



AGENDA ITEM: 4.

DATE: 12/12/22

STAFF REPORT

CONDITIONAL USE PERMIT NO. 21-06

DATE: December 12, 2022

TO: Lancaster Planning Commission

FROM: Jocelyn Swain, Senior Planner
Community Development Division, Development Services Department

APPLICANT: SG H2 Holding Company LLC / Robert T. Do, MD

LOCATION: ±15 acres at the northwest corner of 6th Street East and Avenue M
(Assessor Parcel Numbers 3126-017-028, 3126-017-040, 3126-017-039)

REQUEST: A Conditional Use Permit to allow for the construction and operation of a renewable hydrogen fuel facility in the Heavy Industrial (HI) Zone

RECOMMENDATION: Adopt Resolution No. 22-35 approving Conditional Use Permit No. 21-06 for the construction and operation of a renewable hydrogen fuel facility in the Heavy Industrial (HI) zone located at the northwest corner of 6th Street East and Avenue M (APNs: 3126-017-028, 3126-017-040, 3126-017-039) and adopting a Mitigated Negative Declaration

BACKGROUND

There have been no previous hearings before either Planning Commission or City Council regarding the project site.

GENERAL INFORMATION

Table 1 summarizes the general information concerning this project.

Table 1: General Information

ITEM	DESCRIPTION
APN	3126-017-028, 3126-017-040, 3126-017-039
LOCATION	±15 acres at the northwest corner of 6 th Street East and Avenue M
ZONING AND LAND USE	The subject property is zoned Heavy Industrial (HI) and is currently vacant.
SURROUNDING LAND USES AND ZONING	North: Cement mixing plant, charter bus rental company and automobile towing/recovery facility; HI South: Avenue M, followed by Los Angeles County Waterworks water storage tanks and vacant land; Public Facility (City of Palmdale) East: Vacant land and a single-family residence; HI West: Vacant land, two single-family residences, and a transmission/automobile repair center; HI
CURRENT DEVELOPMENT	The project site is currently vacant.
ENVIRONMENTAL REVIEW	<p>An initial study (SCH #2022080669) was prepared for the proposed project and circulated for a 30-day public review period in accordance with the California Environmental Quality Act (CEQA). The public review period started on August 30, 2022 and originally ended on September 30, 2022. An extension to the review period was granted until October 16, 2022 and comments were accepted through the close of business on Monday, October 17, 2022.</p> <p>Effective January 1, 1991, applicants whose projects have the potential to result in the loss of fish, wildlife or habitat through urbanization and/or land use conversion are required to pay filing fees as set forth under Section 711.4 of the Fish and Game Code. Pursuant to Section 21089(b) of the Public Resources Code, the approval of a project is not valid, and no development right is vested, until such fees are paid.</p>

PROJECT DESCRIPTION:

The proposed project consists of the construction and operation of a facility that would produce hydrogen (H₂) from unrecyclable mixed waste paper feedstock. The feed stock would be gasified (i.e., converted from a solid into a gas) to produce a H₂-rich gas that would be further processed to reach 99.97 mole percent pure renewable H₂. The H₂ gas would be transported off-site in pressurized tube-trailer containers for use by Shell Hydrogen and Iwatani Corporation of America at H₂ refueling stations (HRS) located throughout California. The HRS would dispense the H₂ as a transportation fuel in motor vehicles, H₂ is a “clean fuel” that does not release greenhouse gases or other air pollutants, such as carbon dioxide (CO₂), particulate matter, nitrous oxide (N₂O), or carbon monoxide (CO) emissions, and does not contribute to climate change.

