



Hydrogen Fuel Stations in California: A Practical Guide to Permitting and CEQA Review

Karen J. Nardi
Jennifer Hu
Jonathan L. Koenig

Hydrogen Fuel Stations in California: A Practical Guide to Permitting and CEQA Review

Table of Contents

1.0	Introduction and Overview	1
2.0	Key Permits and Regulations	2
2.1	Land Use Permits	2
2.2	Air Quality Permits	3
2.3	The California Accidental Release Prevention Program (CalARP)	4
2.4	California Business Plan	4
3.0	CEQA Requirements for Hydrogen Stations	5
3.1	Overview of CEQA	5
3.2	Applicability of CEQA to Hydrogen Stations.....	7
3.3	Case Studies Involving Actual Hydrogen Dispensing Stations.....	8
3.4	Time to Obtain Land Use Permit with CEQA Review	14
4.0	Conclusion	16

Hydrogen Fuel Stations in California: A Practical Guide to Permitting and CEQA Review

April 2015

[Karen J. Nardi](#), [Jennifer Hu](#) and [Jonathan L. Koenig](#)

1.0 Introduction and Overview

After many years of R&D, automakers have refined hydrogen fuel technology to the point where they can produce commercially viable zero-emission cars powered by hydrogen fuel. The State of California and the federal government have launched a variety of initiatives to support the creation of a 'hydrogen highway'. Stakeholders from industry, academia, non-governmental organizations, and federal, state and local governments support the expansion of the hydrogen fuel supply infrastructure needed to sustain the nascent market for hydrogen fuel vehicles.¹ California's Governor, the California Energy Commission (CEC), the California Air Resources Board (CARB), and the federal Department of Energy (US DOE) all have initiatives to promote the development of hydrogen fuel stations.²

For hydrogen fuel vehicles to succeed in practical terms, a network of hydrogen fuel stations will have to be established. This article looks at the environmental permits and land use regulations that apply to the siting of hydrogen fuel stations in California. These include (1) Land Use Permits; (2) Air Permits; (3) the California Accidental Release Prevention Program; and (4) the California Business Plan requirements. In addition, this article discusses local agency review under the California Environmental Quality Act (CEQA).

As of March 2015, the California Fuel Cell Partnership identifies eight public hydrogen fuel stations operating in California, with another forty-nine listed as 'in development' primarily in the Los Angeles area and the San Francisco Bay Area.³ A critical link in statewide travel is the planned hydrogen fuel station in

¹ See U.S. Department of Energy (US DOE), Final Environmental Assessment, Burbank Hydrogen Fueling Station Project (August 2008) ["Final Environmental Assessment for Burbank"], at 1-4, *available at* http://energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/EA-1620-FEA-2008.pdf.

² *Id.*; see, e.g., Press Release, California Energy Commission (CEC), California Energy Commission Advances Construction of Hydrogen Refueling and Electric Vehicle Charging Stations (July 22, 2014), http://www.energy.ca.gov/releases/2014_releases/2014-07-22_hydrogen_Refueling_EV_Charging_Stations_nr.html ;

California Air Resources Board (CARB), California's Hydrogen Transportation Initiatives, <http://www.arb.ca.gov/msprog/zevprog/hydrogen/hydrogen.htm> (last visited Feb. 18, 2015).

³ California Fuel Cell Partnership, Station Map, <http://cafcp.org/stationmap> (last visited March 16, 2015).

Coalinga, California which will allow vehicles to travel from Los Angeles to San Francisco with a refueling station along the way. It is scheduled to open in October 2015.⁴ Other stations in development, including those in Sacramento, Truckee, Santa Barbara, and San Diego, will help the network branch out beyond the major metropolitan areas surrounding Los Angeles and San Francisco.⁵ The majority of hydrogen fuel dispensers in California will be added to existing gas stations. Others may be built as stand-alone facilities. Most stations in current development are planning to simply receive delivery of hydrogen fuel to be stored in above ground tanks. Others will have facilities that produce hydrogen through an electrolysis process using renewable energy or through steam methane reforming.

2.0 Key Permits and Regulations

Different agencies are involved in issuing permits for and regulating hydrogen fuel dispensing stations.⁶ The four key environmental permits and regulatory requirements are: (1) Land Use Permits; (2) Air Permits; (3) the California Accidental Release Prevention Program; and (4) the California Business Plan requirements. Of these four areas, land use permitting, and specifically CEQA issues, pose the most complex and potentially problematic regulatory hurdle for the siting of a hydrogen fuel station. Therefore, Section 3.0 of this article takes a more detailed look at applicable CEQA requirements and exemptions.

2.1 Land Use Permits

Land use permits will be issued by the city or county where a new hydrogen fuel station is located. Such permits typically require compliance with detailed fire code and technical safety standards, as well as requirements for site drainage, water discharge, grading, electrical and similar issues. Because of certain hazards associated with handling liquid and gaseous hydrogen, land use permits will likely reference technical requirements concerning piping, tankage, fire safety, ignition control, emergency shut-off, electricity, corrosion protection, and related matters drawn from the California Fire Code, the California Building Code, and various professional standards.⁷ A key component of obtaining a land use permit for a hydrogen fuel station is compliance with CEQA, as discussed in Section 3.0 below. It is estimated that it takes approximately one year to obtain a land use permit for a hydrogen fuel station in California,

⁴ *Id.*

⁵ *Id.*

⁶ C. Rivkin, C. Blake, R. Burgess, W. Buttner, and M. Post, National Renewable Energy Laboratory (NREL), *Regulations, Codes, and Standards (RCS) Template for California Hydrogen Dispensing Stations* (November 2012) (defining the regulations, codes, and standards for hydrogen dispensing stations, and the administrative process involved in obtaining the required approvals to build and operate a station).

