

BHEL — EXPRESSION OF INTEREST (EOI)

Design, Development, & Prototype manufacturing of SF6 free 11 kV Gas Insulated Switchgear (GIS)

Reference No.: BHEL/GIS/11kV/EOI/2026/001

Date of Issue: 06 August 2026

EOI Closing Date: 28.08.2026

PART A — PREAMBLE

Bharat Heavy Electricals Limited (BHEL) is India's premier engineering enterprise and a global leader in power sector equipment manufacturing. BHEL intends to **design, develop, type-test, and commercialize an optimised SF6 free 11 kV Gas Insulated Switchgear (GIS).**

To achieve this objective within a defined timeframe, BHEL invites competitive offers from **technically competent firms / consortiums / individual experts** possessing specialized domain knowledge and hands-on experience in MV GIS design, development, & Prototype manufacturing.

PART B — SCOPE OF WORK

B.1 Overall Scope

The Bidder(s) will **design, develop, and support BHEL in prototype manufacturing, and type-test followed by detailed documentations of optimised SF6 free 11 kV Gas Insulated Switchgear (GIS).**

B.2 Detailed Scope

Phase 1 — Concept & Design (Month 1–3)

- Finalizing of Technical specification
- Review of applicable standards: **IEC 62271-200, IEC 62271-100, IEC 62271-1**
- Preparation of **System Architecture and Conceptual Design**
- Definition of technical parameters, ratings, and configurations
- Selection of GIS components: VIs, enclosures, busbars, insulators, SF6 free gas systems
- Preparation of **Single Line Diagrams (SLD), Overall General Arrangement (OGA)**
- Identification of critical design interfaces and clearances
- Material specification and vendor identification

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Phase 2 — Detailed Engineering & Drawings (Month 3–6)

- Preparation of **detailed manufacturing drawings** including:
 - Assembly drawings, Assembly checks & sequential instructions for sub assembly
 - Part drawings with GD&T, and Fabrication drawings
 - GES & uploading in BHEL system
 - Wiring and schematic diagrams will be furnished by BHEL
 - BOM (Bill of Materials)
 - QAP, and
 - Manufacturing Procedures
- 3D modelling and simulation using UGNX CAD platform
- Structural and thermal analysis using FEA/CFD tools as required
- Interlocking logic and control scheme design- BHEL will support for soft logics

Phase 3 — Prototype Manufacturing Support (Month 5–8)

- Technical support during prototype manufacturing
- Assembly supervision and quality checks at shop floor
- Resolution of manufacturing queries
- Preparation of **assembly and inspection procedures**
- Factory Acceptance Test (FAT) procedure preparation

Phase 4 — Type Testing & Validation (Month 8–11)

- **Type Test Plan** as per IEC shall be conducted in National accredited Labs like CPRI Bhopal/Bangalore, ERDA, etc.
- Witness and technical support during following type tests:
 - Dielectric tests (Power frequency, Lightning Impulse)
 - Short Time Current (STC) withstand test
 - Temperature Rise test
 - Mechanical endurance test
 - Gas tightness test
 - Internal arc classification (IAC) test
- Post-test analysis, deficiency resolution through improvement in design, and re-test support if required
- Preparation of **Technical Documentation**

Phase 5 — Commercialization Support (Month 10–11)

- Preparation of **Product Commercialization Dossier** including:
 - Technical catalogue/ Brochure
 - Product Leaflet
 - O&M Manual
- Final project report and design freeze documentation

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TIMELINE SUMMARY

Phase	Activity	Duration
1	Concept & System Design	Month 1–3
2	Detailed Engineering & Drawings	Month 3–6
3	Prototype Manufacturing Support	Month 5–8
4	Type Testing & Validation	Month 8–11
5	Commercialization & Closure	Month 10–11
	Total Project Duration	11 Months

PART C — TEAM COMPOSITION & EXPERTISE REQUIREMENTS

The bidder shall propose a Team or Individual having minimum One **experts** with complementary skill sets covering the following domains:

Expert Profile

Attribute	Requirement
Qualification	B.E. / B. Tech or higher
Experience	Minimum 05 years in HV/MV GIS design and development
Domain	GIS system architecture, VI selection, SF6 free gas system, interlocking
Standards	IEC 62271 series — thorough working knowledge
Past Work	Must have led at least 01 successful GIS development projects (11 kV–400 kV range)

PART D — ELIGIBILITY CRITERIA

Bidders must meet the following minimum eligibility conditions:

D.1 Technical Eligibility

- The bidder (**firm/individual/consortium**) must have successfully completed at least **01 project** involving design, development of **11 kV to 36 kV GIS**.
- Min **one** expert must be proficient in **UGNX platform** and possess their **own hardware and software**
- Bidder must demonstrate ability to **work from their own infrastructure** with periodic visits to BHEL premises as required

