



## Accreditation Certificate

## **NABCB**

hereby confirms that

**Electrical Research and Development Association** 

ERDA Road, GIDC,
Makarpura Industrial Estate,
Vadodara - 390010, Gujarat, India
complies with

**NABCB** Accreditation Criteria for Inspection Bodies

(ISO/IEC 17020:2012)

as Type 'A' Inspection Body to carry out

## Inspection

as per accompanying

Schedule I: Scope of Accreditation

Schedule II: Office(s) under Accreditation

Accreditation Certificate No.: IB 046

Date of Initial Accreditation : March 09, 2018

Date of Last Renewal : March 09, 2021

Validity of Accreditation : March 08, 2025

March 17, 2021 Issue Date (Rajesh Maheshwari)
Chief Executive Officer

(Please refer www.nabcb.qcin.org.in for validity of the certificate or contact NABCB for any related queries)

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(Scope of Accreditation)

## **Electrical Research and Development Association**

#### Type 'A' Inspection Body

IAF Scope/	Type and Range of	Standards / Regulat	ions / Methods / Procedures
Field of Inspection	Inspection	Number identification with year of publication	Title
IAF Scope 16	NABCE NASCE N	PGB NABCB NABC	WARGE WARGE WARGE
PCC Pole	Vendor Assessment, Stage wise/Final Inspection-	IS 1678: 1998 (Reaffirmed 2018)	Prestressed concrete poles for overhead power traction and telecommunication lines - Specification
	-Review of Documents/	IS 2193:1986 (Reaffirmed 2017)	Precast Prestressed Concrete Street Lighting Poles
	RecordsInspection of Lot -Witness of Testing	MARGE MARGE	Customer requirements in the form of QAP, Approved Drawing, GTP etc. and technical specification which are generally based on National and International Codes and Standards, CEA, MNRE Guidelines etc.
Precast Concrete Pipes	Vendor Assessment, Stage wise/Final Inspection-	IS 458:2003 IS 784: 2019	Precast Concrete Pipes (with and without reinforcement) Pre-Stressed Concrete Pipes (incl. specials)
	-Review of Documents/ RecordsInspection of Lot -Witness of Testing	INAUCE INAUCE  NAUCE INAUCE INAUCE  NAUCE INAUCE INAUCE  NAUCE INAUCE INAUCE  NAUCE INAUCE IN	Customer requirements in the form of QAP, Approved Drawing, GTP etc. and technical specification which are generally based on National and International Codes and Standards, CEA, MNRE Guidelines etc.
IAF Scope 17	ECE NABOR HABOR	NABCE NABCE	NABCB NABCB NABCB NABCB
Steel Tubes Steel Tubes for Water Wells	Vendor Assessment, Stage wise/Final Inspection	IS 4270:2001 (Reaffirmed 2017)	Steel Tubes Used For Water Wells
Steel Tubes, Tubulars and other Wrought Steel Fittings	-Review of Documents/ RecordsInspection of Lot -Witness of Testing	IS 1239 : Part 1:2004 (Reaffirmed 2019)	Steel Tubes, Tubulars And Other Wrought Steel Fittings - Part 1 : Steel Tubes

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IAF Scope/	Type and Range of	NARGE NABCE	elopment Associations / Methods / Procedures
Field of Inspection	Inspection	Number identification with year of publication	Title Management of the Manage
MARGE MARGE	NASICE NASICE NASICE	NABCB NABCB	Customer requirements in the form of QAP Approved Drawing, GTP etc. and technica specification which are generally based on National and International Codes and Standards, CEA, MNRE Guidelines etc.
Transmission and Distribution	Vendor Assessment, Stage wise/Final	IS 1573:1986 (Reaffirmed 2016)	Electroplated Coatings of Zinc on Iron and Steel
Hardware NA	InspectionReview of Documents/ RecordsInspection of Lot -Witness of Testing	IS 4759: 1996 (Reaffirmed 2016) ISO 1461: 2009	Hot-dip Zinc Coatings on Structural Steel a other allied products Hot dip galvanized coatings on fabricated i and steel articles — Specifications and tes methods.
	MARIOR NATION NATION	IS 2486 : Part 1:1993 (Reaffirmed 2018)	Metal Fittings of Insulators for Overhead Power Lines With Nominal Voltage Greate Than 1000 V: Part 1 General Requirement And Tests
		IEC 60372:2020	Locking devices for ball and socket couplir of string insulator units - Dimensions and to
	D MARCH MARCH	BS 3288-1:2014	Insulator and conductor fittings for overhead power lines. Performance and general requirements
	NABCB NABCB	BS 16:1974	Specification for telegraph material (insulat pole fittings, etc.)
	CO MASCOS MASCOS	IS 2062: 2011 (Reaffirmed 2016)	Hot Rolled Medium and High Tensile Structural Steel
	NABCB NABCB N	ISO 630-1:2011	Structural steels - Part 1: General technica delivery conditions for hot-rolled products