⁷ *Id.* at 4-21.

including CEQA review. The process may be much shorter where CEQA exemptions are used, or it may be longer if there is public opposition or a lead agency that is unfamiliar with the technology.

2.2 Air Quality Permits

Every stationary source (equipment) that emits air contaminants must have an air permit from one of California's thirty-five independent air districts, unless an exception applies. Hydrogen is not a regulated pollutant, so the storage of hydrogen fuel in tanks will not, itself, likely require an air permit. Thus, stations that merely accept hydrogen fuel deliveries generally will likely not need air permits for hydrogen fuel storage tanks, as they will have no regulated emissions.⁸ However, if a hydrogen fuel dispensing station uses on-site production equipment (such as steam methane reformers) that emits contaminants, an air permit may be required, unless an exemption applies. These permits typically impose conditions that control and limit emissions. Each air district has its own requirements, but those of the South Coast Air Quality Management District (SCAQMD) in the Los Angeles area are typically the most stringent statewide.⁹ Steam methane reformers that are part of some hydrogen fuel stations use gas-fired burners, and the SCAQMD requires permits for gas-fired burners operating at or above 2 million BTU per hour.¹⁰ However, today's hydrogen fuel stations do not operate on that scale. Based on our review, it appears that some existing hydrogen fuel stations in the SCAQMD were given exemptions for their on-site production equipment, and did not require air permits.¹¹

⁸ Personal communication with Leslie Goodbody, California Air Resources Board (CARB), Sustainable Transportation Technology Branch (Oct. 17, 2013), (916) 323-2961 and lgoodbod@arb.ca.gov; *see also* personal communication with Randy Matsuyama, South Coast Air Quality Management District (SCAQMD), Air Quality Engineer (Oct. 18, 2013), (909) 396-2551.

⁹ *See id.*

¹⁰ South Coast Air Quality Management District (SCAQMD) Rule 219(b)(2); *see also* personal communication with Leslie Goodbody, California Air Resources Board (CARB), Sustainable Transportation Technology Branch (Oct. 17, 2013), (916) 323-2961 and lgoodbod@arb.ca.gov.

¹¹ *See, e.g.*, South Coast Air Quality Management District (SCAQMD), Facility INformation Detail (FIND), http://www3.aqmd.gov/webappl/fim/prog/appdetail.aspx?appl_nbr=515614 (last visited Feb. 18, 2015) (Newport Beach station); SCAQMD, Facility INformation Detail (FIND), http://www3.aqmd.gov/webappl/fim/prog/appdetail.aspx?appl_nbr=484970 (last visited Feb. 18, 2015) (Burbank station). Additional projects in the jurisdiction of SCAQMD are under development, and air permitting will be handled on a case-by-case basis. Generally, if the combustion equipment associated with the hydrogen fueling station is rated less than 2,000,00 BTU/hr, then it would not require a permit. Personal communication with Merrill Hickman, Senior Air Quality Engineer, SCAQMD Operations Team (Feb. 20, 2015), (909) 396-2676 and mhickman@aqmd.gov.

2.3 The California Accidental Release Prevention Program (CalARP)

CalARP is a program intended to protect the public against accidental releases of explosive, flammable, toxic and other harmful chemicals. It is also targeted at providing information to firefighters, police and other first responders in the event of an incident. Businesses that handle more than a threshold amount of listed substances, including hydrogen, are required to prepare a Risk Management Plan (RMP). The RMP includes safety information, a hazard review, safe operating procedures, training and maintenance requirements, compliance audits, and incident investigation procedures. CalARP also implements the federal Risk Management Plan regulations adopted by the U.S. Environmental Protection Agency (US EPA) under the Clean Air Act, together with more stringent California requirements. CalARP is administered by local certified unified program agencies (CUPAs).

Hydrogen, like gasoline, is a highly flammable substance and is a covered substance under the CalARP program. However, existing hydrogen fuel stations have *not* been subject to CalARP because: (1) today's stations typically handle less than the threshold quantity of hydrogen (i.e., less than 10,000 pounds), and (2) flammable substances used as fuel or held for sale as a fuel at a retail facility are exempt.¹² While it is possible in the future that hydrogen stations may hold more than the threshold amount, the exclusion for retail fuel would likely still apply.¹³ While most hydrogen stations will likely not have to comply with CalARP, they will have to comply with fire code and safety standards in their land use permits.

2.4 California Business Plan

California requires companies that handle more than threshold quantities of listed hazardous materials to prepare a business plan that includes a chemical inventory and site map, safety and emergency response procedures, and training programs.¹⁴ California Business Plan requirements are administered by the CUPAs. The purpose of this program is to help companies safely store hazardous substances, to plan for emergency response, to protect first responders, and to satisfy community right-to-know laws. Hydrogen is a listed substance and stations that handle more than 55 gallons of liquid hydrogen or 200 standard

¹² 19 Cal. Code Regs. §§ 2735.4; 2770.4.1; *see also* Leslie Goodbody, California Air Resources Board (CARB), Hydrogen Stations and CUPA Program Elements, California CUPA Conference (Feb. 7, 2013) (on file with authors). The federal RMP regulations also contain an exclusion for flammable substances used as fuel or held for sale as fuel at retail facilities. 40 C.F.R. § 68.126.