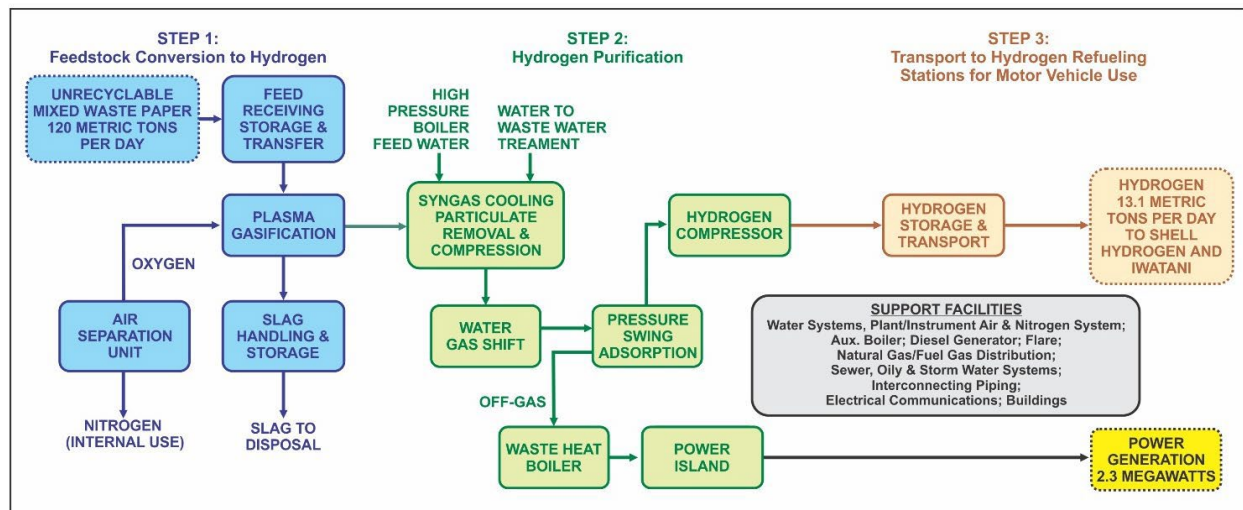
The proposed project would convert 42,000 tons per year of pre-landfilled, unrecyclable mixed waste paper into 4,570 metric tons of H₂ per year, with a full production capacity of 13.1 metric tons of H₂ per day. The facility would also capture approximately 70,000 metric tons of CO₂ as a byproduct of the H₂ production. The system would recover the CO₂ and produce a CO₂ liquid that would be transferred to a site in Bakersfield for permanent sequestration.

The facility would operate for a period of approximately 25 years and is designed to operate 24 hours a day, 7 days a week for 350 days each year or 8,400 hours per year. The facility is expected to employ approximately 43 individuals. During business hours, a total of 25 administrative, technical and support staff would be at the facility. The operations personnel would be organized into four shifts of 6 people with each shift working 12 hours per day. This does not include other support personnel that are anticipated to be contractually engaged through third parties, such as security personnel.

Gasification Process

The gasification process would be conducted through the use of Solena Plasma Enhanced Gasification (SPEG) technology which would allow the complete molecular dissociation of organic hydrocarbon compounds and conversion into a clean and high-energy biosyngas composed primarily of CO and H₂. A detailed description of this process can be found in the project description contained in the Initial Study. The below figure summarizes the gasification process.

Figure 1, Gasification Process



Facility Layout and Equipment

The main areas of the facility include feed and product storage and transport areas, water systems, and a flare system. Access to the proposed facility would be from Avenue L-12, 5th Street East and 6th Street East. A perimeter wall would be installed around the site. The height along Avenue M would be 8 feet with the remaining perimeter walls at 12 feet. The site and buildings would be gated and access controlled. Landscaping would be provided on the project site including within the parking areas and around the perimeter of the site. A total of 31,486 square feet of landscaping would be provided.

There would be a total of four buildings on the project site totaling 47,181 square feet. These buildings include the administrative building and warehouse; the water treatment building, the operator/remote instrument enclosure (RIE) building and biomass storage building. Small guard shacks would also be located at the entrances on 6th Street East, 5th Street East and Avenue L-12. The buildings would be blue and grey with bronze, black and white accents.

The remainder of the site would be developed with various types of equipment to support the proposed industrial processes including oxygen-blown fixed bed gasification island, pumps, boilers, compressors, power generation equipment, ground level flare, wastewater treatment system, flare stack, emergency generator, cooling tower, deaerator vent, oil-water separator, pressure swing adsorption (PSA) unit and air separator unit (ASU).

The maximum height allowed in the industrial zone is 70 feet without a conditional use permit. The buildings on the site are all less than 40 feet in height. The equipment on the site is all less than the maximum allowable height of 70' and is likely to be substantially lower. The one exception is the (ASU) which would be a maximum of 90 feet.

