DOCKETED

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DO NOT DESIGN OR SUBMIT PROPOSALS ACCORDING TO THIS DRAFT
Comments are due Tuesday, August 15, 2017 at 5:00 p.m.

DRAFT SOLICITATION CONCEPTS

Alternative and Renewable Fuel and Vehicle Technology Program

Subject Area – Renewable Hydrogen Transportation Fuel Production Facilities and Systems

No proposals are being accepted at this time. This is a draft compilation of solicitation concepts. Do not design or submit proposals according to this DRAFT. The actual solicitation is subject to change.

Staff will take comments and questions submitted to the docket, by phone or by in person meetings prior to the workshop. Comments on this DRAFT will be discussed at the July 31, 2017 Workshop. At the latest, comments are due by August 15, 2017 at 5:00 p.m. to the Energy Commission Dockets Unit (See Notice of Staff Workshop for additional details on how to comment).

http://www.energy.ca.gov/contracts/index.html
State of California
California Energy Commission
July 14, 2017

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INTRODUCTION

This "Draft Solicitation Concepts" document details the concepts under consideration for a competitive grant solicitation to be issued by the California Energy Commission's Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). The goal of this solicitation is to provide grant funds to projects that install and operate a facility in California that produces hydrogen from in-state renewable resource(s) for distribution and delivery to public hydrogen refueling stations for use in light-duty fuel cell electric vehicles (FCEVs).

This hydrogen production facility will strengthen the success and reliability of California's network of hydrogen refueling stations that support the carbon reduction and air quality goals of the State of California, such as Senate Bill 1505 (Lowenthal, Chapter 877, Statutes of 2006), which requires that on a statewide basis, no less than 33.3 percent of the hydrogen produced for or dispensed by fueling stations that receive state funds be made from eligible renewable energy resources. Hydrogen fuel will also contribute to the mix of alternative fuels needed to implement the Low Carbon Fuel Standard (LCFS), which is designed to reduce the carbon intensity of transportation fuels by 10 percent by 2020.

No proposals for renewable hydrogen production facilities are being accepted at this time. Readers of this document are cautioned to NOT design or submit proposals according to this Draft Solicitation Concepts document as the final solicitation may substantially change. Comments on this Draft Solicitation Concepts document are due by August 15, 2017 to the Energy Commission Dockets Unit. Please refer to the Notice of Staff Workshop for additional details on how to submit comments, and number the comments consistent with this Draft Solicitation Concepts document to facilitate effective evaluation. This Draft Solicitation Concepts document places a preference on increasing hydrogen production capacity dedicated for use in light-duty fuel cell electric vehicles, the use of in-state 100% renewable resources, use of commercial off-the-shelf equipment, partnerships, and feedstock and off-take commitments.

NOTE: Potential applicants to the future funding solicitation are strongly encouraged to discuss their proposed project(s) with the automotive original equipment manufacturers (OEMs); site owners; hydrogen fuel distributors; hydrogen refueling station owners, operators, and developers; renewable resource generators and providers; county and city governmental representatives involved with permitting and fire protection rules and regulations, e.g., California Environmental Quality Act (CEQA) and National Fire Protection Association (NFPA); electric and gas utility companies; local air districts; and other project partners and stakeholders. To the greatest extent possible, potential applicants are strongly encouraged to begin discussions with key project partners and not wait for the final solicitation to be released. Potential applicants are cautioned that the final solicitation may differ from this Draft Solicitation Concepts document. The Energy Commission cannot guarantee that an eligible project under this document will be eligible under the final solicitation.

The Draft Solicitation Concepts follow:

1. AVAILABLE FUNDING

A total of at least $2.0 million is available for awards under this solicitation. The Energy Commission, at its sole discretion, reserves the right to increase or decrease the amount of funds available under this solicitation.

2. MAXIMUM AWARD

Projects are eligible for up to 75 percent of the total project costs or $2.0 million, whichever is less.