¹³ Personal communication with Leslie Goodbody, California Air Resources Board (CARB), Sustainable Transportation Technology Branch (Oct. 17, 2013), (916) 323-2961 and lgoodbod@arb.ca.gov.

¹⁴ 19 Cal. Code Regs. §§ 2729-2732.

cubic feet of gaseous hydrogen¹⁵ must prepare business plans and inventories.¹⁶ A California Air Resources Board (CARB) researcher reports that today's hydrogen stations store between 130 and 5,300 pounds of hydrogen.¹⁷ Thus, hydrogen fuel stations will likely be covered by the California Business Plan program and will be inspected by CUPAs for compliance.

3.0 CEQA Requirements for Hydrogen Stations

Compliance with CEQA is a key hurdle for siting a hydrogen fuel station. Below is a discussion of the basic requirements of CEQA, and examples of how different local governments have handled CEQA compliance for hydrogen fuel station projects.

Where hydrogen fuel dispensing is added to an existing conventional gas station, the project may fall under CEQA categorical exemptions for: (i) expansion of existing facilities, (ii) new construction or conversion of small structures, or (iii) minor alterations to land. Hydrogen fuel stations that are stand-alone, including those that may include on-site manufacturing of hydrogen, may qualify for a categorical exemption or a negative declaration under CEQA.

3.1 Overview of CEQA

CEQA was enacted in 1970 to protect the environment from the adverse impacts of certain activities and development projects.¹⁸ CEQA applies to California public agency discretionary decisions to approve, authorize or themselves carry out or fund "projects" that could have adverse impacts on the environment.

CEQA requires California government agencies to consider the environmental consequences of issuing permits and land use approvals for projects. CEQA also applies when agencies themselves carry out certain actions (such as providing funding) on a project.¹⁹ Project sponsors (i.e., the private applicants applying for agency approval or permitting agencies) typically develop a compliance strategy that will streamline compliance with CEQA. As part of this strategy, the project sponsor evaluates whether CEQA

¹⁵ 55 gallons of liquid hydrogen (measured at 1 atmosphere and boiling temperature) is approximately 32.483 pounds, and 200 standard cubic feet of gaseous hydrogen (measured at 1 atmosphere and 70°F) is approximately 1.042 pounds.

¹⁶ 19 Cal. Code Regs. § 2729.1; Leslie Goodbody, California Air Resources Board (CARB), Hydrogen Stations and CUPA Program Elements, California CUPA Conference (Feb. 7, 2013) (on file with authors).

¹⁷ Leslie Goodbody, California Air Resources Board (CARB), Hydrogen Stations and CUPA Program Elements, California CUPA Conference (Feb. 7, 2013) (on file with authors).

¹⁸ Cal. Pub. Res. Code §§ 21000-21002.

¹⁹ *See id.*

applies in the first instance, and whether statutory or categorical exemptions apply. If CEQA applies and the project is not exempt, a lead agency is identified, together with other responsible agencies (agencies with other permit authority) and trustee agencies (agencies with jurisdiction over natural resources that may be affected).²⁰

Guidelines to implement CEQA have been adopted by the California Secretary of Resources and incorporated into the California Code of Regulations (the “CEQA Guidelines”).²¹ The CEQA Guidelines present a roadmap for compliance with CEQA. CEQA lays out a three-stage process:

1. **Applicability, Statutory Exemptions and Categorical Exemptions.** The lead agency must determine whether a particular activity is a “project” subject to CEQA. Some projects are *statutorily exempt* from CEQA review.²² Other projects are exempt from detailed CEQA review by regulation. These exemptions are referred to as *categorical exemptions*.²³ Unlike categorical exemptions, a project that qualifies for a statutory exemption is not subject to CEQA even if it has significant environmental impacts. If a project does not fit within a *statutory* or a *categorical exemption*, it may still be exempt from CEQA under the general rule that “CEQA applies only to projects which have the potential for causing a significant effect on the environment.”²⁴ This rule is known as the “*common sense exemption*.” Most agencies prepare a written notice of exemption if they process a project under a statutory or categorical exemption, although they are not required to do so.
2. **Significant Environmental Impacts, Negative Declaration and Mitigated Negative Declaration.** The lead agency must determine whether the project is likely to have significant environmental effects. The agency may conduct an initial study to make this determination.

²⁰ Stephen L. Kostka & Michael H. Zischke, Practice Under the California Environmental Quality Act § 1.4 (Cal. Con’t. Ed. of the Bar 1993, supplemented annually).

²¹ 14 Cal. Code Regs. § 15000 *et seq.* [“CEQA Guidelines”].

²² CEQA Guidelines § 15061(b)(1); *see also* Kostka & Zischke, Practice Under the California Environmental Quality Act § 5.5 (Cal. Con’t. Ed. of the Bar 1993, supplemented annually). Most of CEQA’s statutory exemptions are listed in Article 18 of the CEQA Guidelines, sections 15260-15285.