Truck Trips

A maximum of 72 trucks trips would occur on a daily basis. These trips would be required to deliver feedstock materials to the site and to remove the H₂ and waste products from the industrial process. Table 2 summarizes the types of truck trips associated with the project. As the hydrogen trucks are not permitted to make unprotected left turns, trucks heading to the site would exit the freeway at Avenue L; head east to Challenger Way; head south on Challenger Way; and head west on Avenue M. All trucks would make a right-turn onto 5th Street East. Feedstock deliveries would enter the site from 5th Street East while the hydrogen trucks would enter the site from Avenue L-12. All trucks would exit the site from 6th Street East and return to the freeway using Avenue M.

Table 2, Operational Truck Trips

Feed Delivery	
Biomass (wastepaper)	6 trucks per day
Biochar	1 truck every other day
Lime	1 truck every 5 days
Catalyst/Chemical	As-need
Product and Waste Export	
H2 (product)	40 trucks per day
Liquid CO2 (product)	20 trucks per day
Slag (waste)	1 truck per day
Brine (waste)	3 trucks per day

Project Construction

Project construction would take approximately 16 months to complete. A maximum of 281 construction personnel would be onsite during construction with the number average number of people ranging from 81 to 277 individuals.

CEQA COMPLIANCE

An Initial Study/Mitigated Negative Declaration was prepared for the project site by Aspen Environmental Consultants. Technical reports were also prepared by the consultant based on design and equipment information provided by the applicant and field surveys. The Initial Study (SCH #2022080669) was circulated for public review in accordance with the California Environmental Quality Act (CEQA) Guidelines. The Initial Study was posted at the State Clearinghouse and on the City's website. The Notice of Availability was published in the Antelope Valley Press on August 31, 2022, posted with the Los Angeles County Clerk and mailed to all property owners within 500 feet of the project site and along other interested organizations.

The 30-day public review period started on August 31, 2022 and was scheduled to close on September 30, 2022. During this time requests for extensions to the review period were received from CalRecycle and Adams Broadwell. These requests were granted and the public comment

period was extended to October 16, 2022. As October 16, 2022 was a Sunday, comments were accepted through the close of business on October 17, 2022.

During the public review period comments letters were received from the following entities:

- Landale Mutual Water Company represented by Fennemore Law/Tracy M. Inscore, Of Counsel
- Antelope Valley Air Quality Management District
- Southwest Region Council of Carpenters represented by Mitchell M. Tsai Attorney at Law
- California Department of Fish and Wildlife
- CalRecycle
- Stephen L. and Connie L. Brown

In addition to the comment letters received, a hard drive was received from Stephen and Connie Brown containing over 427,000 photographs of vehicles traveling on Avenue L and 6th Street East from May of 2021 through September of 2022. All of the comments submitted have been reviewed and responded to in the Final Initial Study/Mitigated Declaration. The Final Initial Study/Mitigated Negative Declaration contains any necessary revisions to the analysis as a result of the comments and makes other minor corrections. It also contains copies of all technical reports prepared for the project.

ANALYSIS:

General Plan Consistency

The CUP was analyzed for consistency with the City of Lancaster General Plan 2030. The proposed facility would be consistent with the General Plan land use designation of Heavy Industrial (HI) and the types of uses envisioned therein. The HI land use designation “a range of industrial uses in a less restrictive setting. Maximum floor area ratios of 0.5” (General Plan Objective 17.1). The proposed use is consistent with the following Goals and Actions of the General Plan:

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| Policy 3.1.1: | Ensure that development does not adversely affect the groundwater basin. |
| Policy 3.1.3: | Encourage the use of recycled tertiary treated wastewater when possible. |
| Policy 3.2.1: | Promote the use of water conservation measures in the landscape plans of new developments. |
| Policy 3.2.2: | Consider the potential impact of new development projects on the existing water supply. |
| Policy 3.2.5: | Promote the use of water conservation measures in the design of new developments. |