3. NUMBER OF APPLICATIONS

Applicants may submit multiple applications; there is no maximum number of applications that may be submitted per applicant. However, each application must be for a distinct, standalone project (i.e., no overlap with respect to the service area/project site), must be submitted separately, and must adhere to all requirements contained in this solicitation. Only one application per project site address per applicant will be accepted. Should more than one application per project site address be submitted by the same applicant, only the last submission will be reviewed.

4. ELIGIBLE APPLICANTS

This solicitation is open to businesses, public agencies, non-profit organizations, vehicle and technology entities, public-private partnerships, and academic institutions. Every entity that applies under this solicitation must meet the solicitation requirements and must agree to the Terms and Conditions. The Energy Commission will not award agreements to non-complying entities.

To be eligible, applicants must have a business presence in California. All corporations, sole proprietorships, limited liability companies (LLCs) and limited partnerships (LPs) are required to register and be in good standing with the California Secretary of State to enter into an agreement with the Energy Commission. If not currently registered with the California Secretary of State, applicants are encouraged to contact the Secretary of State's Office as soon as possible to ensure eligibility for evaluation and award (should the application be successful).

At a minimum, all eligible Applicants must include in their proposed project team: 1) a hydrogen production equipment manufacturer ***or*** a technology integrator with an equipment manufacturer, 2) an in-state renewable resource producer, collector, or distributor, and 3) a hydrogen refueling station operator for fuel off-take. Formal contracts with these entities are not required at the time of application submission, but signed and dated Letters of Intent must be provided, at a minimum.

5. ELIGIBLE PROJECTS

To be eligible under this solicitation, projects must:

- Install new hydrogen production capacity at an existing or new facility. Projects may modify other facility types and use pre-existing renewable resource facilities, but should minimize rerouting from any currently active greenhouse gas (GHG) reducing activities.
- Supply the produced hydrogen to in-state public hydrogen refueling stations for light-duty FCEVs.
- Be located in California.
- Use renewable resources sourced from within California (see Concept #6).
- Meet the Minimum Technical Requirements (see Concept #7).

The following project types ARE NOT eligible for funding under this solicitation:

- Paper studies, surveys, case studies, or research projects (e.g., a study which assesses the cost and feasibility of hydrogen production from renewable resources, lab benchtop-scale testing and prototypes for proof-of-concept).
- Development and demonstration of a pilot-scale system.
- Alternate uses of hydrogen, such as for energy storage, forklifts, cell towers, medium- and heavy-duty vehicles, off-road vehicles, and as a chemical processing or refining component. However, hydrogen produced outside the scope of the project, exceeding the minimum production requirement, may serve alternative uses.
- Resale or use of existing hydrogen production capacity. However, projects may co-locate at an existing hydrogen production facility, but cannot count the existing capacity towards this solicitation.
- Repurpose of an existing ARFVTP-funded project or public hydrogen refueling station. However, projects may co-locate at an existing ARFVTP-funded project or public hydrogen refueling station if it will not reduce the existing project's or station's performance.
- Hydrogen distribution and transportation without any new hydrogen production.

6. ELIGIBLE FEEDSTOCKS AND RENEWABLE ELECTRICITY SOURCES

Eligible renewable feedstocks include biomethane or biogas such as: biomass digester gas, landfill gas, sewer (wastewater) gas, municipal solid waste gas, or other waste fuels. Systems using other waste biomass feedstocks, such as biomass waste or residues, may be eligible if the Application demonstrates that the proposed system and feedstock comprise a sustainable approach, reduces greenhouse gas (GHG) emissions compared to the petroleum baseline, and achieves the ARFVTP sustainability goals contained in 20 CCR 3101.5[1].

[1] http://www.energy.ca.gov/2017publications/CEC-140-2017-002/CEC-140-2017-002.pdf, Pg. 607-609

Eligible renewable electricity sources include fuel cells using renewable feedstocks, geothermal, small hydroelectric (30 megawatts or less), ocean wave, ocean thermal, tidal current, photovoltaics (PV), solar thermal, biomass digester gas, municipal solid waste conversion (non-combustion thermal process), landfill gas, and wind, as outlined in Section 25741(a)(1) of the California Public Resources Code[2]. The renewable electricity shall either go directly to the hydrogen production system or be connected via the grid from an in-state generation facility. RECs must be dedicated to and used for the production of hydrogen in the proposed system. RECs must also be registered and verifiable through Western Renewable Energy Generation Information System (WREGIS) or an equivalent tracking and verification system. Further information about WREGIS can be found at: www.wecc.biz/WREGIS.