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Field of Inspection	Inspection	Number identification with year of publication	Title NABCB NABCB NABCB NABCB NABCB NABCB	
NABCB NABCB	NABCB NABCB N	BS EN 10025- 1:2004	Hot rolled products of structural steels. General technical delivery conditions.	
INASCE	NAT OF MARGES NATIONS OF THE PROPERTY OF THE P	IS 2713 : Part 1 to 3 : 1980	Tubular Steel Poles for Overhead Power Lines Customer requirements in the form of QAP, Approved Drawing, GTP etc. and technical specification which are generally based on National and International Codes and Standards, CEA, MNRE Guidelines etc	
IAF Scope 18	NAT CE NABCE NABCE	NABCE NABCE	NABCE NABCE NABCE NABCE	
Pump Set	Vendor Assessment, Stage wise/Final Inspection-	IS 1710: 1989 (Reaffirmed 2019)	Pumps - Vertical Turbine Mixed and Axial Flow, For Clear Cold Water.	
NABCE NABCE	-Review of Documents/ Records.	IS 5120: 1977 (Reaffirmed 2016) IS 8034: 2018	Technical Requirements for Rotodynamic Special Purpose Pumps Submersible Pumpsets – Specification	
CIS TIABOD MASSES	-Inspection of Lot -Witness of Testing	IS 14220: 2018 ISO 9906:2012	Openwell Submersible Pumpsets Rotodynamic pumps Hydraulic performance acceptance tests Grades 1, 2 and 3 Customer requirements in the form of QAP, Approved Drawing, GTP etc. and technical specification which are generally based on National and International Codes and Standards, CEA, MNRE Guidelines etc	
IAF Scope 19	NABCB NABCB NI	BGB NABCB NABC	NABCE NABCE NABCE	
Transformers	Vendor Assessment, Stage wise/Final InspectionReview of Documents/ Records.	IS 1180 : Part 1:2014	Distribution Transformers Up to And Including 2 500 KVA, 33kV - Specification Part 1 Mineral Oil Immersed	
NABCE NABCE	-Inspection of Lot -Witness of Testing	NABGE NABCE	MARCE NARCE NARCE NARCE NARCE	

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Field of Inspection	Inspection	Number identification with year of publication	Title NABCS NABCS NABCS NABCS NABCS NABCS
		IS 2026 : Part 1: 2011 (R2016)	Power transformers: Part 1 general
	NABGE NABGE H	IS 2026 : Part 2 : 2010	Power transformers: Part 2 temperature - Rise
	A 36 NARGE NARCE	IS 2026 : Part 3 :2018/IEC 60076-3:2013	Power transformers: Part 3 insulation levels, dielectric tests and external clearances in air
	IA 36 NANGE NANGE	IS 2026 : Part 4 : 1977 IEC 60076-1:2011	Specification for power transformers: Part 4 terminal markings, tappings and connections Power Transformers- Part 1: General
	NABCE NABCE NABCE	IEC 60076- 2:2011 CBIP Publication No. 317	Power transformers - Part 2: Temperature rise for liquid-immersed transformers  Manual on Transformer
	NASCE NASCE	NABCE NABCE	Customer requirements in the form of QAP, Approved Drawing, GTP etc. and technical specification which are generally based on National and International Codes and Standards, CEA, MNRE Guidelines etc.
Rotating Machines	Vendor Assessment, Stage wise/Final Inspection-	IS 12615: 2018	Line operated three phase AC motors (IE Code) "Efficiency classes and performance specification"
Electric Motor	-Review of Documents/	IS 9283: 2013 (R2018)	Motors for Submersible Pump sets.
	RecordsInspection of Lot -Witness of Testing	IS 15999 : Part 1 : 2016/IEC 60034-1 : 2017	Rotating Electrical Machines Part 1 Rating and Performance
Generators	NABCE HARCE NA	IS 13364 : Part 1 : 1992	AC generators driven by reciprocating internal combustion engines - Specification: Part 1 alternators rated up to 20 KVA

