GFO-19-602 Hydrogen Refueling Infrastructure Pre-Application Workshop #3

Fuels and Transportation Division



January 24, 2020 California Energy Commission



Agenda

Time	Topic
1:00 p.m.	Welcome and Introductions
1:15 p.m.	Solicitation Information
2:30 p.m.	Questions and Answers
3:30 p.m.	Adjourn



Housekeeping

- WebEx Participants
- Sign-in sheet / Business card sheet
- Updates on solicitation documents including this presentation will be posted on the Grant Funding Opportunity webpage



Commitment to Diversity

The Energy Commission adopted a resolution strengthening its commitment to diversity in our funding programs. We continue to encourage disadvantaged and underrepresented businesses and communities to engage in and benefit from our many programs. To meet this commitment, Energy Commission staff conducts outreach efforts and activities to:

- Engage with disadvantaged and underrepresented groups throughout the state.
- Notify potential new applicants about the Energy Commission's funding opportunities.
- Assist applicants in understanding how to apply for funding from the Energy Commission's programs.
- Survey participants to measure progress in diversity outreach efforts.



Diversity Survey

- The information supplied will be used for public reporting purposes to display anonymous overall attendance of diverse groups.
- Please use this link to take the <u>Diversity Survey</u>: https://www.surveymonkey.com/r/96ZP2RT

Thank you for your time!



Solicitation Information

- Solicitation purpose, funding, and key dates
- Eligible applicants, projects, and project costs
- Solicitation structure and details
- Application format, required documents, and delivery
- Evaluation process and criteria



Solicitation Purpose (pg. 5)

- Support hydrogen refueling infrastructure projects to enable hydrogen fuel cell electric vehicle (FCEV) roll-out.
- Encourage projects with fueling agreements with fleets of commercial vehicles and transit buses to increase station throughput and to aid in the transition of California's commercial vehicle and bus fleets to a zero-emission alternative.
- Achieve air quality and climate change goals by displacing gasoline and diesel consumption with hydrogen.



Funding Levels (pg. 5, 7-9)

- Funding: Up to \$115.7 million, subject to future appropriations and Clean Transportation Program Investment Plan funding allocations
- Funding Currently Available: \$45.7 million
- Single Applicant Cap: 45 percent of the funding available at any time
- Awarded through competitive grant solicitation



Key Dates (pg. 6)

Key Activities	Date
Solicitation Release	December 26, 2019
Pre-Application Workshop #1 in Sacramento	January 15, 2020, 10:00 a.m.
Hydrogen Safety Panel Workshop	January 15, 2020, 1:00 p.m.
Pre-Application Workshop #2 in Fresno	January 21, 2020, 10:00 a.m.
Pre-Application Workshop #3 in Diamond Bar	January 24, 2020, 1:00 p.m.
Deadline for Written Questions	January 29, 2020, at 5:00 p.m.
Anticipated Distribution of Questions/Answers	Week of February 17, 2020
Deadline to Submit Applications by 5:00 p.m.	April 30, 2020
Anticipated Posting of Notice of Proposed Awards	June 2020
Anticipated CEC Business Meeting	August 2020



Applicant Eligibility Requirements

(pg. 21)

- All public and private entities.
- Employ key personnel for the proposed project with a minimum of three (3) years of experience designing, planning, constructing, testing, operating, or maintaining hydrogen refueling stations or other pressurized gaseous fueling stations.



Applicant Eligibility Requirements, continued (pg. 21)

- Applicant must declare that they are:
 - Not delinquent on taxes
 - Registered with the California Secretary of State
 - In compliance with any settlement agreements with the State
 - In compliance with any judgments issued against the Applicant in which the State is a party
 - Not in active litigation with the CEC
- This declaration is made on the Application Form, Attachment 1A
- Agree to Standard Terms and Conditions (Attachment 9) and Special Terms and Conditions (Attachment 10)



Project Eligibility Requirements (pg. 22-25)