- Objective 3.3:** Preserve acceptable air quality by striving to attain and maintain national, state, and local air quality standards.
- Policy 3.3.1:** Minimize the amount of vehicular miles traveled.
- Policy 3.3.3:** Minimize air pollutant emissions generated by new and existing development.
- Policy 3.3.4:** Protect sensitive uses such as homes, schools, and medical facilities from the impacts of air pollution.
- Policy 3.3.5:** Cooperate with the AVAQMD and other agencies to protect air quality in the Antelope Valley.
- Policy 3.4.4:** Ensure that development proposals, including City sponsored projects, are analyzed for short- and long-term impacts to biological resources and that appropriate mitigation measures are implemented.
- Policy 3.5.1:** Minimize erosion problems resulting from development activities.
- Policy 3.6.1:** Reduce energy consumption by establishing land use patterns which would decrease automobile travel and increase the use of energy efficient modes of transportation.
- Policy 3.6.4:** Support state and federal legislation that would eliminate wasteful energy consumption in an appropriate manner.
- Policy 3.6.6:** Consider and promote the use of alternative energy such as wind energy and solar energy. (Note: Policy 15.2.1 considers the use of waste to energy cogeneration systems as an energy source.)
- Policy 4.3.2:** Whenever feasible, manage the generation of single even noise levels (SENL) from motor vehicles, trains, aircraft, commercial, industrial, construction and other activities such that SENL levels are no greater than 15 dBA above the noise objectives included in the Plan for Public Health and Safety.
- Policy 4.3.3:** Ensure that the provision of noise attenuation does not create significant negative visual impacts.
- Policy 4.5.1:** Ensure that activities within the City of Lancaster transport, use, store and dispose of hazardous materials in a responsible manner which protects the public health and safety.
- Policy 4.7.2:** Ensure that the design of new development minimizes the potential

for fire.

- Policy 15.1.2:** Cooperate with local water agencies to provide an adequate water supply system to meet the standards for domestic and emergency needs.
- Policy 15.1.5:** Ensure sufficient infrastructure is built and maintained to handle and treat wastewater discharge.
- Objective 15.2:** Minimize the negative impacts of solid waste disposal using a variety of methods including mitigating the disposal of waste from outside the Antelope Valley.
- Policy 15.2.1:** Consider the use of conversion technologies at appropriate facilities.
- Policy 15.2.2:** Minimize the generation of solid wastes as required by State law (AB 939) through an integrated program of public education, source reduction, and recycling.
- Goal 16:** To promote economic self-sufficiency and a fiscally solvent and financially stable community.
- Policy 16.1.1:** Promote a jobs/housing balance that places an emphasis on the attraction of high-paying jobs which will enable the local workforce to achieve the standard of living necessary to both live and work within the community.
- Policy 16.6.1:** Require new development to construct and/or pay for new on-site capital improvements necessitated by their project, consistent with performance criteria identified in Objective 15.1.
- Goal 17:** To establish a variety of land uses, which serve to develop Lancaster into a balanced and complete community in which people live, work, shop and play.
- Specific Action 17.1.1(a):** Through the development review process, ensure that all proposed development is consistent with the General Plan text, land use map, and the intensity standards outlined in Table VIII-1.

The proposed use could not conflict with any of applicable policies within the General. The proposed development would help to further the City's alternative energy goals and would provide technical jobs in an industry that is not currently present in the Antelope Valley. The facility is appropriately located in the Heavy Industrial zone which encourages these types of uses.

Compliance with the Lancaster Municipal Code (LMC)

The proposed hydrogen facility is consistent with the HI zone. Energy generating facilities are permitted in the HI zone with the approval of a CUP. The proposed hydrogen facility would meet the development standards for the HI zone as contained within Sections 17.16.130, 17.16.210 and 17.16.220 of the Lancaster Municipal Code.

CONDITIONAL USE PERMIT FINDINGS

In order to grant a CUP, Section 17.32.090 of the Lancaster Municipal Code states that the Planning Commission must make all of the following findings:

a. That the proposed use will not be in substantial conflict with the adopted general plan for the area.