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D.2 Compliance

- a) Valid GST registration
- b) PAN / Aadhaar (for individuals)
- c) No blacklisting / debarment from any PSU or Government Organization

PART E — DOCUMENTS TO BE SUBMITTED BY BIDDER

The bidder shall submit a comprehensive **Technical Bid** containing the following:

E.1 Credentials & Compliance Documents

- ☐ Company profile / Individual CV with photograph
- ☐ Proof of qualifications (degree/diploma certificates)
- ☐ Experience certificates / appointment letters from previous employers
- ☐ List of past projects in GIS / switchgear domain with:
 - Client name
 - Project scope
 - Duration
 - Role of expert
 - Completion status
- ☐ Client reference letters / testimonials (preferred)
- ☐ Software licenses / tool ownership proof
- ☐ Hardware availability declaration
- ☐ GST / PAN / registration documents
- ☐ Self-declaration of non-blacklisting

E.2 Technical Proposal

- ☐ **Execution Strategy** — detailed methodology for each phase of the project
- ☐ **Proposed Team Structure** — roles, responsibilities, and time allocation per expert
- ☐ **Detailed Project Schedule** — milestone-wise Gantt chart covering all 5 phases within **11 months**
- ☐ **Deliverables List** — phase-wise list of documents, drawings, and reports to be submitted
- ☐ **Risk Assessment** — identification of key risks and mitigation approach
- ☐ **Infrastructure Declaration** — details of tools, hardware, and remote working setup

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PART E — PAYMENT TERMS

BHEL shall make **staggered milestone-linked payments** against the lump-sum contract value as per the following schedule:

Milestone	Payment	Trigger Condition
1st Payment	25% of contract value	Upon submission and BHEL approval of complete detailed manufacturing drawings (assembly, part, fabrication, BOM, GES)
2nd Payment	30% of contract value	Upon successful completion of prototype manufacturing and sign-off by BHEL
3rd Payment	20% of contract value	Upon successful completion of type testing as per IEC 62271-200 / IEC 62271-100 and receipt of test reports
4th & Final Payment	25% of contract value	Upon submission and acceptance of all final documentation — Documents, type test reports, QAP, and final project report
Total	100%	

Payment Conditions:

- All payments shall be released within **90 days** of submission of invoice along with milestone completion certificate issued by BHEL
- GST shall be paid **as applicable** against valid tax invoice
- **TDS** shall be deducted at source as per prevailing Income Tax provisions
- No **advance payment** shall be made under this contract

PART F — PROJECT EXECUTION CONDITIONS

- The selected bidder/team shall be available for **periodic site visits** to BHEL premises for design reviews, assembly supervision, and testing
- All **intellectual property, drawings, reports, and documentation** developed under this contract shall be the exclusive property of **BHEL**
- Bidder shall maintain **strict confidentiality** of all technical and commercial information
- Progress reviews shall be held **fortnightly** with BHEL project team
- All deliverables shall be submitted in **editable native formats** (CAD files, MS Office) as well as PDF
- Any sub-contracting of scope requires **prior written approval** from BHEL

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PART G — GENERAL TERMS & CONDITIONS

- BHEL reserves the right to **accept or reject any or all bids** without assigning reasons
- Canvassing in any form shall lead to **disqualification**
- Bids received after the due date and time shall not be considered
- BHEL's decision on evaluation shall be **final and binding**
- Dispute resolution shall be through **arbitration as per Indian Arbitration Act**
- Applicable law: **Laws of India; Jurisdiction: (BHEL Bhopal)**

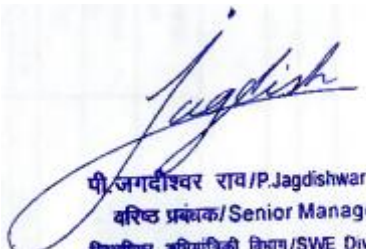
PART H — SUBMISSION DETAILS

Mode of Submission	Via email to p.jagdishwar@bhel.in / shrikrishna@bhel.in
Last Date for Bid submission	28.08.2026

PART I — DOCUMENTS FOR SUBMISSION

Annexure	Description
Annexure A	Compliance / Deviations if any
Annexure B	Past Project Details Format
Annexure C	Team Composition & CV Format
Annexure D	Self-Declaration for point D.2

Issued By: -



पी.जगदीश्वर राव/P.Jagdishwar Rao
वरिष्ठ प्रबंधक/Senior Manager
स्विचगियर अभियांत्रिकी विभाग/SWE Division
बी.एच.ई.एल., भोपाल/BHEL, BHOPAL

P Jagdishwar
Sr MGR/ SWE
Block-4, Eastern Wing, First Floor,
RPD/GIS
Switch gear Engineering Department, BHEL BHOPAL
M-9406903688
O- 07552502659