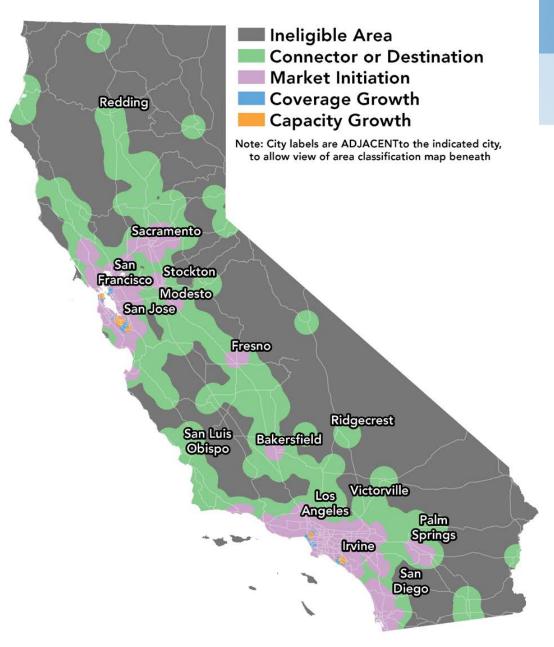
- Must be for the construction of open retail hydrogen refueling stations
 - New stations or station upgrades
 - No upgrades of stations with active CEC agreements to become open retail
- Must be located in an eligible area of the state
 - Eligible areas shown in the Map of Area Classifications (Figure 1, page 23)



Project Eligibility Requirements, Continued (pg. 22-25)

- Within Connector or Destination Area
 - ➤ **No more than two** H70-T40 fueling positions
- Within Market Initiation, Coverage Growth, or Capacity Growth Area
 - > At least two H70-T40 fueling positions
- The <u>CHIT Results Map Viewer</u> is available online at: http://californiaarb.maps.arcgis.com/ap.
 - http://californiaarb.maps.arcgis.com/apps/webappviewer/index.html?id=99be905d3127405e81851fd60b19cda2
- Contact Andrew Martinez at CARB for more information:

Andrew.Martinez@arb.ca.gov (916) 322-8449





Project Eligibility Requirements, Continued (pg. 22-25, pg. 7)

- Each fueling position must meet:
 - Minimum 24-hour capacity of 225 kilograms
 - 95 percent state of charge
 - H70-T40 fills
- What is a fueling position?
 - Fueling position refers to a unique physical location in which an FCEV can fuel from a hose simultaneously with other vehicles fueling from other hoses or dispensers. A fueling position shall not be shared with another dispenser of any fuel type, such that an FCEV would have to wait to fuel if the other dispenser's fueling position were occupied. 14



Project Eligibility Requirements, Continued (pg. 22-25)

- Applicant must certify that:
 - Each proposed station will meet the "Minimum Technical Requirements for Open Retail Hydrogen Refueling Stations"
 - Each station will remain open retail for a minimum of five years
- H35 fueling is optional



Hydrogen Station Capacity Evaluation (HySCapE) Model (pg. 24-25)

- Use HySCapE model to validate capacity of each fueling position of each proposed station design
- HySCapE is available for <u>download</u> at https://ww3.arb.ca.gov/fuels/lcfs/2018-0813_hyscape_download_instructions.pdf.
- A <u>User Guide</u> is at https://ww3.arb.ca.gov/fuels/lcfs/guidance/hri_userguide.pdf.



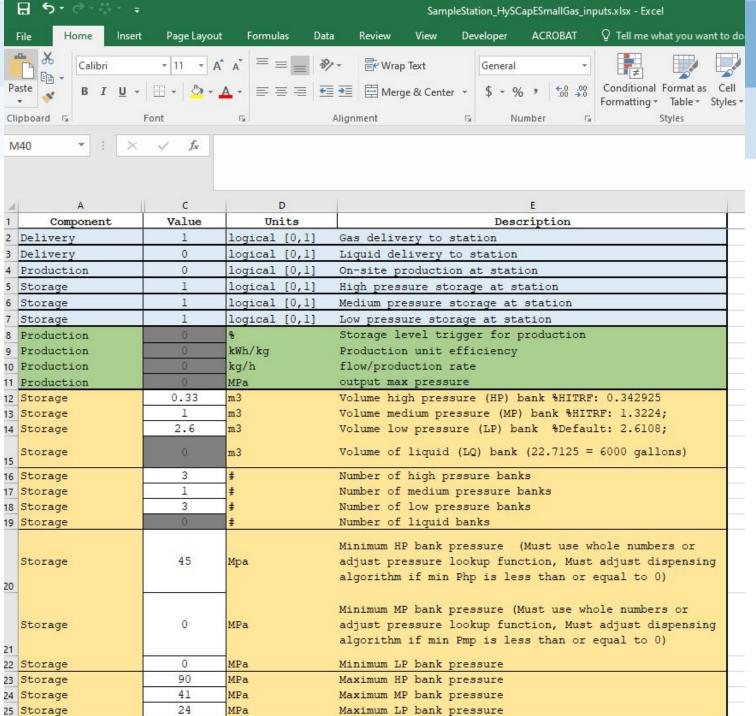
HySCapE Model, Continued (pg. 24-25, 48)

