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**Software Licensing Opportunity: GLASS Software for Real-Time Optimization of Power Transmission Capacity**

**Active**

**Opportunity**

Notice ID

**CW-19-22**

Related Notice

**(blank)**

Contract Opportunity Type

**Special Notice**

Contract Line Item Number

**(blank)**

Inactive Dates

**Aug 14, 2026**

Inactive Policy

**15 days after response date**

Response Date

**Jul 30, 2026 12:00 AM MDT**

Published Date

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Department/Ind. Agency

**ENERGY, DEPARTMENT OF**

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**BATTELLE ENERGY ALLIANCE--DOE CNTR**

**Classification**

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Original Set Aside

(blank)

Product Service Code

**DA10 - IT AND TELECOM - BUSINESS APPLICATION/APPLICATION DEVELOPMENT SOFTWARE AS A SERVICE**

NAICS Code

**221118 - Other Electric Power Generation**

Place of Performance

(blank)

Initiative

(blank)

**Description**

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### **GLASS Software for Real-Time Optimization of Power Transmission Capacity**

Dynamic line rating software that enables utilities to safely increase transmission capacity without costly hardware expansion.

#### **Technology Summary**

The General Line Ampacity State Solver (GLASS), developed by Idaho National Laboratory (INL), is a high-performance software platform designed to calculate the real-time current-carrying capacity of overhead power transmission lines. By integrating weather data, line current data, and computational fluid dynamics (CFD) modeling, GLASS provides utilities with accurate, actionable insight into the thermal state of their transmission network.

Unlike hardware-heavy solutions requiring dense networks of weather stations or specialized sensors, GLASS leverages a minimal number of data inputs and extrapolates across unmonitored spans using CFD-enhanced mapping. The system outputs results in a simple, interoperable format compatible with virtually any utility enterprise system.

Since 2014, GLASS has evolved to compute steady-state ampacity, transient temperature, transient ampacity, and INL's proprietary True Dynamic Line Rating, validated against industry standards (IEEE, CIGRE).

#### **Problem Addressed**

- **Transmission bottlenecks:** Utilities face congestion and efficiency losses due to static line ratings that underestimate real capacity.
- **High costs of monitoring:** Installing weather stations or hardware sensors along every line span is prohibitively expensive.
- **Integration challenges:** Many dynamic line rating (DLR) solutions require proprietary hardware or external portals, complicating adoption.

#### **Solution**

GLASS provides a software-only, plug-and-play solution that:

- Uses limited real-world weather and current data inputs.
- Applies precomputed CFD models to extend accuracy across unmonitored spans.
- Calculates real-time and forecasted ampacity values to maximize grid utilization.
- Outputs standardized text files easily integrated with existing utility systems.

#### Key Advantages

- **Higher capacity utilization:** Can enable line ratings up to 40% above conservative static limits.
- **Lower infrastructure costs:** Reduces need for dense weather station deployment.
- **Seamless integration:** Simple, agnostic input/output formats support adoption without system overhauls.
- **Proven reliability:** Validated through years of testing and alignment with IEEE and CIGRE standards.
- **Flexible deployment:** Works with any utility-grade data historian or enterprise system.

#### Market Applications

- **Electric utilities:** Enhance grid flexibility, reduce congestion losses, and safely integrate renewable energy.
- **Grid operators:** Improve real-time situational awareness and operational decision-making.
- **Software vendors:** Incorporate GLASS as a dynamic line rating module within existing platforms (e.g., OSIsoft PI).
- **Renewable integration:** Support greater use of wind energy by capturing wind cooling effects on lines.

#### Contact Information

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**Attachments/Links**

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**Links**

No links have been added to this opportunity.

**Attachments**

No attachments have been added to this opportunity.

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