REQUEST FOR INFORMATION

REGARDING INTEREST IN FUEL CELL ELECTRIC VEHICLE INFRASTRUCTURE PLANNING AND SITES

FOR LOCAL HYDROGEN FUELING STATION PROJECTS

March 30, 2018

Introduction

The Redwood Coast Energy Authority ("RCEA") is issuing this Request for Information ("RFI") to solicit responses from public and private entities in or around the North State California Region – consisting of the Shasta, Del Norte, Trinity, Mendocino, Siskiyou, Tehama, Glenn, and Humboldt Counties – regarding interest in fuel cell electric vehicle ("FCEV") planning, hydrogen production, hydrogen fuel-cell vehicle adoption, and property owners and/or fuel distributors interested in hosting, leasing, or owning hydrogen fueling infrastructure.

This RFI is intended solely to obtain information to assist with the ongoing assessment of possible project sites as well as further analysis of FCEV market development, local hydrogen production, and planning efforts.

This RFI is an inquiry only and is meant to help the project team better understand the communities' need or interest in FCEVs and related infrastructure. This RFI is not a contract or agreement nor does it represent a commitment to negotiate with any individual, organization, land owner, issue a Request for Qualifications, or issue a Request for Proposals in the future. Those choosing to respond to this RFI will not, merely by virtue of submitting such a response, be deemed to be "bidders" on any future projects in any sense, and no such respondent will have any preference, special designation, advantage or disadvantage whatsoever in any subsequent activities related to any future projects. The information contained in the responses to this RFI will, however, help the project team to advance evaluation and development efforts for local hydrogen fueling stations, hydrogen production, and FCEV planning activities which may result in the launch of future FCEV planning, a formal project and associated negotiations and procurement activities.

Background

RCEA is a local government Joint Powers Authority (JPA) located in Humboldt County that develops and implements sustainable energy initiatives in the North Coast and Upstate regions. RCEA implements Humboldt County's Community Choice Energy program, offers energy efficiency services for homes, businesses, and schools, and implements programs that facilitate regional adoption of zero emission vehicles, including FCEVS, and associated infrastructure development.

Currently, RCEA is working with the following project partners to implement the North Coast and Upstate Fuel Cell Vehicle Readiness Project:

- Shasta Regional Transportation Agency (SRTA)
- Mendocino Council of Governments (MCOG)

- North Coast Unified Air Quality Management District (NCUAQMD)
- Glenn County Air Pollution Control District (GCAPCD)
- Tehama County Air Pollution Control District (TCAPCD)
- Siskiyou Economic Development Council (SEDC)

Figure 1 Project Region

The North Coast and Upstate regions comprise over 17% of the land area of the State and include several key transportation corridors including Highway 101, Interstate 5, and State Route 299. These three arteries carry the vast majority of road travel between California and destinations in Oregon and Washington. FCEVs are a critical long-term solution for sustainable transportation objectives.[1]

The goal of the North Coast and Upstate Fuel Cell Vehicle Readiness Project is to create a coordinated effort throughout the 8-county North Coast and Upstate regions to support the successful introduction of FCEVs, plan for the wise and effective deployment of hydrogen fueling infrastructure, and help catalyze a robust regional market for FCEVs. The project team has completed a Regional Hydrogen Infrastructure Plan, and is now identifying and evaluating sites for future hydrogen fueling stations, as well as promoting the incorporation of FCEVs into municipal fleets.

In pursuit of these objectives, RCEA seeks to gather input from various parties, including but not limited to:

- Potential land-owners and business-owners interested in learning about hosting a hydrogen fueling station
- Local government planning officials interested in, or who have information relevant to, promoting FCEVS
- Fleet managers interested in, or who have information relevant to, incorporating FCEVs into their fleet
- Permitting officials interested in learning more about, or who have information relevant to, code requirements for hydrogen fueling stations
- Emergency first responders interested in learning more about, or who have information relevant to, training specific to FCEV safety codes
- Businesses interested in hydrogen production, vehicle sales, and fueling infrastructure
- Other parties generally interested in learning more about FCEV technology

This RFI is intended to assist RCEA and project partners in further promoting FCEV technology as well as identifying/evaluating possible sites in the North Coast and Upstate regions suitable for retail fueling stations which could be developed by RCEA and/or a third party.