7. Minimum Technical Requirements

To be eligible under this solicitation, proposed renewable hydrogen production facilities must, at a minimum, meet each of the following minimum technical requirements. Projects exceeding minimum technical requirements will score higher in accordance with the scoring criteria.

A. ***Renewable production capacity***: The proposed project must have a nameplate capacity of at least 1,000 kilograms per day of 100% renewable hydrogen that shall be dedicated to supplying in-state public hydrogen refueling stations for use in light-duty FCEVs.

B. ***In-state renewable resource***: A 100% renewable resource sourced in California shall be dedicated to hydrogen production for the proposed project to be operated in California.

C. ***Equipment***: All proposed project technologies must have demonstrated prior successful continuous operation for at least 6 months.

D. ***Hydrogen Purity***: At least 1,000 kilograms per day of produced hydrogen must meet all of the requirements of the current Society of Automotive Engineers (SAE) International J2719: Hydrogen Fuel Quality for Fuel Cell Vehicles (Nov. 2015 revision, as of June 2017)[3].

E. ***Distribution and Off-Take:*** The proposed distributor and off-taker logistics and business arrangements justify the project and cost effectiveness.

8. Match Funding Requirements

Applications must include at least 25 percent of total project costs as match share. At least 10 percent of total project costs must meet the definition of cash match share.

Total project cost is defined as the Energy Commission reimbursable amount plus match share amount. Cash match is defined as the net of any funds actually expended by the

[2] https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=25741.&lawCode=PRC

[3] http://standards.sae.org/j2719_201511/

applicant for the project after any sort of discount or rebate is applied. Expenditures for applicant's compensated labor hours, including allowable fringe benefit and overhead rates, travel, materials, supplies, equipment, subcontractor costs, and other miscellaneous expenditures may be claimed as cash match if the expenditures are included in the approved agreement budget, paid in full with funding sources other than grant funds, and supported with appropriate documentation, including proof of payment. For indirect overhead, backup documentation, such as a cost allocation plan based on actual expenditures incurred and paid, is required. Cost allocations must be reasonable and allocable to the proposed project.

9. ELIGIBLE PROJECT COSTS

Costs incurred for the following activities (preferably for equipment and materials) are eligible for Energy Commission reimbursement:

- Facility pre-engineering and design.
- Engineering plans and specifications.
- Building and facility construction, modifications, and/or operations.
- Asset and/or equipment acquisition.

The Energy Commission will not reimburse for land acquisition, fuel distribution, fueling infrastructure, or permits, but these may be counted towards match share. See Match Funding Requirements, below.

10. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Projects recommended for funding must complete the CEQA process within 6 months of the release date of the Notice of Proposed Awards (NOPA). The Energy Commission reserves the right to cancel proposed awards that do not meet this CEQA compliance deadline.

Applicants must provide documentation of communication with the local agency that has jurisdiction over the proposed project for purposes of complying with CEQA. Documentation such as a completed notice of exemption, a letter from the local agency acknowledging their role in the CEQA process, or a CEQA application to the lead agency that is stamped as received. If no CEQA review would be required by the local agency, provide documentation (letter or e-mail) from the local agency explaining why not. The Governor's Office of Business and Economic Development is available to provide CEQA assistance. Contact:

Ms. Gia Brazil Vacin
Governor's Office of Business and Economic Development (GO-Biz)
Sacramento, CA 95814
Phone: 916-319-9968
gia.vacin@gov.ca.gov

11. PERMITTING

Applicants must include information in their narrative about the permitting required for the project and whether or not the permitting has been completed. If the permitting has not been completed, applications must (1) include a permitting schedule that ensures successful project completion within the timeframes specified in the solicitation and (2) must have held an in-person pre-application meeting for permits to build and operate the proposed hydrogen production facility with the authority(s) that has jurisdiction over the project and entitlement process. The Governor's Office of Business and Economic Development (GO-Biz) is available to provide permitting assistance. For more information, please contact:

Ms. Gia Brazil Vacin
Governor's Office of Business and Economic Development (GO-Biz)
Sacramento, CA 95814
Phone: 916-319-9968
gia.vacin@gov.ca.gov

12. LETTER(S) OF SUPPORT AND COMMITMENT

A. **Site Owner/Operator (MANDATORY):** Proposals must include a current dated letter of support from the owner/operator of the site where the hydrogen production facility project is proposed. The letter shall be signed by the site owner or representative who is duly authorized to commit the site to building a hydrogen production facility at their site in collaboration with the project developer. The letter shall also contain a telephone number to allow the Energy Commission to contact the site owner or representative to confirm the commitment and authority to commit to the proposed project.

B. **Third-Party Match Share Commitment (MANDATORY, if shared by a third party):** For match share committed by a third-party (i.e., other than the match share committed by the Applicant), Applicant must submit a letter of commitment from each match share partner identifying the source(s), amount of match funding, and availability of match funding.

C. **Key Project Partners (MANDATORY, if third party is involved in facility design, engineering, construction, or operation; site ownership; feedstock or electricity supply; or fuel off-take):** Proposals shall include a letter of commitment or letter of interest from every key project partner designated by the applicant at the time of application. The letter shall include complete contact information such that the Energy Commission is able to contact the key project partners, as necessary. If a key project partner(s) have not been selected at the time of applicant, an explanation shall be provided as to why.

D. **Third-Party Letters of Support (OPTIONAL):** Applicants are encouraged to submit additional letter(s) of support that further substantiate the estimated demand and/or the potential benefits of the proposed project. Third-party letters of support can be provided by, but are not limited to: air districts, state or federal agencies, original equipment manufacturers (OEMs), hydrogen fuel distributors, hydrogen refueling stations, local safety officials, fleet operators, and any other entity.

13. DATA COLLECTION

Applicants that are awarded funds will be required to collect and submit facility operation and performance data to the Energy Commission for a minimum of twelve (12) months after the hydrogen production facility begins operation. The specific requirements will be contained in the final agreement's Scope of Work.

14. TWO-PHASE SCORING PROCESS

This solicitation will follow a two-phase process (abstract and full application):

A. **Pre-Application Abstract:** This phase consists of a Pre-Application Abstract Form and a 3-page maximum project abstract that will be scored on a pass/fail basis on the following:

1. Applicant is eligible to apply under this solicitation.
2. Proposed project is eligible in accordance with this solicitation.
3. Proposed project meets or exceeds the Minimum Technical Requirements (see Section 7 of this document).

Pre-application abstracts will need to address how the applicant/project meets the eligibility criteria and provide sufficient information to demonstrate compliance with the Minimum Technical Requirements including planned in-state renewable resources, equipment, and distribution and off-take arrangements, regardless of whether these requirements are contractually secured at the time the pre-application abstract is submitted. All pre-application abstract submittals will remain confidential throughout the solicitation evaluation process. Once the Notice of Proposed Awards is published, all submittals become public records.

Passing pre-application abstracts will be eligible to submit full applications to compete for funding.

B. **Full Applications:** Passing pre-application abstracts will be eligible to submit a full application. Full applications will be screened using the Administrative and Technical Screening Criteria listed in Section 15 of this document. Full Applications which pass screening will then be scored using the "Full Application Scoring Criteria and Points" in Section 17. ***Full applications must be consistent with previously submitted and passing pre-application abstract.***

15. Full Application Administrative and Technical Screening Criteria

Full applications will be screened according to the following criteria. Full applications not meeting all of the following requirements will be disqualified and not eligible for funding:

A. Applicant is eligible to apply under this solicitation.
B. Proposed project is eligible in accordance with this solicitation.
C. Proposed project meets or exceeds the Minimum Technical Requirements (see Section 7 of this document).
D. Full application is consistent with previously passing pre-application abstract.