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NABCB NABCB	NABGE NABCE N	IS 13364 : Part 2 : 1992	AC generators driven by reciprocating interna combustion engines - Specification: Part 2 alternators rated above 20 KVA and up to 1250 KVA	
DB NABCE NAS	B NABGB NABGB	IEC 60034-1 : 2017	Rotating electrical machines - Part 1: Rating and performance Customer requirements in the form of QAP,	
NATION MARCH NATION	MARGE NARGE NARGES NARGE NARGES NARGE	MARGE MARGE	Approved Drawing, GTP etc. and technical specification which are generally based on National and International Codes and Standards, CEA, MNRE Guidelines etc.	
Energy Meters	Vendor Assessment, Stage wise/Final Inspection-	CBIP Publication No. 88, 304, 325	Manual on standardization	
AC Static Watt- Hour Meters Class 0.5, 1 &2	-Review of Documents/ Records.	IS 13779:1999 (Reaffirmed 2014)	AC Static Watt-hour Meters, Class 1 And 2	
NABCE NABCE	-Inspection of Lot -Witness of Testing	IEC 62052-11:2020	Electricity metering equipment (a.c.) - General requirements, tests and test conditions - Part 11: Metering equipment	
IMASOS IMAS	OI DATE INTO THE PROPERTY OF T	IEC 62053-21:2020	Electricity metering equipment - Particular requirements - Part 21: Static meters for AC active energy (classes 0.5, 1 and 2)	
AC Static CT operated Electrical	NABCE NABCE NABCE	IS 14697:1999 (Reaffirmed 2019)	AC Static Transformer Operated Watthour and Var-hour Meters, Class 0.2 S And 0.5 S	
Energy Meters (Trivector Meters)	MABCB MABCB	IEC 62052-11:2020	Electricity metering equipment (a.c.) - Genera requirements, tests and test conditions - Part 11: Metering equipment	
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Field of Inspection	Inspection	Number identification with year of publication	Title NARCE
NABCS NABCS	NABOB NABOB NABOB	IEC 62053-22:2020 IEC 62053-23:2020	Electricity metering equipment - Particular requirements - Part 22: Static meters for AC active energy (classes 0.1S, 0.2S and 0.5S) Electricity metering equipment - Particular requirements - Part 23: Static meters for reactive energy (classes 2 and 3)
	NABGE NABGE NABGE	IEC 62053-24:2020	Electricity metering equipment - Particular requirements - Part 24: Static meters for fundamental component reactive energy
AC Static Watt- Hour Meters for Active Energy:	NAROB NAROB N	IS 14697:1999 (Reaffirmed 2019) IEC 62052-11:2020	(classes 0.5S, 1S, 1, 2 and 3) AC Static Transformer Operated Watthour and Var-hour Meters, Class 0.2 S And 0.5 S Electricity metering equipment (a.c.) - General requirements, tests and test conditions - Part 11: Metering equipment
	TIAGGS TIAGGS	IEC 62053-22:2020	Electricity metering equipment - Particular requirements - Part 22: Static meters for AC active energy (classes 0.1S, 0.2S and 0.5S)
AC Static Meters for Reactive Energy Class	NATOR NATOR	IEC 62053-23:2020	Electricity metering equipment (a.c.) - Particular requirements - Part 23: Static meters for reactive energy (classes 2 and 3)
2&3: Pre-Paid Energy Meter	NABCB NABCB	IS 15884:2010 (R2015)	Alternating Current Direct Connected Static Prepayment Meters For Active Energy (Class 1 and 2)
Smart Energy Meter	TABGE NABGE NABGE NABGE NABGE NABGE	IEC 62055-31:2005	Electricity metering - Payment systems - Part 31: Particular requirements - Static payment meters for active energy (classes 1 and 2) A.C. Static Direct Connected Watthour Smart Meter Class 1 And 2 – Specification