[1] California Air Resources Board. January, 2018. California's Advanced Clean Cars Midterm Review.

Desired Site Characteristics and Information Requested

RCEA is requesting two types of information: site characteristics, and general interest information.

Desired Site Characteristics Requested

RCEA has identified site characteristics that could make a project desirable for station development. The characteristics include but are not limited to:

1. Located in the North Coast or Upstate regions, with particular interest in the Humboldt Bay area and Redding area.
2. Sufficient space for hydrogen fueling infrastructure. To assist the respondent, the following conceptual layouts are provided as an example[2]:
    a. Delivered H2: see Attachment A. At the least, additional space may be needed for ingress/egress for hydrogen delivery and customers.
    b. On-site Generation: see Attachment B. At the least, additional space may be needed for ingress/egress for hydrogen delivery and customers.
3. Proximity: an ideal site will be close to major regional highways and/or high-use traffic routes
4. Ingress / Egress: sites must have convenient access to and from the site based on traffic patterns, and in the case of delivered hydrogen, must have sufficient space for a gas delivery truck to navigate the site safely.
5. Visibility: ideal sites are located along high-use traffic routes.
6. Flat or gently sloped.
7. Appropriately zoned as commercial or for gas station development.

Interested parties are asked to address the above considerations in their responses and provide information that includes:

1. Respondent/property owner's name and contact information (phone, email, and mailing address).
2. Specific location of the property and size of the area available for potential fueling station development.
3. Current property zoning and any known use restrictions.
4. Physical description of the site (existing conditions, slope, access, etc).
5. Any other factors, advantages, or limitations that might be relevant to the viability of the site for hydrogen fueling infrastructure development.

Desired General Interest Information Requested

RCEA has identified the following information as valuable to local fuel cell electric vehicle planning, adoption, and infrastructure development:

1. Local government staff and elected representatives: description of interest in hydrogen fuel cell electric vehicles, specific plans and codes that have been adopted in relevant jurisdiction related to hydrogen fueling stations, interest in planning for zero emissions vehicles, and/or needs for addressing State hydrogen goals.

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[2] Note that the conceptual layouts provided as Attachment A and Attachment B do not represent an approved or recommended design. They are provided solely to give respondents a rough idea of possible space requirements.

2. Fleet managers: description of interest in hydrogen fuel cell electric vehicles, interest in further discussing ways to incorporate fuel cell electric vehicles into local fleet, ongoing efforts to incorporate fuel cell electric vehicles into local fleet, and/or needs for addressing State hydrogen goals.
3. Emergency first responders: description of interest in emergency first responder training specific to fuel cell electric vehicle and fueling station safety, training/information that has been adopted in the local jurisdiction already, and/or needs for addressing State hydrogen goals.
4. Businesses, organizations, or individuals interested in investing in hydrogen production, investing in hydrogen fueling station development, and/or developing the local market for hydrogen fuel cell electric vehicles
5. Vehicle dealerships interested in understanding hydrogen fuel cell electric vehicles

Interested parties are asked to address the above considerations in their responses and provide information that includes:

1. Respondent/organization's name and contact information (phone, email, and mailing address).
2. Information, if available, on relevant past projects, potential project timelines, funding amounts, and location.
3. Any other factors, advantages, or limitations that might be relevant to the viability of regional development of a fuel cell electric vehicle market and associated infrastructure.

Responses should be directed via email to Aisha Cissna, RCEA Transportation Specialist, at acissna@redwoodenergy.org

Responses will be accepted on an on-going basis at least through April 30, 2018; this period may be extended by RCEA at its sole discretion. Responses should include the phrase "RCEA Request for Information - FCEV Readiness RFI" clearly indicated in the subject line of the e-mail accompanying the response.