- Use the same HySCapE default settings used by the CARB Low Carbon Fuel Standard (LCFS) Program:
 - Vehicle Demand Profile: Chevron Friday
 - Time Between Fills: 255 seconds
 - Vehicle Storage Volume: 126 liters
 - Storage Level to Trigger Delivery: 30 percent
 - Hourly Distribution: Even
- For more information on using HySCapE for LCFS, contact: Arpit Soni, arpit.soni@arb.ca.gov, (916) 323-2661 17



HySCapE Files to Submit

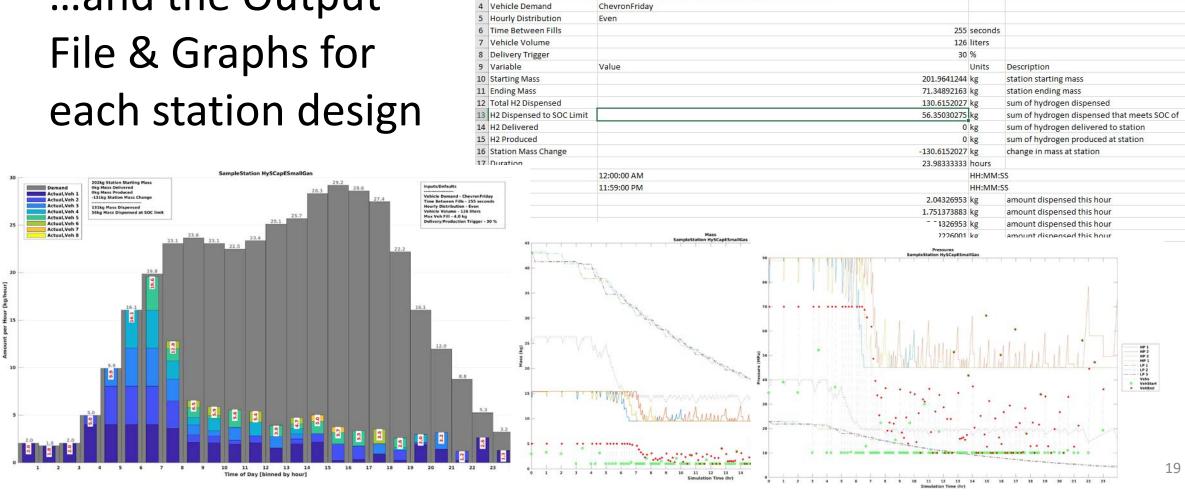
Include in your application the Input File for each station design (Excel)...





HySCapE Files to Submit, **Continued**

...and the Output



C2

Paste

1 C1

2 Input File

3 Output File

outfile example.xlsx - Excel

/tmp/hcm/21d64851-5f46-4885-a71d-97f2f5d06292/SampleStation HySCapESmallGas inputs.xlsx

/tmp/hcm/21d64851-5f46-4885-a71d-97f2f5d06292/outfile.xlsx

Q Tell me what you want to do

Conditional Format as Cell



HySCapE Explanation (pg. 48)

- In project narrative, explain and justify the assumptions used in calculating capacity, including the inputs used in HySCapE, to reflect the capabilities of the station equipment and design as accurately as possible.
 - Under "Hydrogen Refueling Station Design and Performance" evaluation criterion.



Minimum Technical Requirements

(pg. 25, 34-36)

In summary, stations must:

- 1. Conform to SAE International J2719 for hydrogen fuel quality.
- 2. Meet California Type Evaluation Program (CTEP) requirements and pass accuracy class tests.



Minimum Technical Requirements

(pg. 36-37)

- 3. Conform to SAE International J2601 fueling protocol at H70-T40 for compressed hydrogen storage system (CHSS) mass categories up to 10 kilograms. Verified by the Hydrogen Station Equipment Performance (HyStEP) device, or functionally equivalent test apparatus, using ANSI/CSA Group HGV 4.3.
- If proposing to serve vehicles with CHSS that exceed 10 kilograms, conform to J2601 if applicable, or other defined fueling protocol described to the CEC.



