U.S. DEPARTMENT OF ENERGY
SOLID-STATE LIGHTING PROGRAM

COLLABORATIVE R&D TESTING OPPORTUNITY:
ORGANIC LIGHT-EMITTING DIODES TESTING
CALL FOR SOURCES

U.S. Department of Energy Solid-State Lighting Program

The U.S. Department of Energy (DOE) Solid-State Lighting (SSL) Program has engaged in ongoing discussions with the U.S. organic light-emitting diodes (OLED) lighting community regarding the need for an OLED collaborative research and development (R&D) framework to accelerate developments in OLED lighting technology and manufacturing.

This Call for Sources serves as an opportunity to advance a collaborative OLED R&D framework that could help accelerate adoption through lower-cost manufacturing and improved customer acceptance of OLED lighting products. Eligible companies/organizations must be incorporated in the United States and all testing under this opportunity must be conducted in the United States.

Call for Sources

1.0 What are the OLED testing opportunity objectives?

The purpose of this project is to test the performance of various R&D-stage components of OLED panels as part of a larger component or in a complete OLED product.

The objective of this Call for Sources is to identify qualified U.S.-based test facilities that possess the capabilities to incorporate various R&D-stage components into baseline structures to evaluate their compatibility and performance. The results of the testing will lead to the identification of high-performing components with the ability to advance OLED technology performance and efficiency while reducing cost. Interested organizations at various stages of the technology development cycle must be able to independently build "standard" OLED recipes that incorporate emerging technologies into their baseline structure for the purpose of validating and instructing technology development.

2.0 What work will be performed by an OLED test facility?

Approved U.S.-based test facilities will conduct testing of various OLED components and technologies as identified by DOE/National Energy Technology Laboratory (NETL). The basic test procedure will involve incorporation of the R&D component/technology into a repeatable, quality, baseline OLED structure for comparison versus the unmodified baseline. The OLED test facility will report on the status of the technology relative to the standard baseline structure (see "***What deliverable is required from an OLED test facility?***" in Section 4.0). Care must be given to only change the applicable section(s) of the baseline device to the extent practical. The report will document issues that required deviation from the baseline structure. Subcontracts will include mandatory DOE contract flow-down provisions (see Section 7.0).

3.0 What standard baseline structures can be tested?

Sample OLED Component List (*including, but not limited to, the following*):

- Substrates – display-grade glass, polymeric, metallic, residential glass
- Conductive layers
- Extraction layers
- Metallic grids
- Panels/panel size
- Multilayer barrier structures and single-layer barrier structures
- Light extraction approaches
- Color emitters
- OLED pixel
- OLED driver
- Cathode, emissive layer, anode

4.0 What deliverable is required from an OLED test facility?

A Technology Validation Status Report is due after the conclusion of testing. The schedule for submitting the report will be established during the award process. The report will identify the components tested and describe the test process, results, observations, and recommendations to continue technology development. It will also include the status of the technology relative to the standard baseline structure and document issues that required deviation from the baseline structure (if applicable). A Technology Validation Status Report template will be provided. An OLED test facility will also provide test data and results (i.e., spreadsheets) to the OLED component developer or manufacturer as agreed to at the initiation of testing.

5.0 Who can apply as an OLED test facility for this effort?

U.S.-based test facilities that have the capability to incorporate OLED components into repeatable, quality, baseline components or complete OLEDs are eligible to apply (see Section 3.0 for Sample OLED Component List). Eligible companies/organizations must be incorporated in the United States and all testing under this opportunity must be conducted in the United States. An OLED test facility does not have to be able to perform testing on all OLED components to qualify for this project. It should be noted that qualification under this notice does not guarantee a subcontract award or a specific level of effort (i.e., a subcontract award does not guarantee that work will be ordered). The intention is to identify a pool of qualified U.S.-based test facilities that are available when a component(s) is approved for testing. Please note that the funds awarded may be used to cover the cost of testing and data analysis; funds awarded shall not be used for purchase of the product(s) to be tested or shipping costs.

6.0 How can an organization apply as an OLED test facility for this effort?

OLED test facilities will be subcontractors to KeyLogic Systems, LLC (hereafter KeyLogic Systems). For questions related to subcontracts, interested organizations should contact Sean Sikora (KeyLogic Systems Contracts Manager) or Greg Washington (KeyLogic Systems Activity Lead). An interested organization will need to detail the facility's full suite of OLED testing capabilities, including price and schedule.

Sean Sikora (KeyLogic Systems)
Contract-Related Inquiries
Work: 443-539-9070
Email: ssikora@keylogic.com

Gregory A. Washington (KeyLogic Systems)
General & Test-Related Inquiries
Work: 412-386-5804
Email: Gregory.Washington@netl.doe.gov

Eligible companies/organizations must be incorporated in the United States and all testing under this opportunity must be conducted in the United States. If interested in applying as an OLED test facility, please provide the following information (approximately five pages) via email to OLED-Testing@netl.doe.gov:

- Brief summary of qualifications and capabilities to perform subject testing, including technical capabilities of staff and any specialized assets or facilities owned by the facility for testing.
- List of test capabilities and a price list per test.
- Time required to perform test(s).
- Test facility availability from October 1, 2020, through June 30, 2023.

Companies/organizations interested in submitting an OLED component(s) for testing consideration should also email OLED-Testing@netl.doe.gov. The Call for Sources is subject to change.

7.0 What are KeyLogic Systems' subcontract requirements?

Subcontracts will include mandatory DOE contract flow-down provisions from KeyLogic Systems' prime contract with NETL. Further subcontract details and requirements will be provided by KeyLogic Systems once test components are determined; subcontract requirements will be specific to each test to be performed.

Basic Contracting Requirements:

- Expect Firm Fixed Price (FFP) subcontract agreements with Line Item Pricing.
- Expect Federal Acquisition Regulation (FAR) and DOE Acquisition Regulation (DEAR) flow-down clauses from the prime contract to subcontract agreements.
- Vendors must complete KeyLogic Systems' Vendor Form to be able to conduct business with KeyLogic Systems as a subcontractor.
- If a subcontractor has not actively registered and completed their representations and certifications documents via SAM.gov, subcontractors will need to fill out KeyLogic Systems' representations and certifications documents.
- Subcontract value will be based on the line item cost(s) submitted, while also taking into consideration the work identified in the Statement of Work (SOW) (either individual or grouped tests). As stated above, qualification under this notice does not guarantee a subcontract award or a specific level of effort (i.e., a subcontract award does not guarantee that work will be ordered).
- Ability to track testing costs per line item test(s) performed.
- Invoice by segregated line item cost(s) as negotiated in the subcontract agreements.