16. Full Application Format and Required Documents

Applicants shall include the following documents in their full application:

A. Application form (to be supplied by the Energy Commission).
B. Table of Contents
C. Project Narrative: Applicants should address each of the full application scoring criteria by providing sufficient, unambiguous detail so that the evaluation committee will be able to evaluate the application against each scoring criterion. Applications must respond directly to each criterion, with the headings as titled in the solicitation.
D. Scope of Work (format and requirements to be supplied by the Energy Commission)
E. Schedule of Products and Due Dates (form to be supplied by the Energy Commission).
F. Budget (format and requirements to be supplied by the Energy Commission).
G. Letters of Support/Commitment
H. Contacts List (form to be supplied by the Energy Commission).
I. CEQA Compliance Information (form to be supplied by the Energy Commission).
J. Localized Health Impacts Form (form to be supplied by the Energy Commission).

17. Full Application Scoring Criteria and Points

Table 2: Summary of the Full Application Scoring Criteria and Points

Scoring Criteria	Points
Team Experience and Qualifications	40
Project Readiness	50
Project Implementation	50
Performance	50
Project Budget and Cost Effectiveness	40
Economic and Social Benefits	20
Sustainability	50
TOTAL POSSIBLE POINTS:	**300**

A. **Team Experience and Qualifications**: The proposed project will be evaluated on the degree to which:

- The team has the ability to successfully implement the proposed project.
- The team has demonstrated successful project administration and management.
- The team has demonstrated the ability to adequately account for and control costs.
- The team has demonstrated successful real estate procurement and experience in siting, construction, and supply chain logistics.
- The team has demonstrated successful experience with producing, transporting, handling, and utilizing hydrogen at low and high pressures.
- The team has demonstrated successful permitting and California Environmental Quality Act (CEQA) compliance experience in California.
- The team has successfully deployed and operated the proposed technology and system.
- The Applicant has demonstrable business growth.
- If the Applicant has received an award(s) from a previous Energy Commission solicitation, the Applicant fulfilled/is fulfilling the requirements of the agreement(s) and has demonstrated acceptable past performance, including:

    - Adherence to schedule and due dates.
    - Effective and timely issue resolution.
    - Honest, timely, and professional communication with Energy Commission staff.
    - Effective coordination with project partners, subcontractors, and other stakeholders.
    - Timely and accurate invoicing.

B. **Project Readiness**: The proposed project will be evaluated on the degree to which:

- The application demonstrates and documents site and equipment control.
- The Applicant has progressed in obtaining required permits (e.g., letters from Authority Having Jurisdiction about pre-application meetings, participation in community meetings, presentations at planning commission meetings).
- The project has obtained compliance under the California Environmental Quality Act (CEQA) with the local Lead Agency, or provides a viable plan to obtain CEQA compliance within six months from the date the project is recommended for award via a published Notice of Proposed Awards.
- The permitting and CEQA compliance schedules are reasonable, documented, and ensure successful project completion.

- The Applicant has secured feedstocks and off-take agreements for full production capacity and to support long-term, ongoing and uninterrupted production.
- The role of strategic marketing partners, customers, and other partners ensures project success, including fuel off-take distribution to California hydrogen refueling stations.

C. **Project Implementation:** The proposed project will be evaluated on the degree to which:

- The applicant demonstrates that the proposed project will be completed effectively, efficiently, and within budget.
- The proposed project plan is complete, reasonable, and expedites the production of 100% renewable hydrogen.
- The Applicant has a viable and reasonable plan to match supply and demand.
- The Applicant has an efficient and effective renewable hydrogen distribution plan.
- The proposed facility location maximizes the number of public hydrogen refueling stations served.
- The proposed facility will reliably and consistently supply hydrogen to public hydrogen refueling stations.
- The applicant demonstrates an understanding of California's hydrogen and fuel cell electric vehicle market development and has thoughtfully analyzed integration of the production facility into those markets.
- Market barriers and potential competition are identified and adequately addressed to ensure project success.
- The Applicant has risk management and backup plans for feedstock supply and fuel off-take.
- The application demonstrates thorough safety, maintenance, and training procedures shall be in place.
- The proposed project commits to continue or expand operations beyond the end term date of the Energy Commission agreement.

