REQUEST FOR QUALIFICATIONS
HYDROGEN-BASED ENERGY PRODUCTION & STORAGE SYSTEM DESIGN SERVICES
University of California, Irvine

Under the guidelines of Calif. Public Contract Code 10510.4 - 10510.9, the University of California, Irvine (hereinafter referred to as “UCI” or the “University”) is seeking the best qualified firm to provide Hydrogen-Based Energy Production & Storage System Design services (hereinafter referred to as “Consultant” or “Consultants”).

Project Summary
UC Irvine is exploring the potential for electrolytic hydrogen production and storage for use in thermal resources in hours of low or no solar production to reduce carbon emissions. Enabling higher hydrogen blend fraction tolerance in the generation fleet is key to this strategy. UCI intends to submit a proposal in November 2021 for a Phase II Federal Department of Energy (DOE) grant for the design of hydrogen-based energy production and storage systems for integration with dispatchable power generation. This project will focus on the addition of up to 30% hydrogen (by volume) into the natural gas fueling the UCI combustion gas turbine, and the components and modifications required to accomplish this. The requested services are for the integration design of components needed to produce, store, and supply hydrogen to the turbine block.

Required Services
UCI seeks the qualifications of design professionals with experience in the engineering, procurement and construction of hydrogen facilities for a pre-Front End Engineering Design (preFEED). The preFEED effort will require preliminary design, programming, and cost estimating associated with the:

- Integration of the equipment packages (e.g. electrolyzer block, compression block and storage system)
- Civil and site prep engineering (e.g. grading, excavation, retaining walls, foundation)
- Design of common facilities (e.g. utilities, walkways, security)
- Interconnection between packages and the gas turbine (e.g. piping, wiring)
- Integrated control system
- Procurement documentation (i.e. bid specifications) for primary equipment blocks and necessary elements of the integrated system that are not part of the equipment packages.

UCI’s objective is to retain design professionals that can work swiftly while still producing responsive, consistent and thoughtful deliverables. Of particular interest are candidates with experience working with projects involving hydrogen at high pressures and flows such as hydrogen refueling stations, electrolyzer systems, and hydrogen systems at refineries. Additional services may include, but are not limited to, the following:

- Equipment layouts, process flow diagrams, mass and energy balances, procurement specifications for primary equipment blocks, emissions and waste quantities and other design elements typical of an engineering preliminary design.
- H2 Safety Plan
- Environmental Volume

An agreement will be established with the selected consultant for the PreFEED effort with the expectation that additional services may be required during the construction phase, which is outside the PreFEED proposal scope. Funding of the agreement for the current scope is contingent upon award of the Phase II Federal award to UC Irvine. Additional services, if any, are dependent on the award of a federal grant.

Procedures
Request for Qualifications will be available electronically at 4:00 PM on October 6, 2021 from UCI Design & Construction Services. Contact David Donovan at (949) 824-8114 / ddonovan@uci.edu to obtain required forms.
Design Professional Qualifications
Hydrogen-Based Energy Production & Storage System Design Services

Submittal Requirements
Send one (1) electronic copy in PDF format on a flash/thumb drive to:
David Donovan, Interim Director of Contracts
UC Irvine Design & Construction Services
101 Academy, Suite 200, Irvine, CA 92697-2450

Deadline for submittals is 2:00 PM on October 29, 2021

Estimated Contract Duration: 24 Months

Every effort will be made to ensure that all persons have equal access to contracts and other business opportunities with the University within the limits imposed by law or University policy. Interested firms will be required to show evidence of their equal employment opportunity policy.