Minimum Technical Requirements, Continued (pg. 37)

- 4. Conform to ANSI CSA HGV 4.9.
- 5. Conform to SAE International J2799 (station communications), verified through CSA HGV 4.3.
- 6. Conform to SAE International J2600 (fueling connectors, nozzles, and receptacles) or ISO 17268.
- 7. Each fueling position be capable of providing a minimum of seven 4-kilogram H70-T40 fills in one hour at 95 percent state of charge.



Minimum Technical Requirements, Continued (pg. 37)

- 8. Have a point of sale system that can accept, read, and process the magnetic stripe on commercially available credit cards, debit cards, fueling cards, and gift cards. Each POS system shall also read EMV™ chips embedded in the cards and perform financial payment transactions.
 - Each POS system may also wirelessly transmit, receive, and process near-field communications (NFC) to process the signals from contactless cards or mobile devices, i.e., "smart phones," or accept payment through a mobile application.
- 9. Have a fuel supply and delivery agreement and a backup agreement.
- 10. Have an energized utility connection.
- 11. Lighting for safety, convenience, and accessibility.



Minimum Technical Requirements, Continued (pg. 37-38)

- 12. Have sign or logo acknowledging public funding, and trailblazer and freeway signage as permitted.
- 13. Report availability to the California Fuel Cell Partnership Station Operational Status System (SOSS).
- 14. Have all permits to build and operate.
- 15. Have a guard or cover over the emergency shutdown switch.



Minimum Technical Requirements, Continued (pg. 38)

- 16. Be accessible to the public.
- No obstructions or obstacles exist to preclude vehicle operators from entering the station premises.
- The user of the station is not required to obtain or to use access cards or personal identification (PIN) codes for the station to dispense fuel.
- No formal or registered station training is required for individuals to use the hydrogen refueling station.



Eligible Project Costs (pg. 32)

Equipment

- Defined in Terms & Conditions, Attachment 9
- Unit cost greater than \$5,000
- Useful life greater than one year

Costs Related to Equipment Purchase

- Equipment shipping, installation, commissioning
- Any standard service costs included by the equipment supplier in the purchase of the equipment



Match Funding Requirements

(pg. 32-34)

- Minimum of 50% match share of the total eligible project costs (equipment).
- Applicants that do not meet the minimum match share requirement will be disqualified.
- Match can be cash or in-kind.
- Funding from other non-state government agencies may be used as match share.



Solicitation Structure - Definitions

(pg. 7)

- Applicants will apply for a tranche of stations, which may be divided into batches.
- A tranche refers to an entire collection of hydrogen refueling stations proposed by an Applicant.
 - 1+ stations (no limit).
- A batch refers to a subset of stations within a tranche for which a Recipient will receive funding and work to complete.
 - 1+ batches (no limit).
- The initial batch of stations refers to the first set of stations that an Applicant proposes to deliver.



Approval Process (pg. 9)

- Applicants selected for award will have an "up to" tranche award amount that will be approved at Business Meeting.
- Only the initial batch of stations will be funded under the grant agreement at first, up to the single applicant cap of available funding at that time.
- Subsequent batches of stations may be approved, provided funding is available and other conditions are met, at the CEC's discretion. (More on this in a few slides.)



Station Addresses (pg. 9)

- Applicants <u>must</u> submit in their applications the street addresses for all stations in their initial batch of stations.
- Applicants <u>must</u> submit in their applications the street addresses for any backup stations submitted (more on backup stations soon).
- Applicants <u>may</u> submit the street addresses for stations in subsequent batch(es) at the time of application or when seeking approval for the subsequent batch(es).
- Use Attachment 1B, Station Information, to submit station addresses.



Station Addresses, Continued (pg. 9)

- Applicants must submit the following for the station when submitting the station address:
 - Proof of having met Critical Milestones 1 and 2
 - Completed California Environmental Quality Act (CEQA)Worksheet (Attachment 7)
 - Completed Localized Health Impacts (LHI) information (Attachment 8)



Subsequent Batch Approval (pg. 9-10)

- First-come, first-served basis.
- All previously-approved stations must have approval to build from the respective authority having jurisdiction.
- Funding must be available for hydrogen refueling stations under the Clean Transportation Program.
- Critical Milestones 1 & 2 must be completed.
- All station locations must be eligible in the Map of Area Classifications.
- Certify using same approach to station selection and station design and performance as in initial batch.