Upon receiving a response, RCEA will initiate a review and may contact the respondents to follow up with additional questions and clarifications or to offer to conduct one-on-one meetings with some or all of the respondents. The opportunity to participate in such meetings, if any, will be communicated separately to individual respondents. The respondent is not obligated to meet if contacted.

<u>Public Nature of Responses</u>

All responses to this RFI, including responses, pre-submittal and post-submittal communications with RCEA, will become the exclusive property of RCEA. Responses and communications with RCEA are subject to disclosure in accordance with the California Public Records Act (Cal. Government Code section 6250 et seq.). Respondents should not submit any information or documents that they consider proprietary and that they would not want publicly disclosed.

If there is information you wish to provide that you believe would be critically important to the evaluation of the site and that you believe would be exempt from disclosure under the Public Records Act, prior to submitting any such information you should contact RCEA to discuss and evaluate the matter further.

By submitting a response, respondent agree to hold harmless and not seek damages against RCEA, its officers, employees and agents, or any member government or recovery of its attorneys' fees as a result of any dispute related to the release or withholding of information submitted in response to this RFI.

Participant Feedback

RCEA welcomes feedback on the process of evaluating local hydrogen fueling station projects. Please ask any questions that you or your organization deem relevant. Thank you in advance for your participation.

All communications, questions, and responses associated with this RFI should be addressed to:

Aisha Cissna

Transportation Specialist

Redwood Coast Energy Authority

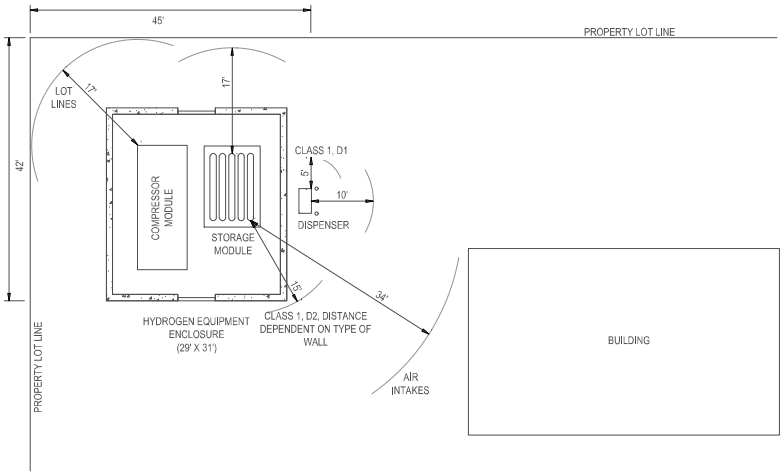
633 3rd Street Eureka, CA 95501

707-269-1700

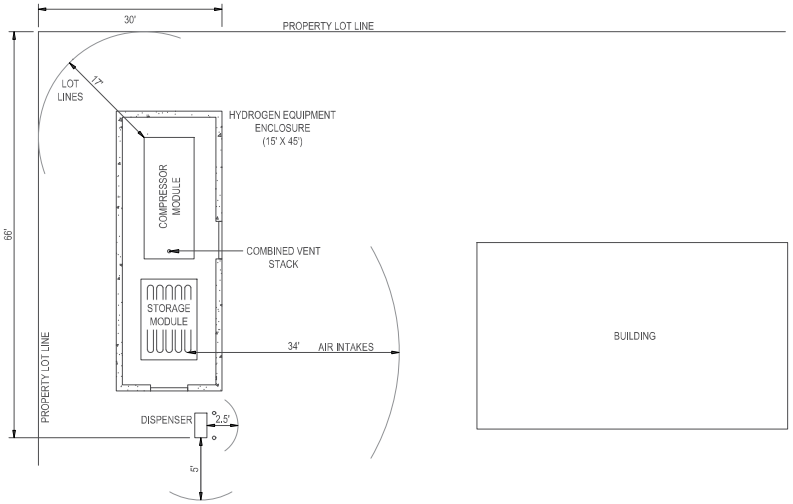
acissna@redwoodenergy.org

Figure 12: Design Option 1 - Modular Station with Gas Delivery

DRAWING 1:GAS-DELIVERED STATION WITH PARALLEL CONFIGURATION
OVERALL SPACE REQUIREMENT OF 42' X 45' INCLUDING THE DISPENSER