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Field of Inspection	Inspection was	Number identification with year of publication	Title NABCE NABCE NABCE NABCE NABCE NABCE
Panel Meter	INASGE NASGE NASGE	IS 16444 : Part 2 : 2017  IS 13875 : Part	AC static transformer operated watthour and var - Hour smart meters, class 0.2 S, 0.5 S and 1.0 S: Part 2 specification transformer operated smart meters  Digital Measuring Instruments for
WARREL WICKET	MASOS MASOS	1:1993 (Reaffirmed 2020)	Measurement & Control: Part 1 General Specifications Concerning Terms, Tests &
	DIAGOS NASOS	IS 13875 : Part 2:1993 (Reaffirmed 2020) IS 13875 : Part	Data Sheet Details Digital Measuring Instruments for Measurement & Control: Part 2 Terms, Tests & Data Sheet Details of Instruments For Measuring Analog Quantities
	TARCE NARCE	3:1993 (Reaffirmed 2020)	Digital Measuring Instruments For Measurement & Control: Part 3 Terms, Tests & Data Sheet Details Of Instruments For Measuring Digital Quantities
	NABCB NABCB	NABGB NABGB	Customer requirements in the form of QAP, Approved Drawing, GTP etc. and technical specification which are generally based on
			National and International Codes and Standards, CEA, MNRE Guidelines etc.
LT & HT Cables  PVC Insulated Sheathed	Vendor Assessment, Stage wise/Final Inspection- -Review of	IS 10810 (part- 0 to 64): 1984 (Reaffirmed 2016)	Methods of Test for Cables:
/Unsheathed cables/cords with rigid and solid flexible conductor for rated voltages up to and ncluding 1100 V	Documents/ RecordsInspection of Lot -Witness of Testing	IS 694:2010 (Reaffirmed 2020)	Insulated UnsheathedAnd Sheathed Cables/cords With Rigid AndFlexible Conductor For Rated Voltages-Up To And Including 1100 V

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Field of Inspection	Inspection	Number identification with year of publication	Title NABCE NABCE NABCE NABCE NABCE NABCE	
PVC Insulated (Heavy duty) electric cables: For working voltages up to & including 1100 Volts	NADOS NABOS III	IS 1554 : Part 1:1988 (Reaffirmed 2020)	PVC Insulated (heavy Duty) Electric Cables: Part 1 For Working Voltages Upto And Including 1 100 V	
PVC Insulated (Heavy duty) electric cables: For working voltages from 3.3 kV up to & including 11 kV Volts	THATCH HARCE NABOLE NAB	IS 1554 : Part 2:1988 (Reaffirmed 2020)	PVC Insulated (Heavy Duty) Electric Cables - Part 2 : For Working Voltages From 3.3 KV Up To And Including 11 KV	
Aerial Bunch Cables up to and including 1100 Volts.	NABOR NABOR NABOR	IS 14255:1995 (Reaffirmed 2020)	Aerial Bunched Cables For Working Voltages Upto And Including 1100 Volts	
XLPE Insulated cable : For working voltage up to And Including 1100 kV	NARICE NARICE N  JIANGE JIANGE N  JIANGE JIA	IS 7098 : Part 1:1988 (Reaffirmed 2020)	Crosslinked Polyethylene Insulated PVC Sheathed Cables: Part 1 For Working Voltage Upto And Including 1100 V	
XLPE Insulated cable : For working voltage From 3.3 KV Up To And Including 33 KV	TIABOD TIABOD TIABOD	IS 7098 : Part 2:2011 (Reaffirmed 2020)	Crosslinked Polyethylene Insulated Thermoplastics Sheathed Cables - Part 2 For Working Voltages From 3.3 KV Up To And Including 33 KV	