²³ Cal. Pub. Res. Code § 21084(a); CEQA Guidelines § 15300. The categorical exemptions are set out in Article 19 of the CEQA Guidelines, sections 15300-15333. Categorical exemptions are not absolute and the CEQA Guidelines also list several specific exceptions to the categorical exemptions. CEQA Guidelines § 15300.2.

²⁴ CEQA Guidelines § 15061(b)(3).

Based on the initial study, the agency could find no substantial evidence that the project may have a significant effect on the environment. In that case, the agency will adopt a “*negative declaration*.” A negative declaration is a statement that the project will not have significant adverse environmental impacts.

The agency may also adopt a “*mitigated negative declaration*” if the project incorporates measures that fully mitigate the adverse environmental effects. A mitigated negative declaration is a finding that a project could have adverse environmental impacts, but they can be fully mitigated to insignificance or completely avoided by changing the project or by implementing certain protective measures.

3. **The EIR.** If the project may have a significant effect on the environment and the agency cannot adopt a negative declaration or mitigated negative declaration, it must go on to the third stage of the CEQA process: preparation and certification of an *environmental impact report* (EIR).²⁵

Statute of Limitations. If an agency prepares a notice of exemption after project approval, it triggers a 35-day statute of limitations to challenge the exemption decision.²⁶ If the notice of exemption is not filed, the normal CEQA statute of limitations applies, which is 180 days after the agency’s approval of a project.²⁷

3.2 Applicability of CEQA to Hydrogen Stations

CEQA applies to projects undertaken by state or local agencies or by a private entity that require discretionary governmental approvals.²⁸ Land use approvals and air permits for hydrogen stations are the kind of government authorizations that typically trigger CEQA review.²⁹ CEQA requires a hard look at

²⁵ *Gentry v. City of Murrieta*, 36 Cal. App. 4th 1359, 1371-72 (1995) (describing the three-stage process under CEQA).

²⁶ CEQA Guidelines § 15062(d).

²⁷ *Id.*

²⁸ Ministerial projects, on the other hand, are not subject to CEQA. Cal. Pub. Res. Code § 21080(b)(1); CEQA Guidelines § 15060(c)(1). The CEQA Guidelines define “ministerial” to mean decisions “involving little or no personal judgment by the public official as to the wisdom or manner of carrying out the project.” CEQA Guidelines § 15369. The agency or public official merely applies the particular law or regulation to the facts as presented. *Id.* The permitting/regulatory requirements identified above in Section 2.0 are likely discretionary approvals triggering CEQA review.

²⁹ *See* Cal. Pub. Res. Code § 21065; *see also* Kostka & Zischke, Practice Under the California Environmental Quality Act § 4.5 (Cal. Con’t. Ed. of the Bar 1993, supplemented annually).

diverse environmental impacts including air quality, biological resources, cultural resources, geology, hazards and hazardous materials, hydrology and water quality, land use, noise, traffic, population and housing, public services, recreation, and socioeconomic factors.

As with conventional gasoline, liquid and gaseous hydrogen may present safety risks in terms of flammability and explosivity, if not properly handled. CEQA also looks at air emissions both during construction and long term operation of a facility. Simple storage of hydrogen fuel does not produce regulated emissions. However, stations that have equipment used to produce hydrogen fuel (e.g., a hydrogen steam methane reformer) may have some emissions of criteria pollutants.³⁰

In an effort to promote the construction of hydrogen stations, the California Energy Commission issued an open letter to California cities and counties in December 2012 urging them to find appropriate CEQA exemptions to streamline environmental review. The Energy Commission notes that “[h]ydrogen fueling station projects are often exempt under CEQA due to their size, their minimal environmental impacts, and their location at existing retail fueling facilities.”³¹

3.3 Case Studies Involving Actual Hydrogen Dispensing Stations

To understand what type of CEQA review will apply to hydrogen fuel stations, we looked at case studies, i.e., examples of actual stations that have been built and are operating in California or that are in the planning stages. This article discusses the following case studies:

- Two AC Transit hydrogen fuel stations now operating in Northern California,
- A US DOE demonstration project now operating in Burbank, California,
- Two private projects in Mountain View and Foster City California that are under development, and
- Three private projects in Rohnert Park, Orange, and Pacific Palisades, that are in the planning and development stage.

Case Study 1: AC Transit CEQA Exemptions for Existing Facilities

AC Transit is a modern public bus system operating in the San Francisco Bay Area. Founded in 1960, it is an Oakland-based public transit agency generally serving portions of Alameda and Contra Costa counties.

³⁰ See Final Environmental Assessment for Burbank, at 2-14.

³¹ Letter from California Energy Commission to Cities and Counties About CEQA (Dec. 3, 2012), *available at* http://www.energy.ca.gov/altfuels/notices/2013-06-28_Hydrogen_Fuel_Infrastructure_Survey.pdf.

In 2008, the General Counsel of the AC Transit Board of Directors recommended adoption of CEQA Notices of Exemption as the appropriate environmental documents for hydrogen fuel stations located at the Emeryville bus yard and Oakland Seminary bus yard.³² As discussed below, these CEQA decisions appear to have been successful, and they provide examples of one strategy for managing CEQA compliance for a hydrogen fuel station.