D. **Performance:** The proposed project will be evaluated on the degree to which the proposed technology and system:

- Demonstrates technical feasibility. At least 6 months of demonstration/validation and testing data shall be provided.
- Increases the in-state production of renewable hydrogen and exceeds the minimum daily production capacity required by this solicitation.
- Demonstrates state-of-the-art hydrogen storage, handling, and distribution.
- Maximizes facility reliability and uptime.
- Are replicable for installation at multiple similar sites.
- Can be further scaled up to expand production capacity.

E. **Project Budget and Cost Effectiveness:** The proposed project will be evaluated on the degree to which:

- The proposed project results in a higher benefit-cost score in terms of GHG reductions per dollar of Energy Commission investment.
- The Applicant demonstrates the need for Energy Commission funding.
- The proposed match share is documented, secured, reasonable, and verifiable.
- The proposed budget is complete, realistic, and reasonable.
- The total cost of production on a per kilogram basis is minimized.
- The renewable hydrogen produced is cost effectively distributed to the California hydrogen refueling station network at competitive prices in the timeframe that hydrogen is needed.
- Co-products, co-benefits, or other revenue streams are identified and contribute to the production of cost-competitive hydrogen fuel and the viability of the project.

F. **Economic and Social Benefits:** The proposed project will be evaluated on the degree to which:

- The proposed facility will expand business opportunities for California-based businesses.
- The proposed facility results in high-quality local and in-state jobs.
- The proposed facility increases state and local tax revenues.
- Project funds will be spent in California.
- The proposed facility accrues benefits to California disadvantaged communities (as designated by CalEnviroScreen 3.0)[4].

G. **Sustainability:** The proposed project will be evaluated on the degree to which:

- The proposed project produces hydrogen at a lower carbon intensity relative to the relevant fossil fuel baseline of California Reformulated Gasoline (95.02 gCO2e/MJ for 2017) as measured in gCO2e/MJ. Carbon intensities must be calculated using a method that conforms to the California Air Resources Board's Low Carbon Fuel Standard[5].
- The proposed project minimizes the environmental impact associated with hydrogen delivery to refueling stations.
- The rerouting of feedstocks from any currently active greenhouse gas (GHG) reducing activities is minimized.
- The project uses direct renewable resource(s), co-located with the production facility.
- The proposed project uses sustainable or underutilized feedstocks, such as wastes resources or curtailed electricity.

[4] https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30

[5] https://www.arb.ca.gov/fuels/lcfs/lcfs.htm

- The proposed project maximizes energy efficiency for system power.
- The project minimizes its space/footprint.
- The project provides energy and environmental co-benefits, such as biomass energy storage or electric grid storage and load balancing.
- The proposed project preserves and enhances the use of natural resources and promotes superior environmental performance of alternative and renewable fuels.
- The proposed project maximizes the efficient use of water through water recycling/reclamation.
- The proposed project utilizes recycled materials and repurposed equipment and materials.

18. Full Application Evaluation Process

The Energy Commission will evaluate and recommend for funding proposals utilizing the following guidelines:

A. Applications will be screened according to the administrative and technical screening criteria. Applications passing screening will proceed to scoring.
B. Applications passing administrative and technical screening will be scored in accordance with the scoring criteria in Section 17 of this document.
C. Applications will be ranked according to score.
D. A minimum of 70% (or 210 points) is required to be eligible for funding.
E. Ties, if any, will be broken in the following order:
    1. Proposal with highest new renewable hydrogen production capacity.
    2. Proposal with highest benefit-cost score, defined as new production capacity per public dollar provided to the project.
    3. If still tied, an objective tie-breaker will be utilized.
F. Full applications will be recommended for funding in ranked order until funds in this solicitation have been exhausted.

19. Applicant Past Performance

An applicant's performance, if any, under an existing or prior Energy Commission agreement will be considered as part of an applicant's score in the Team Qualifications criterion.

