Andhra Pradesh Eastern Power Distribution Company Limited (APEPDCL)
VISAKHAPATNAM – 530013
India

Request for
Expression of Interest (EoI)
from
Eligible Firms
for
Design, Development, Deployment and Maintenance of a Head End System (HES) for Advanced Metering Infrastructure (AMI)

REQUEST FOR EXPRESSIONS OF INTEREST (EOI) For Design, Development, Deployment and Maintenance of a Head End System (HES) for Advanced Metering Infrastructure (AMI) for APEPDCL

Reference No. APEPDCL/IT/HES/EOI/1/2025 Dt. -10-2025

1. Background

The Andhra Pradesh Eastern Power Distribution Company Limited (APEPDCL), a Government of Andhra Pradesh utility, intends to implement an Advanced Metering Infrastructure (AMI) solution to enhance operational efficiency, ensure accurate billing, and provide real-time monitoring and control of energy consumption.

As part of this initiative, APEPDCL invites Expressions of Interest (EOI) from technically competent and financially sound Original Equipment Manufacturers (OEMs) or system integrators for the Design, Development, Supply, Implementation, Integration, and Maintenance of a scalable Head-End System (HES) capable of managing 5,00,000 smart meters initially, and scalable up to 8,00,000 smart meters.

2. Objective of the EOI

The objective of this EOI is to identify and shortlist experienced and capable firms that can:

- Design, develop, and deploy a robust, interoperable, and secure Head-End System (HES).
- Propose and supply all required hardware and infrastructure necessary for efficient operation and data management of the HES.
- Integrate the HES with APEPDCL's existing MDM, Billing, GIS, and SCADA systems.
- Establish performance monitoring, SLA mechanisms, and reporting frameworks based on multi-vendor meter and SIM management scenarios.

The selected bidder will be responsible for providing an end-to-end, production-grade HES environment, including data acquisition, storage, visualisation, and interoperability across multiple vendors and technologies.

3. Scope of Work

The broad scope of services under this Expression of Interest (EOI) for the Design, Development, Supply, Implementation, and Maintenance of the Head End System (HES) for Advanced Metering Infrastructure (AMI) includes, but is not limited to, the following components:

A. System Architecture Design:

Design a modular, scalable, and open-standard HES architecture supporting multi-vendor smart meters and multiple communication technologies, including RF Mesh, PLC, NB-IoT, 4G, and 5G. The design shall comply with DLMS/COSEM communication protocols and applicable IS 16444 (Part 1 & 2) and IS 15959 standards.

B. Hardware and Infrastructure Design:

Develop a comprehensive hardware and network architecture plan, detailing the specifications and deployment strategy for:

a. Application servers
b. Database servers
c. Storage systems (SAN/NAS)
d. Network switches, routers, and firewalls
e. Backup and Disaster Recovery (DR) systems
f. Network monitoring and cybersecurity tools

C. Supply of Hardware and Infrastructure:

Supply all required hardware and networking components for both Data Centre (DC) and Disaster Recovery (DR) sites, including:

a. Application and database servers (primary and secondary)
b. Network switches and load balancers
c. Storage systems (SAN/NAS) with redundancy
d. Backup servers, DR systems, and power backup

D. System Installation and Configuration:

Install, configure, and commission the HES software, middleware, and database systems with redundancy, replication, and high availability.

The system shall support 5,00,000 smart meters initially, scalable up to 8,00,000 meters without degradation in performance.

E. Dashboard and Analytics Deployment:

Implement role-based dashboards, alerts, and real-time analytics to monitor energy consumption, outages, losses, tamper events, and system health.

F. Integration

Integrate the HES with APEPDCL's:

- Integration with the APEPDCL Billing system
- SAP-GIS systems
- Meter Data Management System (MDMS)
- SCADA and legacy systems, etc, where applicable

Ensure support for net metering, prosumer, and demand response use cases.

G. Maintenance & Support

- Provide comprehensive Facility Management Services (FMS) and Annual Maintenance Contract (AMC) post go-live, including patches, updates, and system monitoring.
- Ensure availability of technical support for hardware and software components.
- Conduct capacity enhancement and scalability assessments periodically.

4. Shortlisting Criteria

Interested firms must demonstrate:

1. Proven experience in HES design, deployment, and operation.
2. Experience in integration with MDMS, Billing, and SCADA systems.
3. Availability of skilled professionals and an in-house R&D or support centre in India.
4. Certifications such as ISO 9001:2015 and CMMI Level 3 or higher.

5. Submission Details

Interested and eligible firms are invited to submit their Expression of Interest in the prescribed format, along with:

- Company profile, registration documents, and certifications.
- Technical and financial capability details, including balance sheets and P&L statements.
- Documentary evidence of relevant project experience and references.
- Hardware and SLA proposal summary.
- CVs of Key Experts
- Contact details of authorised representative (e-mail, Mobile Number, Company Address)

Expressions of Interest must be submitted in a written form (hard copy or e-mail) to the address below on or before [12-11-2025].

Contact Information

Chief General Manager (IT)
Andhra Pradesh Eastern Power Distribution Company Limited (APEPDCL)
Corporate Office, Seethammadhara,
Visakhapatnam – 530 013, Andhra Pradesh, India
Tel: +91-[9494408678]
E-mail: [cgm-it@apeasternpower.com]
Website: [www.apeasternpower.com]

6. Conclusion

The proposed Head-End System (HES) will serve as the digital backbone of APEPDCL's Smart Grid initiatives, ensuring operational efficiency, cybersecurity, and scalability in alignment with the Smart Meter National Programme (SMNP). This EOI reflects our commitment to building a future-ready, standards-compliant, and intelligent metering ecosystem that enhances transparency, reliability, and consumer satisfaction.