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Field of Inspection	Inspection	Number identification with year of publication	Title NABCS NABCS NABCS NABCS NABCS NABCS
XLPE Insulated cable : For working voltage from 3.3 kV up to and including 66 kV	NABOB NABOB NABOB NABOB NABOB NABOB NABOB	IS 7098 : Part 3:1993 (Reaffirmed 2014)	Cross-linked Polyethylene Insulated Thermoplastic Sheathed Cables: Part 3 For Working Voltages From 66 KV Upto And Including 220 KV Customer requirements in the form of QAP, Approved Drawing, GTP etc. and technical specification which are generally based on National and International Codes and Standards, CEA, MNRE Guidelines etc.
Overhead Conductor	Vendor Assessment, Stage wise/Final	IEC 61089:1991	Round wire concentric lay overhead electric stranded conductors
AAC Conductor  ACSR Conductor	InspectionReview of Documents/ Records.	IS 398 : Part 1:1996 (Reaffirmed 2018)	Aluminum Conductors For Overhead Transmission Purposes: Part 1 Aluminum Stranded Conductors
CB NABCO NA	-Inspection of Lot -Witness of Testing	IS 398 : Part 2:1996 (Reaffirmed 2018)	Aluminium Conductors For Overhead Transmission Purposes: Part 2 Aluminium Conductors, Galvanized Steel Reinforced
		IS 398 : Part 5:1992 (Reaffirmed 2018)	Overhead Transmission Purposes: Part 5 Aluminium Conductors - Galvanized Steel Reinforced for Extra High Voltage (400 KV And Above)
AAAC Conductor	DABGB NABGB NABGB	IS 398 : Part 4:1994 (Reaffirmed 2014)	Aluminium Conductors for Overhead Transmission Purposes: Part 4 Aluminium Alloy Stranded Conductors (aluminium
THARGE HARGE	TABGE MARGE NARGE	IS 9997:1991 (Reaffirmed 2011)	Magnesium Silicon Type) Aluminium Alloy Redraw Rods for Electrical Purposes Customer requirements in the form of QAP, Approved Drawing, GTP etc. and technical specification which are generally based on National and International Codes and Standards, CEA, MNRE Guidelines etc.

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TM B 609	Standard Specification for Aluminum Round Wire, Annealed and Intermediate Tempers, for Electrical Purposes
TM B 857-18	Standard Specification for Shaped Wire Compact Concentric-Lay-Stranded Aluminum Conductors, Coated-Steel Supported (ACSS/TW)
NABCB NABC	Customer requirements in the form of QAP, Approved Drawing, GTP etc. and technical specification which are generally based on National and International Codes and Standards, CEA, MNRE Guidelines etc.
EC 62271 : RT 1 : 2007 2018)	High-voltage switchgear and Controlgear - Part 1: Common specifications
EC 62271 : RT 100 : 2008	High - Voltage Switchgear and Controlgear Part 100 Alternating - Current Circuit - Breakers
NASCS NASCS NASCS	Customer requirements in the form of QAP, Approved Drawing, GTP etc. and technical specification which are generally based on National and International Codes and Standards, CEA, MNRE Guidelines etc.
	EC 62271 : RT 1 : 2007 018) EC 62271 :

