Chapter 1

Introduction

Purpose of the Supplemental Proponent's Environmental Assessment

Lodi Gas Storage LLC (LGS) is filing an application with the California Public Utilities Commission (CPUC) for an amended Certificate of Public Convenience and Necessity (CPCN) for Phase II of the Kirby Hills Natural Gas Storage Facility project. The application requests authorization to install additional facilities to support the Kirby Hills Gas Storage Facility in Solano County (Figure 1-1) and requests the CPUC to issue a Subsequent Mitigated Negative Declaration (MND) for Phase II of the project.

These additional facilities are considered Phase II of the original project that was evaluated in the Final Mitigated Negative Declaration and Supporting Initial Study for the Kirby Hills Gas Storage Facility – A.05-07-018 (CPUC February 2006) (herein referred to as the Final IS/MND). These additional facilities were not identified in the original project because the nature and location of the Wagenet Reservoir had not been fully evaluated. LGS did not anticipate the need for additional storage capacity, well pads, flow line, or well reworks.

The purpose of the information provided in this proponent's environmental assessment (PEA) is to supplement the information previously provided in the Kirby Hills I PEA (Jones & Stokes 2005) to the CPUC to support their preparation of the original California Environmental Quality Act (CEQA) document.

Background Information

The CPUC issued a CPCN for the existing Kirby Hills Facility (also referred to as the Kirby Hills I project) in D.06-03-012. Construction of the facility was completed in 2006 and LGS began commercial operation of Kirby Hills I in November 2006. Kirby Hills I was constructed without incident and in full compliance with the terms and conditions in the Mitigation Monitoring Plan as set forth in Section C to the Final IS/MND. Kirby Hills I has a total storage capacity of approximately 7 billion cubic feet (Bcf), of which 5.5 Bcf is working

gas and 1.5 Bcf is cushion gas. The certificated firm injection and withdrawal capacity for Kirby Hills I is 100 million cubic feet per day (MMcf/d). Kirby Hills I is connected to Pacific Gas and Electric Company's (PG&E's) Lines 400/401 Pipeline System via a 5.9-mile, 16-inch bidirectional steel pipeline.

In addition to Kirby Hills I, LGS constructed and currently operates the Lodi Gas Storage Facility (Lodi Facility) in San Joaquin and Sacramento Counties, 3 miles northeast of the city of Lodi. The CPUC issued a CPCN for the Lodi Facility in D.00-05-048, as amended in D.03-08-048, D.04-05-034, and D.04-05-046. The Lodi Facility began commercial operation in 2002 and has since operated without incident. The Lodi Facility, as currently approved by the CPUC, has total storage capacity of 21 Bcf and a working capacity of 17 Bcf. It has maximum firm deliverability of 500 MMcf/d and a maximum firm injection capacity of 400 MMcf/d. The Lodi Facility is interconnected with PG&E's Line 401 at the Sherman Island Interconnect.

The proposed Kirby Hills Phase II facility is an expansion of the existing Kirby Hills I facility, which is located approximately 45 miles west of the existing Lodi reservoir and 8 miles northwest of LGS's existing interconnect with PG&E's Line 401.