Furthermore, in addition to all rights afforded the Energy Commission under the terms and conditions of any existing or prior agreements between the Energy Commission and Applicant or any other rights afforded the Energy Commission by law, the Energy Commission reserves the right to cancel an agreement awarded under this solicitation due to poor performance by Applicant under a previous or existing Energy Commission agreement.

20. REFERENCES: LAWS, REGULATIONS, REPORTS, AND OTHER DOCUMENTS

Applicants must comply with all applicable federal, state, and municipal laws, rules, codes, and regulations, including but not limited to the following California Code of Regulations (CCR) and Code of Federal Regulations (CFR):

- CCR Title 4 Business Regulations, Division 9 Measurement Standards, Chapter 1 Tolerances and Specifications for Commercial Weighing and Measuring Devices, Article 1 National Uniformity, Exceptions and Additions, Sections – 4001. Exceptions and 4002. Additional Requirements, Subsection 4002.9, Hydrogen Gas-Measuring Devices (3.39).

- CCR Title 4 Business Regulations, Division 9 Measurement Standards, Chapter 6 Automotive Products Specifications, Article 8 Specifications for Hydrogen Used in Internal Combustion Engines and Fuel Cells, Sections 4180 and 4181.[6]

- CCR Title 24 California Building Standards Code, Part 2 California Building Code, Vol. I, Chapter 11B – Accessibility to Public Buildings, Public Accommodations, Commercial Building and Publicly Funded Housing.

- Code of Federal Regulations (CFR), Title 48 Federal Acquisition Regulations System (2016)[7].

Applicants shall comply with the provisions of the following standards and codes that are required, as applicable, to meet the Minimum Technical Requirements (Section 7) in this solicitation. The most recent version of each standard and code shall be used by the Applicant.

- Compressed Gas Association (CGA), Chantilly VA. *CGA G-5, G-5.3, G-5.4, G-5.5, G-5.6,* and *G-5.7*.

- Compressed Gas Association (CGA), Chantilly VA. *CGA H-1, H-2, H-3, H-4, H-5, H-10, H-11,* and *H-12*.

- CSA Group (formerly the Canadian Standards Association, CSA), Toronto, Canada. *CSA Hydrogen Gas Vehicle (HGV) 4.3 Test Method for Hydrogen Fueling Parameter Evaluation: 2016*.

[6] https://www.cdfa.ca.gov/dms/programs/publications/FRM/12-2017_FRM_Chapter_6_4100-4091_Part_12.pdf

[7] https://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title48/48tab_02.tpl

- CSA Group (formerly the Canadian Standards Association, CSA), Toronto, Canada. CSA FC5 Hydrogen Generators Using Fuel Processing Technologies: 2016.

- CSA Group (formerly the Canadian Standards Association, CSA), Toronto, Canada. *Requirement No. 5.99, Hydrogen Generators: July 2001*.

- National Fire Protection Association (NFPA), Quincy, MA. *NFPA 2: Hydrogen Technologies Code: 2016*.

- National Fire Protection Association (NFPA), Quincy, MA. *NFPA 55: Compressed Gases and Cryogenic Fluids Code: 2016*.

- SAE International, Detroit, MI. *SAE J2600 Compressed Hydrogen Surface Vehicle Fueling Connection Devices: 2015-10-21*.

- SAE International, Detroit, MI. *SAE J2601 Fueling Protocols for Light Duty Gaseous Hydrogen Surface Vehicles: 2016-12-06*.

- SAE International, Detroit, MI. *SAE J2719 Hydrogen Fuel Quality for Fuel Cell Vehicles: 2015-11-11.*

- SAE International, Detroit MI. *SAE J2799 Hydrogen Surface Vehicle to Station Communications Hardware and Software: 2014-04-09*.

- U.S. Department of Commerce/National Institute of Standards and Technology (NIST) Specifications, Tolerances, and other Technical Requirements for Weighing and Measuring Devices from the 101th National Conference on Weights and Measures (2016), Handbook 44: 2017.

- U.S. Department of Labor, Occupational Safety and Health Administration (OSHA): *29 CFR 1910.103 Hydrogen*.