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	Field of Inspection	Inspection was	Number identification with year of publication	Title NAUGE NAUGE NAUGE NAUGE NAUGE
	LT PCC & MCC Panel, RMU, Isolator AB switch Do fuse etc.	Vendor Assessment, Stage wise/Final InspectionReview of Documents/ RecordsInspection of Lot -Witness of Testing	IS/IEC 61439 : Part 1 : 2011	Low-Voltage Switchgear and Controlgear Assemblies Part 1 General Rules
() () () () () () () () () () () () () (	NABCB NABCB	B HARCE HARCE	IS/IEC 61439 : Part 2 : 2011 (R2018) IS 8623 : Part 2:1993 (Reaffirmed 2013)	Low Voltage Switch Gear and Controlgear Assemblies Part 2 Power Switch Gear and Control Gear Assemblies Low-voltage Switchgear And Controlgear Assemblies - Part 2 : Particular Requirements For Busbar Trunking Systems (Busway)
	WARGE WARGE	MARGE NARGE NARGE	IS 8623 : Part 3:1993 (Reaffirmed 2018)	Low-Voltage Switchgear And Controlgear Assemblies - Part 3 : Particular Requirements For Equipment Where Unskilled Persons Have Access For Their Use
うかかかかかかか	NABCE	NABCE	IS/IEC 62271 : Part 102 : 2003/IEC 62271-102:2018 IS/IEC 62271 : Part 103 : 2011 IS/IEC 62271 : Part 104 : 2009/IEC 62271-104:2020 IS 9385 : Part 1 : 2018/IEC 60282- 1:2009	High-voltage Switchgear and Controlgear - Part 102: Alternating current disconnectors and earthing switches High-voltage Switchgear and Controlgear - Part 103: Switches for rated voltages above 1 kV up to and including 52 kV High - Voltage Switchgear and Controlgear: Part 104 alternating current switches for rated oltages of 52 kV and above High-voltage Switchgear and Controlgear - Part 104: Alternating current switches for rated voltages higher than 52 kV

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Inspection	Number identification with year of publication	Title NABCS NABCS NABCS NABCS NABCS
NABCE NABCE N	IS 9385 : Part 2 : 2018/IEC 60282-2:2008	High - Voltage fuses: Part 2 expulsion fuses (First Revision)
TABCE NABCE NABCE	MARCE NARCE	Customer requirements in the form of QAP, Approved Drawing, GTP etc. and technical specification which are generally based on National and International Codes and Standards, CEA, MNRE Guidelines etc
Vendor Assessment, Stage wise/Final Inspection- -Review of	IS/IEC 62271 : PART 1 : 2007/IEC 62271-1:2007 (R2018)	High-voltage switchgear and controlgear - Part 1: Common specifications
RecordsInspection of Lot -Witness of Testing	IEC 62271- 200:2011	High-voltage switchgear and controlgear - Part 200: AC metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV
NABCE NABCE NABCE	NABCE NABCE	Customer requirements in the form of QAP, Approved Drawing, GTP etc. and technical specification which are generally based on National and International Codes and Standards, CEA, MNRE Guidelines etc.
Vendor Assessment, Stage wise/Final	SCH NARCH NARCH	NARGE WARGE WARGE
InspectionReview of Documents/ RecordsInspection of Lot -Witness of Testing	TVABGO TVABGO NABGO	MARCE NARCE NARCE NARCE
	Vendor Assessment, Stage wise/Final InspectionReview of Documents/ RecordsInspection of Lot -Witness of Testing  Vendor Assessment, Stage wise/Final InspectionReview of Documents/ RecordsInspection of Lot	Number identification with year of publication  IS 9385: Part 2: 2018/IEC 60282-2:2008  Vendor Assessment, Stage wise/Final Inspection-Review of Documents/RecordsInspection of Lot -Witness of Testing  Vendor Assessment, Stage wise/Final Inspection-Review of Documents/RecordsInspection-Review of Documents/RecordsInspection-Review of Documents/RecordsInspection of Lot

