kVA
- ❖ Nominal System Voltage in kV
- ❖ Single/Three phase
- ❖ Sealed/Non sealed
- ❖ Aluminum/Copper wound
- ❖ CRGO/Amorphous core
- ❖ Energy Efficiency Level
- ❖ Maximum Total Loss, in case of non-preferred ratings

# CERTIFICATION PROCESS- MONITORING/SURVEILLANCE:





# RESPONSIBILITIES OF BIS LICENSEES



# RESPONSIBILITIES OF BIS LICENSEES

- ▶ **NOMINATE** responsible person(s) to deal with all matters concerning BIS Certification.
- ▶ **FAMILIARIZE** Top Management and Quality Assurance personnel with the provisions of the BIS Act, BIS Rules and BIS (Certification) Regulations as amended from time to time.
- ▶ **PAY** minimum marking fee in advance. If it is not received in time, your licence may expire.
- ▶ **SUPPLY** one copy each of the up-to-date Indian Standard(s) and the Scheme of Testing and Inspection attached to your licence to all concerned specially to the personnel of Quality Control Department. **DO NOT** reprint Indian Standards. This is not permitted and is a violation of the Copyright Act.
- ▶ **OBTAIN** prior permission of Excise/Bank authorities (where necessary) so that the sample(s) can be made available to BIS as and when necessary. **INFORM** BIS in case of difficulties, if any.
- ▶ **SUBMIT** statement of quantity produced and marked by 31 July and 31 January for the preceding six months.
- ▶ **INFORM** BIS **IMMEDIATELY** if there are any changes in the name of your organization, status, factory premises, management, process, design and brand names on which you are applying Standard mark and await verification / permission from BIS
- ▶ **APPLY** for renewal (along with the licence and fees) one month in advance of the expiry date of the validity period of your licence.. While applying, full details should be given in 'Performance Sheet' enclosed with the application form.



- ▶ COMPLY with all instructions of BIS immediately, specially when a licence is under stop marking or is cancelled/deferred/expired; otherwise you will attract legal action(s) as per the BIS Act.
- ▶ GET prior approval from BIS of the design, proportions and manner of applying the Standard Mark. SEEK assistance of BIS, as and when necessary. INFORM BIS when you initiate marking for the FIRST time.
- ▶ INFORM BIS when you stop production, and stop/resume marking. INDICATE stock of ISI marked goods at the time of stopping production/marketing.
- ▶ APPLY Standard mark only on those varieties and batches/lots of production which conform to the relevant Indian Standard and for which you hold a valid licence.
- ▶ DO NOT APPLY Standard Mark on products produced on behalf of other agencies, unless prior permission has been obtained from BIS. ALSO DO NOT APPLY Standard Mark on products produced on your behalf by other agencies
- ▶ DO NOT APPLY Standard Mark on material produced prior to grant of licence
- ▶ MAINTAIN records of inspection and testing indicated in the Scheme of Testing and Inspection (STI) attached to your licence.
- ▶ EXTEND all possible co-operation to the BIS Technical Auditor in checking your production line and records, testing in your factory premises and drawl of samples for independent testing.

- ▶ ARRANGE the presence of concerned personnel and keys of laboratory, godown, etc (if not available) soon after the arrival of the BIS Technical Auditor.
- ▶ GET test equipment calibrated periodically and maintain records for the same.
- ▶ INFORM BIS about all the changes in your Quality Control Department. SEEK assistance of BIS in training your testing personnel if necessary.
- ▶ DO NOT test the counter sample sealed by the BIS Technical Auditor without prior permission of BIS.
- ▶ PACK the sample(s) drawn by BIS Technical Auditor properly to avoid damage during transit and ENSURE that BIS Inspecting Officer's seal is intact.
- ▶ DESPATCH the sample(s) expeditiously to the Laboratory as instructed by the BIS Technical Auditor with advice to the concerned Regional Office/Branch Office of BIS. Alternatively hand over the sample to the courier appointed by BIS for transporting the sample.
- ▶ NOTE that action may be taken against you in case BIS Technical Auditor is not able to carry out inspection at the time of his normal visit (see 5,11,16 and 17)
- ▶ Copy of the STI in force should be available in the laboratory



***Any Questions?***

**Thank you!!!**