Critical Milestones 1 and 2 (pg. 13-14)

- Critical Milestone 1 Pre-Application Meetings
- Critical Milestone 2 Site Control and Possession
- Must be completed for stations for which addresses are being provided at the time of application
- Proof of meeting these milestones must be submitted as part of the application



Critical Milestone 1 (pg. 13-14)

Critical Milestone 1: Authority Having Jurisdiction, Fire Marshal, Hydrogen Safety Panel Meetings

- An in-person pre-application meeting for permits to build and operate each proposed hydrogen refueling station with the AHJ over the project and entitlement process. The meeting should include but not be limited to discussion of the purpose and design of the hydrogen refueling station(s), the entitlement and permit application process, zoning requirements, aesthetics, the AHJ's CEQA process, and project timeline.
- The meeting may be, for example, a scheduled presentation given by the Applicant or Recipient to an AHJ, or an unscheduled discussion with AHJ staff.



Critical Milestone 1, Continued (pg. 13-14, 52)

- An in-person, pre-application meeting, at the same time or separately from the meeting with the AHJ regarding permits, with a representative of the Office of the Fire Marshal, or other similar fire control office, in the AHJ. The meeting should include but not be limited to discussion about how to obtain compliance with local fire code requirements and National Fire Protection Association (NFPA) 2 requirements.
- A telephone or web-based meeting with a representative of the PNNL HSP to establish a common understanding of the Hydrogen Safety Plan and station design review process that will be required of Recipients.
- Submit proof of meeting the milestone by submitting notes from each meeting, including date, time, location, names and titles of meeting participants, a summary of the topics discussed, and any open issues and next steps. Limit notes to 5 pages per station address.



Critical Milestone 2 (pg. 14, 53)

Critical Milestone 2 – Site Control and Possession

- Must have control and possession of the site at which the hydrogen refueling station is to be constructed.
- Submit proof such as an executed lease for each station address.



Critical Milestones 3 and 4 (pg. 14)

- Critical Milestone 3 Utility Company Meeting(s)
- Critical Milestone 4 Hydrogen Fuel Supplier Meeting(s)
- Only applicable to grant award *Recipients*
- Not required for application
- Completed as part of Scope of Work
- All four Critical Milestones must be completed before any eligible project expenses are reimbursed



Expected Station Completion Schedule (pg. 10)

- The following schedule is a benchmark to evaluate Recipient's performance.
- From the date the CEC approves the station under the agreement, the station should:
 - Have approval to build from the authority having jurisdiction within 18 months.
 - -Be open retail within 30 months.



Example Schedule

12 months to Open 18 months to Approval to Build Retail 12 months to Open 18 months to Approval to Build Initial Batch of Retail 12 months to Open **Stations** 18 months to Approval to Build **Second Batch** Retail of Stations Third Batch of **Stations** Etc.

40



Station Proximity Requirements (pg. 11)

- No station may be within 1 linear mile of another station that is open retail, operational, under construction, funded, or recommended for funding.
- Station upgrades excluded.
- If two or more Applicants recommended for funding have stations that are within 1 linear mile of one another in their initial batch of stations, the higher-ranked Applicant will be recommended for award of the station.



Station Proximity Requirements, Continued (pg. 11)

- Applicants are <u>highly encouraged</u> to submit backup station(s) to replace any stations not funded due to proximity.
- Same requirements for backup stations:
 - Be in eligible area
 - Critical Milestones 1 & 2 complete
 - CEQA Worksheet and LHI
- If a backup station is needed, CEC will hold clarifying interview with Applicant to select the backup.



Station Proximity Requirements, Continued (pg. 11)

 If the Applicant did not submit any backup station addresses, or if the list of backup station addresses is exhausted due to proximity conflicts, the CEC may award the Applicant fewer stations than the Applicant proposed in its initial batch of stations. In such a case, the CEC may allow the Applicant to add stations to later batches to keep the tranche size the same.



Station Delays (pg. 10-11)

- For a delayed station (one that has fallen behind schedule), Recipients may propose for the CEC's consideration:
 - A replacement station that meets the eligibility criteria of this solicitation that can be completed within the schedule of the current batch, and move the delayed station to a later batch.
 - To forgo a delayed station and reduce the number of stations in the tranche.