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		Number identification with year of publication	Title NABCB NABCB NABCB NABCB NABCB NABCB
Current Transformer	NARGE NARGE	IS 2705 : Part 1:1992 (Reaffirmed 2017) IS 16227 : Part 1 : 2016/IEC 61869- 1:2007	Current Transformers: Part 1 General Requirements.  Instrument transformers: Part 1 general requirements
Potential	NATICE NATION N	IS 16227 : Part 2:2016/IEC 61869- 2:2012 IS 16227 : Part 1 :	Instrument Transformers Part 2 Additional Requirements For Current Transformers.  Instrument transformers: Part 1 general
Transformer  WARGE WARGE WARGE  WARGE  WARGE WARGE  WARGE WARGE  WARGE WARGE  WARGE WARGE  WARGE WARGE  WARGE WARGE  WARGE WARGE  WARGE WARGE  WARGE WARGE  WARGE  WARGE WARGE  WARGE WARGE  WARGE WARGE  WARGE WARGE  WARGE WARGE  WARGE WARGE  WARGE WARGE  WARGE WARGE  WARGE WARGE  WARGE WARGE  WARGE WARGE  WARGE WARGE  WARGE WARGE  WARGE WARGE  WARGE WARGE  WARGE WARGE  WARGE  WARGE WARGE  WARGE	NABOS	2016/IEC 61869- 1:2007 IS 16227 : Part 3 : 2015/IEC 61869-3 IS 16227 : Part 5 : 2015/IEC 61869- 5:2011 IS 16227 : Part 4 : 2015/IEC 61869- 4:2013	Instrument transformers: Part 3 additional requirements for inductive voltage transformers Instrument transformers: Part 5 additional requirements for capacitors voltage transformers Instrument transformers: Part 4 additional requirements for combined transformers Customer requirements in the form of QAP, Approved Drawing, GTP etc. and technical specification which are generally based on National and International Codes and Standards, CEA, MNRE Guidelines etc.
Lightning Arrestor	Vendor Assessment, Stage wise/Final InspectionReview of Documents/ RecordsInspection of Lot -Witness of Testing	IS 15086 : Part 4 : 2017/IEC/PAS 60099-4 : 2014	Surge arresters: Part 4 metal - Oxide surge arresters without gaps for A.C. systems.  Customer requirements in the form of QAP, Approved Drawing, GTP etc. and technical specification which are generally based on National and International Codes and Standards, CEA, MNRE Guidelines etc.

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		Number identification with year of publication	Title NABCS NABCS NABCS NABCS NABCS NABCS
Insulator	Vendor Assessment, Stage wise/Final Inspection-	IS 731:1971 (Reaffimed 2016)	Porcelain Insulators For Overhead Power Lines With A Nominal Voltage Greater Than 1000 V
DIAGOS TIAGOS -I	-Review of Documents/ RecordsInspection of Lot -Witness of Testing	IEC 60383-1:1993	Insulators for overhead lines with a nominal voltage above 1000 V - Part 1: Ceramic or glass insulator units for a.c. systems - Definitions, test methods and acceptance criteria
	NA GB NABCB NABCB	IS 1445:1977 (Reaffirmed 2019)	Porcelain Insulators For Overhead Power Lines With A Nominal Voltage Up To And Including 1 000 V
		IS/IEC 60168 : 2000/IEC 60168 : 2000	Tests on indoor and outdoor post insulators of ceramic material or glass for systems with nominal voltages greater than 1 000 v
	(A)	IS 5300: 1969 (Reaffirmed 2019)	Porcelain Guy Strain Insulator
	NABCE NABCE NABCE	IS/IEC 62155 : 2003/IEC 62155 : 2003	Hollow pressurized and unpressurized ceramic and glass insulators for use in electrical equipment with rated voltages greater than 1 000 v
		IEC 61109:2008	Insulators for overhead lines - Composit suspension and tension insulators for a.c systems with a nominal voltage greater tha 1000 Volts - Definitions, test methods an
	MARCE MARGE	NABGO NABGO NABGO	acceptance criteria Customer requirements in the form of QAP, Approved Drawing, GTP etc. and technical specification which are generally based on National and International Codes and Standards, CEA, MNRE Guidelines etc.

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### **Electrical Research and Development Association**