Applicants are encouraged to familiarize themselves with the following documents which are available online and also on display and available for review in the Energy Commission Library. Library hours are Monday – Friday from 8:30 a.m. – 4:30 p.m., closed for lunch: 12:00 – 1:00 p.m. The Energy Commission Library is located at: California Energy Commission, 1516 Ninth Street, First Floor, Sacramento, CA 95814, (916) 654-4292.

- California Air Resources Board, Sacramento, CA. *2016 Annual Evaluation of Hydrogen Fuel Cell Electric Vehicle Deployment and Hydrogen Fuel Station Network Development*.[8]

- California Air Resources Board, Sacramento, CA. Low Carbon Fuel Standard Program: 2016.[9]

- California Energy Commission, Sacramento, CA. *2017-2018 Investment Plan Update for the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP).*[10]

- California Energy Commission, Sacramento, CA. *Joint Agency Staff Report on Assembly Bill 8: 2016 Assessment of Time and Cost Needed to Attain 100 Hydrogen Refueling Stations in California.*[11]

- Governor's Office of Business and Economic Development, Sacramento, CA. *Hydrogen Station Permitting Guidebook, Best Practices for Planning, Permitting and Opening a Hydrogen Fueling Station: 2015*.[12]

- Pacific Northwest National Laboratory (PNNL), Richland, WA. *Safety Planning for Hydrogen and Fuel Cell Projects:* March 2016.[13]

- State of California/Department of Transportation, Caltrans *Traffic Operations Policy Directive (13-01): 2013*.[14]

- Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices, as adopted by the 97th National Conference on Weights and Measures 2012, U. S. Department of Commerce, National Institute of Standards and Technology (NIST) / U.S. Department of Commerce, Handbook 44: 2013.

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[8] https://www.arb.ca.gov/msprog/zevprog/ab8/ab8_report_2016.pdf

[9] https://www.arb.ca.gov/fuels/lcfs/lcfs.htm

[10] http://docketpublic.energy.ca.gov/PublicDocuments/16-ALT-02/TN216732_20170328T111545_20172018_Investment_Plan_Update_for_the_Alternative_and_Renewab.pdf

[11] http://www.energy.ca.gov/2017publications/CEC-600-2017-002/CEC-600-2017-002.pdf

[12] http://businessportal.ca.gov/Portals/0/Files/Hydrogen%20Permitting%20Guidebook%20FINAL%20-%202.0.pdf?ver=2016-11-14-170829-243

[13] https://h2tools.org/sites/default/files/Safety_Planning_for_Hydrogen_and_Fuel_Cell_Projects-March_2016.pdf

[14] http://www.dot.ca.gov/trafficops/policy/13-01.pdf

21. WRITTEN AND ORAL COMMENTS

Comments on this Draft Solicitation Concepts document are due by Tuesday, August 15, 2017 at 5:00 p.m. The Comments should be numbered consistently in accordance with these draft solicitation concepts to facilitate effective evaluation.

Please submit comments to the Energy Commission using the e-commenting feature by accessing the Commission's TRANSPORTATION webpage, http://energy.ca.gov/altfuels/2017-HYD-01/ and click on the "Submit e-Comments" link. A full name, e-mail address, comment title, and either a comment or an attached document (.doc, .docx, or .pdf format) is mandatory. Please include "Renewable Hydrogen Production Concepts" in the comment title. After a challenge-response test is used by the system to ensure that responses are generated by a human user and not a computer, click on the "Agree & Submit Your Comment" button to submit the comment to the Energy Commission's Docket Unit.

Please note that written comments, attachments, and associated contact information included within the documents and attachments (e.g., your address, phone, email, etc.) become part of the viewable public record. This information may become available via Google, Yahoo and any other search engines.

Interested stakeholders are encouraged to use the electronic filing system described above to submit comments. If you are unable to submit electronically, a paper copy of your comments postmarked by August 15, 2017 at 5:00 p.m. may be sent to:

California Energy Commission
Dockets Office, MS-4
Docket No. 17-HYD-01
1516 Ninth Street
Sacramento, CA 95814-5512

Or e-mailing them to: DOCKET@energy.ca.gov and include "Renewable Hydrogen Production Concepts" in the subject line.