Nonviable Stations (pg. 10-11)

- For a nonviable station (one that, in the CEC's determination, has no clear path to completion), Recipients may propose for the CEC's consideration:
 - A replacement station that meets the eligibility criteria of this solicitation that can be completed within the schedule of the current batch or in a subsequent batch.
 - To forgo a nonviable station and reduce the number of stations in the tranche.



Renewable Hydrogen Requirements (pg. 41)

- Stations funded under this solicitation must dispense renewable hydrogen to comply with the renewable hydrogen requirements of the CARB LCFS regulation for generating Hydrogen Refueling Infrastructure (HRI) credits.
- This is *currently*, based on company-wide, weighted average:
 - Carbon Intensity of 150 gCO₂e/MJ or less
 - Renewable content of 40 percent or greater



Operation and Maintenance Plan (pg. 41)

- Applicants must submit an Operation and Maintenance
 Plan for their tranche of stations in their application.
- No Operation and Maintenance funding is available under this solicitation.
- Discuss, in summary, plans for paying O&M costs, conducting scheduled and unscheduled maintenance, optimizing station uptime, providing customer service.



Letters of Support/Commitment (pg. 53)

- Applicants <u>must</u> submit the following in their application:
 - Letter of support from site owner/operator for all proposed hydrogen station addresses
 - Commitment letter(s) from match funding source(s)
 - Commitment letter(s) from key project partner(s)
 - Two to three referral letters
- Optional: third-party support letters



Safety (pg. 39-41)

- Grant Recipients will be required to:
 - Prepare a preliminary and final Hydrogen Safety Plan (one per station design) in accordance with the public guidelines, *Safety Planning for Hydrogen and Fuel Cell Projects*.
 - Participate in early hydrogen station design reviews with the Hydrogen Safety Panel for each awarded station.
 - Participate in annual safety evaluations with the Hydrogen Safety Panel for three years for each awarded station.
- For Application: commit to doing the above on the Application Form (Attachment 1A).



Considerations

- Coordination with the current station network
 - Table 2, pages 25 27
- Local and regional agencies offering support
 - − Pages 28 − 32
- Data collection and reporting requirements
 - Complete the National Renewable Energy Laboratory Data Collection Tool quarterly, starting when a station is open retail and ending one year after final station becomes open retail. Page 39.



Considerations, Continued

- For grant agreements resulting from this solicitation,
 the CEC will reimburse eligible expenses in stages
 - Stages 1-5 are described on page 12.
 - Invoices for eligible project expenses must be accompanied by photographic evidence at each stage of reimbursement except the first stage (page 39).
- Grant agreement must be signed within 90 days after approval of the award at an Energy Commission business meeting (page 12).



Application Form – Attachment 1A

The place to:

- Describe project tranche and batch(es) of stations
 - Number, capacity, funding
- Describe project to confirm project eligibility
- List equipment vendors and subcontractors
- Describe project team experience to confirm applicant eligibility
- Have an authorized representative agree to declarations, statements of commitment, and certifications



Station Information – Attachment 1B

- The place to provide:
 - For the initial batch of stations:
 - Full station addresses
 - Confirm station eligibility: Area Classification, number of fueling positions, 24-hour capacity, Critical Milestones 1 & 2
 - The same information for any backup stations
 - Optionally, the same information for any stations in subsequent batches to confirm and hold the locations
 - Must be ready with Critical Milestones 1 & 2!



Application Format (pg. 45-55)

• Format:

- Project Narrative limited to 60 pages.
 - Include table of contents, does not count towards page limit.
- Application items other than the Project Narrative do not count against page number limit.
- Application organization listing on page 45.



Application Organization (pg. 45)

Items
Application Form (Attachment 1A)
Station Information (Attachment 1B)
Project Narrative – max 60 pages
Scope of Work (Attachment 2)
Schedule of Products and Due Dates (Attachment 4)
Budget Forms (Attachment 5)
Resumes – max two pages each
Contact List (Attachment 6)
Critical Milestone 1 Meeting Notes – max five pages each
Critical Milestone 2 Proof of Site Control
Letters of Support/Commitment – max two pages each
HySCapE Input File and Results (Graphs and Output File)
CEQA Worksheet (Attachment 7)
Localized Health Impacts Information Form (Attachment 8)

Operation and Maintenance Plan



Application Evaluation Process

- Administrative Screening: Pass/Fail
- Technical Screening: Pass/Fail
- Technical Evaluation Criteria:
 - Tranche Budget
 - Hydrogen Refueling Station Design and Performance
 - Project Readiness
 - Social and Environmental Benefits
 - Approach to Station Selection
 - Qualifications of the Applicant/Project Team



Application Administrative Screening Criteria (pg.56)

APPLICATION ADMINISTRATIVE SCREENING CRITERIA The Application must pass ALL full application administrative screening criteria.