Example: Emeryville Bus Yard

On July 23, 2008 the AC Transit Board of Directors adopted a motion authorizing the General Manager to enter into an agreement with CARB for \$2.7 million to build a hydrogen fuel facility in Emeryville, California as part of AC Transit's Hydrogen Fuel Facility Expansion Project.³³ AC Transit staff determined that the project was exempt from CEQA based on a *category exemption for existing facilities*.³⁴

In particular, agency staff relied on section 15301(e) of the CEQA Guidelines, the *category exemption for discretionary approvals involving additions to existing facilities*, which states:

"Class 1 consists of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination. The types of '*existing facilities*' itemized below are not intended to be all-inclusive of the types of projects which might fall within Class 1. *The key consideration is whether the project involves negligible or no expansion of an existing use.*"³⁵

Section 15301 of the CEQA Guidelines lists several non-exclusive examples of additions to existing structures that will result in negligible or no expansion of use, including no increase of a certain size, as follows:

³² AC Transit District, GC Memo No. 08-256 (October 23, 2008) [hereinafter "Emeryville GC Memo"], *available at* http://www.actransit.org/wp-content/uploads/board_memos/r14.pdf; AC Transit, GC Memo No. 11-122 (May 18, 2011) [hereinafter "Division 4 GC Memo"], *available at* http://www.actransit.org/wp-content/uploads/board_memos/GC%2011-122%20CEQA%20Exemp%20Energy%20Station.pdf.

³³ Emeryville GC Memo.

³⁴ Staff cited Public Resources Code sections 21083 and 21084 and CEQA Guidelines section 15301(e). Emeryville GC Memo. Public Resources Code section 21083 authorizes the California Resources Agency to issue the CEQA Guidelines. Further, CEQA requires that the Secretary of Resources include in the CEQA Guidelines a list of classes of projects that the Secretary has found to not have a significant effect on the environment. This requirement is laid out in Public Resources Code section 21084.

³⁵ CEQA Guidelines § 15301 (emphasis added).

“Additions to existing structures provided that the addition will not result in an increase of more than:

(1) 50 percent of the floor area of the structures before the addition, or 2,500 square feet, whichever is less; or

(2) 10,000 square feet if:

(A) The project is in an area where all public services and facilities are available to allow for maximum development permissible in the General Plan and

(B) The area in which the project is located is not environmentally sensitive.”³⁶

AC Transit concluded that the Emeryville hydrogen fuel station and related facilities would occupy less than 2,500 square feet at its existing bus yard. Thus, the agency determined that this project qualified for the CEQA exemption for additions to existing facilities. The bus yard consists of numerous buildings, facilities, and parking areas for its employees and equipment. Fueling facilities already existed on the site and the area in which the hydrogen fuel project is located is not environmentally sensitive because it consists of a parking lot, a decorative brick wall, and a city street.³⁷

Example: Oakland Seminary Bus Yard

In May 2011, the AC Transit District presented a General Counsel Memo to the Board of Directors, recommending adoption of a CEQA Notice of Exemption based on the same categorical exemption used for permitting the hydrogen fuel station at the Emeryville bus yard.³⁸

The Oakland project involved the construction of a hydrogen fuel station including an electrolyzer to produce hydrogen on-site.³⁹ As with the Emeryville bus yard, staff determined that the Oakland project was exempt under the *categorical exemption for additions to existing facilities*.⁴⁰ The existing station

³⁶ *Id.* § 15301(e).

³⁷ Attachment to Emeryville GC Memo, Notice of Exemption.

³⁸ Division 4 GC Memo.

³⁹ Presently, hydrogen fuel is produced either at large-scale steam methane reforming plants (often near oil refineries) and then trucked to the fueling station, or on-site in small electrolysis devices. Letter from California Energy Commission to Cities and Counties About CEQA (Dec. 3, 2012), *available at* http://www.energy.ca.gov/altfuels/notices/2013-06-28_Hydrogen_Fuel_Infrastructure_Survey.pdf.

⁴⁰ Division 4 GC Memo (citing Public Resources Code sections 21083 and 21084 and CEQA Guidelines section 15301(e)).

already had fueling facilities and the hydrogen project added approximately 2,500 square feet of structures, including two fuel islands. The area in which the project is located is not environmentally sensitive since it consists of a parking lot and an existing bus yard in an area zoned for industrial uses.⁴¹

Case Study 2: Burbank Example of an EA/Initial Study and Negative Declaration

In August 2008, the U.S. Department of Energy, working with the City of Burbank, California, issued a joint Environmental Assessment/Initial Study (EA/Initial Study) that analyzed the potential impacts of an updated hydrogen fuel station. The EA/Initial Study was done to satisfy both CEQA and its federal counterpart, the National Environmental Policy Act (NEPA). NEPA requires the preparation of a document similar to the EIR termed an Environmental Impact Statement (EIS).

The Burbank project involved the removal and replacement of existing hydrogen fuel station equipment and installation of updated technology to meet a limited increase in demand for hydrogen fuel. The updated fuel station in Burbank added a steam methane reformer hydrogen generator to replace the existing electrolyzer unit, a hydrogen storage system, vehicle dispensing equipment, and related equipment.⁴²

US DOE determined that providing federal funding for the upgraded hydrogen fuel station in Burbank would not constitute a “major federal action significantly affecting the quality of the human environment” under NEPA. The EA/Initial Study also contained findings supporting a negative declaration under CEQA and a “Finding of No Significant Impact” under NEPA.⁴³ For these reasons, an EIS/EIR was not required.