DRAWING 2: GAS-DELIVERED STATION WITH LINEAR CONFIGURATION
OVERALL SPACE REQUIREMENT OF 30' X 66' INCLUDING THE DISPENSER



DESIGN NOTES

IN THESE TWO LAYOUTS THE LOT LINE SETBACKS ARE IMPLEMENTED TO PROVIDE A CONSERVATIVE APPROACH FOR ESTIMATING THE TOTAL OPEN SPACE REQUIRED TO INSTALL THIS TYPE OF STATION. MODIFICATIONS TO ANY SETBACKS ARE AT THE DISCRETION OF THE AUTHORITY HAVING JURISDICTION (AHJ) AND IF IMPLEMENTED, MAY MAKE A SPACE-CONTRAINED SITE VIABLE FOR HYDROGEN INTEGRATION.

A SITE EVALUATION WILL BE REQUIRED TO DETERMINE HOW THE 34' AIR INTAKE DISTANCE AFFECTS THE REQUIRED SPACE.

- THIS ANALYSIS IS A HIGH-LEVEL LOOK AT CODE REQUIREMENTS, A MORE DETAILED INVESTIGATION BY A CODE EXPERT IS RECOMMENDED FOR SITE DESIGN
- ONLY CRITICAL NFPA 2 SEPARATION DISTANCES AND SOME ELECTRICAL AREA CLASSIFICATION DISTANCES ARE SHOWN
- ENCLOSURES ARE CONSTRUCTED OF NON-COMBUSTIBLE MATERIALS AND ARE DESIGNED TO PROVIDE ADEQUATE VENTILATION
- DISPENSER CAN BE SITED ADJACENT TO EITHER SIDE OF THE HYDROGEN EQUIPMENT ENCLOSURE OR REMOTELY AT A NEW DISPENSING LOCATION OR EXISTING GASOLINE DISPENSING ISLAND

SEPARATION DISTANCES FOR GASEOUS HYDROGEN SYSTEMS (NFPA 2, 2016)

- AIR INTAKES (HVAC AND COMPRESSORS, ETC.) 34'
- LOT LINES 17'
- OPERABLE OPENINGS IN BUILDINGS 17'
- PARKED CARS 8'
- BUILDINGS OF NONCOMBUSTIBLE OR COMBUSTIBLE MATERIALS, OVERHEAD UTILITIES 14'
- DISPENSER TO LOT LINE, IGNITION SOURCE, ETC. 10'
- APPROVAL AND MODIFICATIONS TO SETBACKS AT THE DISCRETION OF THE AUTHORITY HAVING JURISDICTION (AHJ)

ELECTRICAL AREA CLASSIFICATIONS - GH2 VEHICLE FUELING STATIONS (NFPA 2, 2016)

- ALL DISTANCES MEASURED SPHERICALLY FROM SOURCE POINT
- WITH STRATEGIC PLACEMENT AND HEIGHT OF THE RELIEF VALVE AND VENT STACK OUTLETS, THE ELECTRICAL CLASSIFICATION AREAS FROM THESE SOURCES SHOULD NOT EXTEND TO GROUND LEVEL OUTSIDE THE EQUIPMENT ENCLOSURE
- CLASS I, DIV. 1 WITHIN 5' OF DISPENSER ENCLOSURE
- CLASS I, DIV. 2 UP TO 15' FROM STORAGE EQUIPMENT, BUT SHALL NOT EXTEND PAST AN UNPIERCED WALL OR GASTIGHT PARTITION. ENCLOSURE DESIGN AND LOUVRE LOCATION(S) WILL DICTATE THE DIRECTION THIS ZONE EXTENDS.