IAF Scope/	Type and Range of Inspection  Vendor Assessment, Stage wise/Final InspectionReview of Documents/ RecordsInspection of Lot -Witness of Testing	Standards / Regulations / Methods / Procedures	
Field of Inspection		Number identification with year of publication	Title NABCB NABCB NABCB NABCB NABCB NABCB NABCB
Battery and Battery Charger		IS 8320 : 2000 (R2015) IS 1651 : 2013 IS 10918 : 1984 IS 15549 : 2005 (R2020)	General requirements and methods of tests for lead - Acid storage batteries Stationary cells and batteries, lead - Acid type (With Tubular Positive Plates) - Specification Specification for vented type nickel cadmium batteries Stationary valve regulated lead acid batteries - Specification Customer requirements in the form of QAP, Approved Drawing, GTP etc. and technical specification which are generally based on National and International Codes and Standards, CEA, MNRE Guidelines etc
PV Module	Vendor Assessment, Stage wise/Final Inspection-	IEC 61215-1:2021	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1: Test requirements
	-Review of Documents/ RecordsInspection of Lot	IEC 61215-1- 1:2021	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1-1: Special requirements for Testing of Crystalline Silicon Photovoltaic (PV) modules
	-Witness of Testing	IEC 61215-1- 2:2021	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1-2: Special requirements for testing of thin-film Cadmium Telluride (CdTe) based photovoltaic (PV) modules
	TABGE NABGE NABGE	IEC 61215-1- 3:2021	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1-3: Special requirements for testing of thin-film amorphous silicon based photovoltaic (PV) modules

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## **Electrical Research and Development Association**

IAF Scope/		Type and Range of	Standards / Regulations / Methods / Procedures	
Field of Inspection	NAS	Inspection	Number identification with year of publication	Title NABCE NABCE NABCE NABCE NABCE NABCE NABCE
	EGB IIA		IEC 61215-1- 4:2021	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1-4: Special requirements for testing of thin-film Cu(In,GA)(S,Se)2 based photovoltaic (PV) modules
	BCB		IS/IEC 61730- 2:2016	Photovoltaic (PV) Module Safety Qualification
Lamp Luminaire	and	Vendor Assessment, Stage wise/Final Inspection-	IS 16102 : Part 1 : 2012 (R2017)	Customer requirements in the form of QAP, Approved Drawing, GTP etc. and technical specification which are generally based on National and International Codes and Standards, CEA, MNRE Guidelines etc. Self - Ballasted led lamps for general lighting services: Part 1 safety requirements
		-Review of Documents/	IS 16102 : Part 2 : 2017	Self - Ballasted led lamps for general lighting services: Part 2 performance requirements (First Revision)
	-Inspection of Lot	IS 10322 : Part 1 : 2014 IS 10322 : Part 5 : Sec 1 : 2012 IS 10322 : Part 5 :	Luminaires: Part 1 general requirements and tests (First Revision) Luminaires: Part 5 particular requirements: Sec 1 fixed general purpose luminaires Luminaires: Part 5 particular requirements:	
		Sec 2 : 2012 IS 10322 : PART 5 : SEC 3 : 2012 IS 10322 : Part 5 : Sec 5 : 2013	Sec 2 recessed luminaires Luminaires: Part 5 particular requirements: Sec 3 luminaires for road and street lighting Luminaires: Part 5 particular requirements: Sec 5 floodlights Customer requirements in the form of QAP, Approved Drawing, GTP etc. and technical specification which are generally based on National and International Codes and Standards, CEA, MNRE Guidelines etc	

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IAF Scope/ Field of Inspection	Type and Range of Inspection	Standards / Regulations / Methods / Procedures	
		Number identification with year of publication	Title NABCB NABCB NABCB NABCB NABCB
Fibre Optic Cable	Vendor Assessment, Stage wise/Final	IEC 60794-1- 1:2015 RLV	Optical fibre cables - Part 1-1: Generic specification – General
	InspectionReview of Documents/	ITU-T- G.652: 2016	Characteristics of a single-mode optical fibre and cable
	RecordsInspection of Lot -Witness of Testing	NATES NATES	Customer requirements in the form of QAP, Approved Drawing, GTP etc. and technical specification which are generally based on National and International Codes and Standards, CEA, MNRE Guidelines etc

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## National Accreditation Board for Certification Bodies



## Schedule II

(Office(s) under Accreditation)

### **Electrical Research and Development Association**

Location	Address	Key activities performed
Vadodara	ERDA Road, GIDC, Makarpura Industrial Estate, Vadodara – 390010, Gujarat, India	Top management functions, quality management system functions, administration & accounts, other key activities as applicable to main office.
	NA 2CB NABCB NABCB NABCB	Inspection contract review, Inspection planning & execution, Inspection personnel authorization & assignment, Issue of inspection reports / certificates.

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