In the EA/Initial Study for the Burbank project, a variety of environmental issues were examined, including air quality, land use/planning, hydrology/water quality, safety hazards and hazardous materials. The proponents found that the project “could not have a significant effect on the environment,” and concluded that a negative declaration was appropriate.⁴⁴ For example, the report stated:

“Project-related operational emissions would not exceed the SCAQMD’s mass emissions significance thresholds. Therefore, operation of the

⁴¹ Attachment to Division 4 GC Memo, Notice of Exemption.

⁴² Final Environmental Assessment for Burbank, at US DOE Aug. 6, 2008 letter.

⁴³ *Id.*

⁴⁴ *Id.* at 2-3.

proposed hydrogen facility would not violate an air quality standard or contribute to an existing or projected air quality violation.”⁴⁵

With respect to hazardous materials, the EA/Initial Study has a detailed discussion of the rigorous engineering and design utilized to promote safety due to the potential explosivity of hydrogen and to protect against accidental releases.⁴⁶

Case Study 3: Northern California Examples of Categorical Exemptions

Two hydrogen fuel stations now being developed in Northern California demonstrate that there are two more CEQA categorical exemptions that may be used to site hydrogen fuel stations. In April 2013, the California Energy Commission issued a notice of proposed grant awards to the developer of these stations, Linde LLC.⁴⁷ The projects will be located in Mountain View and Foster City. Mountain View is, in particular, a very environmentally conscious area, where major technology companies such as Google are actively involved in promoting the use of low emission and zero emission vehicles.

These stations will be located at existing gas stations. They will rely on the CEQA categorical exemptions for (i) *new construction or conversion of small structures*, and (ii) *minor alterations to land*.⁴⁸

The first CEQA categorical exemption for *new construction or conversion of small structures* states:

“Class 3 consists of construction and location of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in small structures; and the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure”⁴⁹

⁴⁵ *Id.* at 2-14.

⁴⁶ *Id.* at 2-25 to 2-27.

⁴⁷ California Energy Commission (CEC), Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP), Notice of Proposed Award, Grant Solicitation PON-12-606, Hydrogen Fuel Infrastructure (April 11, 2013), *available at* http://www.energy.ca.gov/contracts/PON-12-606_NOPA.pdf (proposals for Mountain View and Foster City, California).

⁴⁸ Linde Hydrogen Fueling Station (Mountain View and Foster City), CEC Grant Request Form (2013) [hereinafter “Linde Grant Request Form”], *available at* http://www.energy.ca.gov/business_meetings/2013_packets/2013-06-12/Item_14a_ARV-12-057_Linde.pdf (citing CEQA Guidelines sections 15303 and 15304 in the “CEQA Compliance” section).

⁴⁹ CEQA Guidelines § 15303.

Examples of this exemption include, but are not limited to:

“(c) A store, motel, office, restaurant or similar structure not involving the use of significant amounts of hazardous substances, and not exceeding 2500 square feet in floor area. In urbanized areas, the exemption also applies to up to four such commercial buildings not exceeding 10,000 square feet in floor area on sites zoned for such use if not involving the use of significant amounts of hazardous substances where all necessary public services and facilities are available and the surrounding area is not environmentally sensitive.”⁵⁰

The second categorical exemption covers discretionary approvals involving *minor alterations to land*. This Class 4 exemption “consists of minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees except for forestry or agricultural purposes.”⁵¹ Specific examples of such minor alterations include, but are not limited to, “[m]inor trenching and backfilling where the surface is restored,”⁵² and:

“(i) Fuel management activities within 30 feet of structures to reduce the volume of flammable vegetation, provided that the activities will not result in the taking of endangered, rare, or threatened plant or animal species or significant erosion and sedimentation of surface waters. This exemption shall apply to fuel management activities within 100 feet of a structure if the public agency having fire protection responsibility for the area has determined that 100 feet of fuel clearance is required due to extra hazardous fire conditions.”⁵³

These planned hydrogen fuel projects in Mountain View and Foster City will be located at existing stations already permitted and zoned for the sale of gasoline. The projects will merely convert or add equipment for hydrogen fuel dispensing. The stations will each utilize an area of approximately 2,056 square feet.⁵⁴ As currently planned, they will supply hydrogen produced in California, which will be brought to the sites via tanker truck. The hydrogen will be stored in a liquid hydrogen tank located near the equipment

⁵⁰ *Id.* § 15303(c).

⁵¹ *Id.* § 15304.

⁵² *Id.* § 15304(f).

⁵³ *Id.* § 15304(i).