The CUP for the proposed hydrogen facility would be in conformance with the General Plan Land Use Designation of Heavy Industrial (HI). In addition, the proposed project would be consistent with the goals, objectives, policies, and specific actions identified within the General Plan.

b. That the requested use at the location proposed will not:

1. Adversely affect the health, peace, comfort or welfare of persons residing or working in the surrounding area.

The proposed project is for a renewable hydrogen fuel facility at the northwest corner of Avenue M and 6th Street East. The project site and the surrounding area is all zoned for Heavy Industrial zones. There are three single family residential uses in the immediate vicinity of the project site. These uses are considered legal, non-conforming. The other uses in the vicinity of the project site are industrial in nature. However, the proposed project includes design features such high perimeter walls (12') and paving of 5th Street East and 6th Street East adjacent to the site to minimize impacts on the surrounding uses. Additionally, mitigation measures are required to aesthetics, air quality, noise and traffic to ensure that impacts to the surrounding land uses are less than significant. As designed, the proposed project would not adversely affect the health, peace, comfort, or welfare of persons residing or working in the surrounding area.

2. Be materially detrimental to the use, enjoyment or valuation of property of other persons located in the vicinity of the site.

The proposed renewable hydrogen fuel facility would be developed at the northwest corner of 6th Street East and Avenue M in the Heavy Industrial zone. This zone allows of a variety of industrial uses in a less restrictive setting. The proposed development would be consistent with the zone and the surrounding properties and would not be materially detrimental to the use, enjoyment or valuation of other property.

3. Jeopardize, endanger or otherwise constitute a menace to the public health, safety or general welfare.

The proposed renewable hydrogen fuel facility would not jeopardize, endanger or otherwise constitute a menace to the public health, safety or general welfare of the public or surrounding community. In addition to compliance with all regulations pertaining to hazardous materials, mitigation measures have been identified to reduce impacts to air quality, geology and soils, noise, and traffic to less than significant levels.

c. That the proposed site is adequate in size and shape to accommodate the yards, walls, fences, parking and loading facilities, landscaping and other development features prescribed in this title, or as is otherwise required in order to integrate said use with the uses in the surrounding area.

The proposed facility is of adequate size and shape to meet all of the required development standards of the Heavy Industrial zone and would integrate with the surrounding industrial uses.

d. The proposed site is adequately served:

1. By highways or streets of sufficient width and improved as necessary to carry the kind and quantity of traffic such use would generate.

The project site would be accessed via driveways located on 5th Street East, 6th Street East, and Avenue L-12. No driveways into the facility would be located on Avenue M. All roadways adjacent to the project site would be improved to handle the amount and type of traffic that will be accessing the project site. The hydrogen trucks are not permitted to make unprotected left-hand turns. As such, the hydrogen trucks and other project-related trucks (e.g., biomass, CO₂, etc.) would exit the freeway on Avenue L; head east to Challenger Way; head south to Avenue M; and head west to 5th Street East. The biomass and other process deliveries would enter the project site from 5th Street East and all hydrogen trucks would enter the facility from Avenue L-12. All trucks would exit the site onto 6th Street East, head south to Avenue M, and turn right onto Avenue M to head back to the freeway.

2. By other public or private service facilities as are required.

The proposed site location has adequate sewer, water, fire, and police services to serve the site or those services can be obtained. An onsite septic system would be utilized to handle the wastewater generated by domestic uses, while the process water would be captured on-site, treated and reused to the extent feasible. A connection to the sewer system would also be provided. Water infrastructure from the Landale Mutual Water Company would be utilized to provide water to the site. However, the water would be purchased by the applicant from water rights owned by the City or some other entity for conveyance to the site.

LEGAL NOTICE

A notice of Public Hearing was mailed to all property owners within a 500-foot radius of the project, posted in three places, posted on the subject property, and noticed in Antelope Valley Press on December 2, 2022.

RECOMMENDATION

Adopt Resolution No. 22-35 approving Conditional Use Permit No. 21-06 to allow for the construction and operation of a renewable hydrogen fuel facility at the northwest corner of 6th Street East and Avenue M in the Heavy Industrial (HI) zone (APNs 3126-017-028, 3126-017-040, 3126-017-039) and adopt the Mitigated Negative Declaration.

Attachments:

- A. Resolution No. 22-35
- B. Site Plans/Elevations
- C. Draft Initial Study
- D. Final Initial Study