SCHATZ ENERGY RESEARCH CENTER

REDWOOD COAST ENERGY AUTHORITY

HUMBOLDT STATE UNIVERSITY
Sponsored Programs Foundation

MODULAR HYDROGEN STATION - GAS DELIVERY - 180 KG/DAY

REFERENCE STATION DESIGN LAYOUTS FOR SPACE EVALUATION
FCEV HYDROGEN READINESS PROJECT

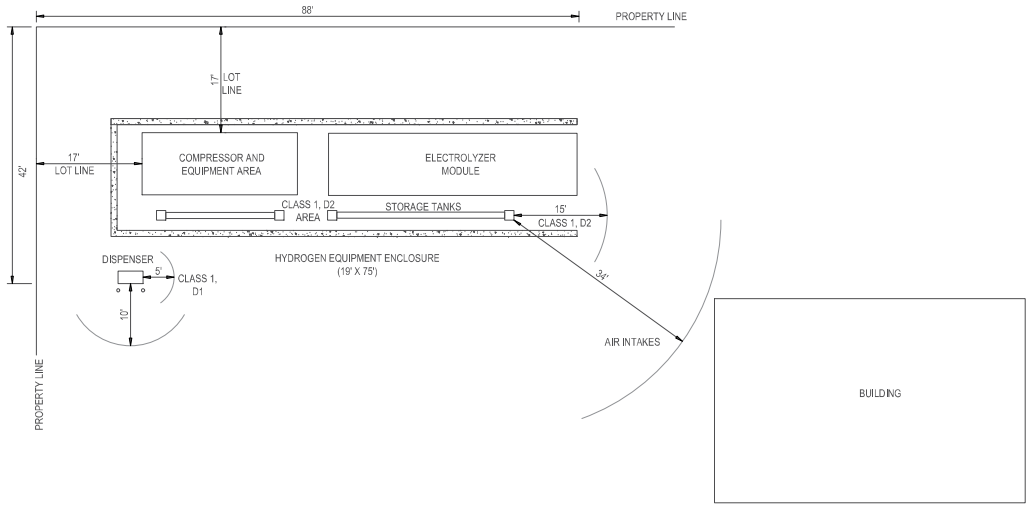
PHASE 1
DRWN: GC CHK:

SHEET 1

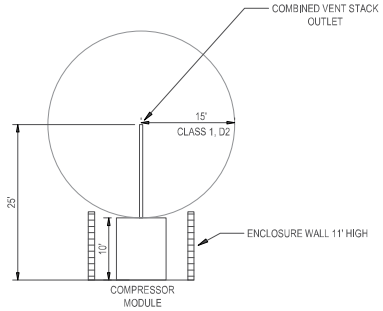
Attachment A

Figure 13: Design Option 2 - On-Site Hydrogen Generation Using Electrolysis

DRAWING 3: ON-SITE ELECTROLYSIS STATION WITH LINEAR CONFIGURATION
OVERALL SPACE REQUIREMENT OF 42' X 88' INCLUDING THE DISPENSER



DRAWING 4: SIDE VIEW OF VENT STACK EXTENDING UPWARD FROM COMPRESSOR MODULE



THIS EXAMPLE SHOWS THAT WITH AN ENCLOSURE WALL HEIGHT OF 11' AND A VENT STACK OUTLET HEIGHT OF 25', THE CLASS 1, DIV 2 ELECTRICAL CLASSIFICATION ZONE DOES NOT EXTEND TO GROUND LEVEL.

ENCROACHMENT OF OVERHEAD UTILITIES SHOULD BE INVESTIGATED (14' PER NFPA 2)

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MODULAR HYDROGEN STATION - ELECTROLYSIS GENERATION - 130 KG/DAY
MODULES IN A LINEAR CONFIGURATION

REFERENCE STATION DESIGN LAYOUTS FOR SPACE EVALUATION
FCEV HYDROGEN READINESS PROJECT

PHASE 1
DRWN: GC CHK:

SHEET 2

Attachment B