⁵⁴ Linde Grant Request Form.

containers.⁵⁵ The projects will involve only minor trenching (less than 100 feet in length and one foot in depth) to install 0.5 inch diameter tubing from the tank to the dispenser.⁵⁶

Case Study 4: Northern and Southern California Examples of Categorical Exemptions

Three hydrogen fuel stations in the planning and development stage in Rohnert Park, Orange, and Pacific Palisades provide examples of some of the many new projects throughout California that involve the modification of existing gas stations to add hydrogen fueling. As with certain of the projects discussed above, these three stations received CEQA categorical exemptions for *additions to existing facilities* and for *new construction or conversion of small structures*.⁵⁷

In May 2014, the California Energy Commission issued a notice of proposed grant awards to the developer of these stations, HyGen Industries, LLC.⁵⁸ Development will involve the installation of a containerized electrolyzer hydrogen generator, hydrogen storage tanks, and compression and dispensing equipment at each of the three locations (Rohnert Park, Orange and Pacific Palisades), which are existing gas stations.⁵⁹ The installation of this equipment will cover an area of less than 1000 square feet.⁶⁰ The projects will also involve a minimal amount of trenching, with an excavation area of less than 1,000 square feet.⁶¹

3.4 Time to Obtain Land Use Permit with CEQA Review

The time needed to obtain a land use permit for a hydrogen fuel station will vary depending on the type of CEQA review required. As the above examples show, local governments can take a range of actions under CEQA, such as filing a notice of exemption or preparing a negative declaration. AC Transit received a notice of exemption under CEQA for its Oakland project approximately two months after

⁵⁵ Sarah Williams, CEC, *Localized Health Impacts Report*, For Selected Projects Awarded Funding Through the Alternative and Renewable Energy Fuel and Vehicle Technology Program Under Solicitation PON-12-606 - Hydrogen Fuel Infrastructure, Publication Number: CEC-600-2013-002 (May 2013) [hereinafter “Localized Health Impacts Report”], at 9, *available at* <http://www.energy.ca.gov/2013publications/CEC-600-2013-002/CEC-600-2013-002.pdf>.

⁵⁶ Linde Grant Request Form.

⁵⁷ <http://www.ceqanet.ca.gov/ProjDocList.asp?ProjectPK=632796> (Rohnert Park, Orange, and Pacific Palisades)

⁵⁸ http://www.energy.ca.gov/contracts/PON-13-607_NOPA.pdf

⁵⁹ HyGen Industries, LLC Hydrogen Fueling Station (Rohnert Park, Orange, and Pacific Palisades) CEC Grant Request Form (2014) [hereinafter “HyGen Grant Request Form”], *available at* http://www.energy.ca.gov/business_meetings/2014_packets/2014-07-22/Item_04g_ARV-14-011_HyGen_Industries_LLC.pdf.

⁶⁰ *Id.*

⁶¹ *Id.*

submitting a request for environmental review as part of its land use permit application.⁶² The City of Richmond approved a negative declaration for AC Transit's Richmond hydrogen fuel station approximately four months after AC Transit submitted a zoning application and environmental information form.⁶³

The overall time to obtain a land use permit for a hydrogen station, including CEQA review, has been benchmarked by Orange County at about one year.⁶⁴ However, it is possible that the permit process may take longer if there is public opposition or if planning officials are unfamiliar with hydrogen fuel technology.⁶⁵ Orange County notes that gasoline stations can take between three months and two years to permit.⁶⁶ The final land use permit for Shell's West Los Angeles hydrogen station was issued approximately one year after application.⁶⁷ AC Transit's City of Richmond station received a conditional use permit approximately eight months after the agency submitted its zoning application and environmental information form.⁶⁸

State and local agencies that support the development of California's hydrogen fuel infrastructure encourage developers to undertake early and vigorous community outreach. The purpose is to answer

⁶² Mallory Nestor-Brush, AC Transit, Hydrogen Infrastructure (Feb. 1, 2007) [hereinafter "AC Transit Hydrogen Infrastructure"], at p. 19, *available at* <http://www.hydrogenandfuelcellsafety.info/resources/workshops/07feb/malloryNestorBrush.ppt> (2/05 submission of plans and request for environmental review to 4/05 notice of exemption).

⁶³ *Id.* at p. 15 (10/19/01 zoning land use application and environmental information form to 2/22/02 approval of negative declaration).

⁶⁴ Carl Baust, Orange County Fire Authority, Hydrogen Vehicle Fire Department Concerns (Aug. 25, 2008), *in* National Association of State Fire Marshals, Final Action Report, Permitting Hydrogen Fueling Stations and Hydrogen Fuel Cell Backup Power for Wireless Telecommunications Sites Workshop, p. 67 (Aug. 25-26, 2008) [hereinafter "OC Fire Authority Presentation"], http://www.hydrogen.energy.gov/pdfs/ca_workshop_final_report.pdf; *see also* personal communication with Leslie Goodbody, California Air Resources Board (CARB), Sustainable Transportation Technology Branch (Oct. 25, 2013), (916) 323-2961 and lgoodbod@arb.ca.gov.

⁶⁵ OC Fire Authority Presentation, at 67-68; *see also* personal communication with Leslie Goodbody, California Air Resources Board (CARB), Sustainable Transportation Technology Branch (Oct. 25, 2013), (916) 323-2961 and lgoodbod@arb.ca.gov.

⁶⁶ OC Fire Authority Presentation, at p. 67.

⁶⁷ Hydrogen and Fuel Cell Safety, *Shell Hydrogen's New Los Angeles Retail Hydrogen Station* (Aug. 2008), <http://www.hydrogenandfuelcellsafety.info/2008/aug/shellStation.asp>.