- 1. The Application is received by the CEC's Contracts, Grants, and Loans Office by the due date and time specified in the "Key Activities Schedule" in Section I of this solicitation.
- 2. The Applicant provides the required authorizations and certifications by signing the Application Form or electronically providing the authorizations and certifications through the Grant Solicitation System.
- 3. The Applicant has not included a statement that is contrary to the required authorizations and certifications.
- 4. The Application does not contain confidential information or any portion marked confidential.



Application Technical Screening Criteria (pg. 56)

TECHNICAL SCREENING CRITERIA The application must pass ALL technical screening criteria.

- 1. Proposed project is eligible in accordance with this solicitation.
- 2. Applicant is eligible to apply under this solicitation.
- 3. The application includes all the required forms and documents specified in the solicitation.



Application Evaluation Criteria (pg. 59-62)

Evaluation Criteria Points Tranche Budget 50 Hydrogen Refueling Station Design and 20 Performance 10 **Project Readiness** Social and Environmental Benefits 10 Approach to Station Selection 10 Qualifications of the Applicant/Project 10 Team **TOTAL POSSIBLE POINTS:** 110



Application Technical Evaluation (pg. 57)

- The score for each criterion will be the average of the scores of evaluation committee members.
- Minimum score of 70 percent (77 points) in total score is required for the application to be eligible for funding.
 - No minimum scores for any individual criterion.



Application Evaluation Criteria (pg. 46)

- Applicants should ensure applications:
 - Fully and clearly address each criterion in the project narrative, including all sub-bullets within each criterion.
 - Carefully organize information to facilitate review and evaluation.
 - Include all assumptions and calculations utilized (as applicable).



Submittal Process (pg. 43-44)

- Submit online or by hard copy. *Online preferred*.
- Online Grant Solicitation System
 - https://gss.energy.ca.gov/
- Hard Copy
 - One hard copy
 - One electronic copy (CD-ROM or USB memory stick)
- Documents should either be all submitted online or all hard copy. Do not submit part of your application online and part of it in hard copy.
- Upload early! Late applications will not be accepted!



Grant Solicitation System (GSS)

- GSS Help Page-PDF: https://www.energy.ca.gov/sites/default/files/2019-09/Grant_Solicitation_System_Help.pdf
- How to Apply (YouTube Video): https://www.youtube.com/watch?v=nxrdS3KHSAA&feature= youtu.be
- How to Apply (PowerPoint): https://www.energy.ca.gov/sites/default/files/2019-05/GSS How to Apply.pptx



Confidentiality (pg. 56, 65)

- All materials submitted will be treated as confidential until the NOPA is posted.
- All materials submitted will be treated as nonconfidential after the NOPA is posted.
- Do not submit any confidential information as part of your application.



Application Due Date

Application Submission Due Date April 30, 2020 by 5 p.m.

Anticipated Posting of Notice of Proposed Awards

June 2020



Solicitation Resources

Electronic copies, Addendums, Q&A, and NOPA results.

- GFO-19-602 Hydrogen Refueling Infrastructure
 webpage at
 https://www.energy.ca.gov/solicitations/2019-12/gfo19-602-hydrogen-refueling-infrastructure
- Listservs for update: opportunity, altfuels, transportation



Q & A

- Questions and comments are accepted in person or by WebEx at a pre-application workshop, or by email to the Commission Agreement Officer.
 - Accepting written questions until January 29, 2020 at 5:00 p.m.
- Please identify yourself in all correspondence.
- Anticipated distribution of Q&A:
 - Week of February 17, 2020.



Contact Information (pg. 17)

Please send questions and comments to:

GFO-19-602

Phil Dyer, Commission Agreement Officer

California Energy Commission

1516 Ninth Street, MS-18

Sacramento, CA 95814

Telephone: (916) 654-4651

E-mail: Phil.Dyer@energy.ca.gov



Questions?





The End



Thank you and good luck!