⁶⁸ AC Transit Hydrogen Infrastructure, at p. 15 (10/19/01 zoning land use application and environmental information form to 6/06/02 City of Richmond Planning Commission approval of conditional use permit).

questions about the technology and generate public support for their projects.⁶⁹ This involves communicating with local permit agencies, local elected officials, businesses, and residents.⁷⁰ According to a CARB researcher, public outreach is important because a backlash may be created if the public does not understand how these stations work, and this could delay a project.⁷¹ For example, before Shell submitted a permit application for its hydrogen fuel station in West Los Angeles, Shell and local fire authorities met several times.⁷² There were also several meetings during the permit review process, which is typical for many projects.⁷³ Among other things, Shell and the fire authority officials discussed the project scope, safety systems and hazard reviews, which provided pre-permit application feedback to Shell and important technical information to the government.⁷⁴

4.0 Conclusion

The State of California and the federal government strongly support the development of the 'hydrogen highway', a network of hydrogen fuel stations to support zero emission vehicles powered by hydrogen. As with traditional gasoline stations, hydrogen fuel stations will require careful engineering and safety precautions for handling of fuel. Land use permits will likely contain detailed requirements incorporating provisions of the California Fire Code and other standards for safe handling of hydrogen. Stations will also have to prepare hazardous materials business plans that contain an inventory of hazardous materials, a site plan, safety and emergency response procedures and training programs. But they will probably be exempt from the more rigorous CalARP requirements, due to the quantity of hydrogen stored and a special exception for fuel facilities. Stations that only store liquid or gaseous hydrogen fuel will probably not require air permits. Station that include on-site hydrogen production equipment (such as a steam methane reformer) may need an air permit (unless exempt), although studies to date suggest that emissions will not be significant. The time to obtain a land use permit for a hydrogen fuel station in California has been benchmarked at one year.

⁶⁹ Governor's Office of Planning and Research, Zero-Emission Vehicles in California: Community Readiness Guidebook 70 (Fall 2013) [hereinafter "ZEV Guidebook"], *available at* http://opr.ca.gov/docs/ZEV_Guidebook.pdf; *see also* personal communication with Leslie Goodbody, California Air Resources Board (CARB), Sustainable Transportation Technology Branch (Oct. 25, 2013), (916) 323-2961 and lgoodbod@arb.ca.gov.

⁷⁰ ZEV Guidebook, at 70.

⁷¹ Personal communication with Leslie Goodbody, California Air Resources Board (CARB), Sustainable Transportation Technology Branch (Oct. 25, 2013), (916) 323-2961 and lgoodbod@arb.ca.gov.

⁷² Hydrogen and Fuel Cell Safety, *Shell Hydrogen's New Los Angeles Retail Hydrogen Station* (Aug. 2008), <http://www.hydrogenandfuelcellsafety.info/2008/aug/shellStation.asp>.

⁷³ *Id.*

⁷⁴ *Id.*

Land use and air permits are both types of approvals that will trigger CEQA review. Case studies in Oakland, Emeryville, Mountain View, Foster City, Rohnert Park, Orange, and Pacific Palisades show that hydrogen fuel stations can often take advantage of different categorical exemptions under CEQA. The key CEQA categorical exemptions that may apply to hydrogen stations are:

- (i) Minor expansions of existing facilities,
- (ii) New construction or conversion of small structures, and
- (iii) Minor alterations to land.

A case study in Burbank shows that even if a detailed initial study is prepared, the result may be a negative declaration and finding of no significant environmental impacts. Under both approaches — categorical exemption or negative declaration — CEQA compliance will likely *not* involve the preparation of a detailed environmental impact report. Streamlining of environmental review under CEQA is a goal supported by the California Energy Commission and other state agencies that strongly encourage the development of hydrogen fuel technology, and the fueling infrastructure needed to support it.

If you have any questions about any of the topics discussed in this advisory, please contact your Arnold & Porter attorney or any of the following attorneys:

Karen J. Nardi

+1 415.471.3301

karen.nardi@aporter.com

Jennifer Hu

+1 213.243.4130

jennifer.hu@aporter.com

Jonathan L. Koenig

+1 415.471.3290

jonathan.koenig@aporter.com

© Arnold & Porter LLP. This Advisory is intended to be a general summary of the law and does not constitute legal advice. You should consult with counsel to determine applicable legal requirements in a specific fact situation.

Brussels

1, Rue du Marquis –
Markiesstraat, 1
B-1000 Brussels
BELGIUM

+32 (0)2 290 7800

London

Tower 42
25 Old Broad Street
London EC2N 1HQ
UNITED KINGDOM

+44 (0)20 7786 6100

San Francisco

10th Floor
Three Embarcadero Center
San Francisco, CA 94111-4024

+1 415.471.3100

Denver

Suite 4400
370 Seventeenth Street
Denver, CO 80202-1370

+1 303.863.1000

Los Angeles

44th Floor
777 South Figueroa Street
Los Angeles, CA 90017-5844

+1 213.243.4000

Silicon Valley

Suite 110
1801 Page Mill Road
Palo Alto, CA 94304-1216

+1 650.798.2920

Houston

Suite 1600
700 Louisiana Street
Houston, Texas 77002-2755

+1 713.576.2400

New York

399 Park Avenue
New York, NY 10022-4690

+1 212.715.1000

Washington, DC

555 Twelfth Street, NW
Washington, DC 20004-1206

+1 202.942.5000