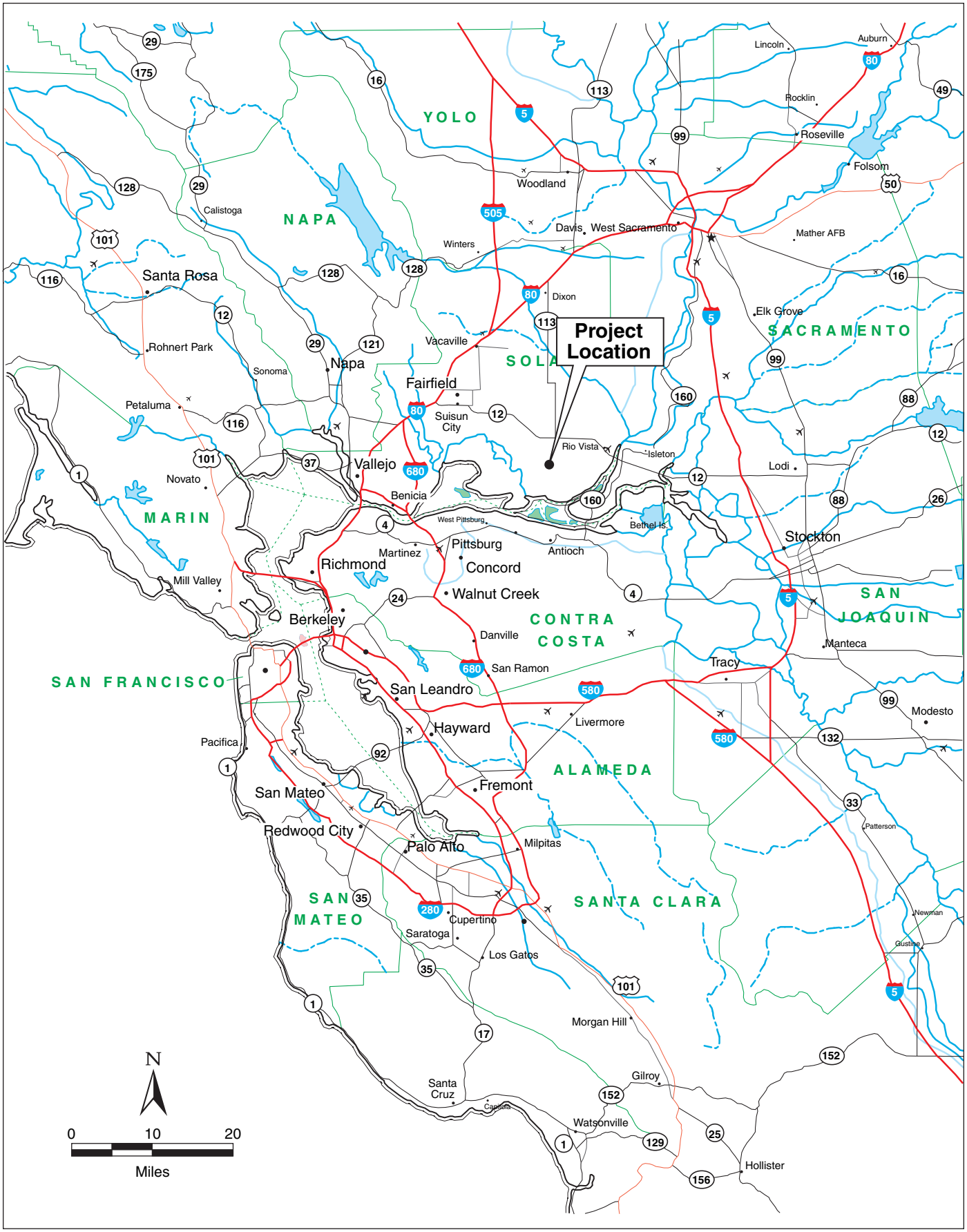
Project Purpose and Need

The Kirby Hills I Project Purpose and Need and supporting objectives are described in Chapters 1 and 2 of the original PEA (Jones & Stokes 2005).

As described in the PEA (Jones & Stokes 2005 and supplemental information), natural gas is a naturally occurring accumulation of gases in geologically enclosed spaces, such as the permeable material covered by cap rock in the field beneath Kirby Hill. It primarily consists of methane (about 85%), which is created by decomposing organic materials. Other components are ethane (about 7%); propane (about 4%); butane (about 2%); and pentane, hexane, and heptane (all less than 1%). When it first comes out of the ground, natural gas also can contain liquid hydrocarbons, water, and contaminants such as hydrogen sulfide that must be removed prior to transportation.

After natural gas is extracted from the ground and treated, it is pumped into a network of intrastate and interstate gas pipelines that can deliver the gas across wide distances, such as from the mountains of British Columbia in Canada to southern California. Because of changes in the natural gas industry over the past several years, many private companies no longer deal with only one company when purchasing natural gas services. Instead, many California companies arrange to purchase gas directly from producers across the western half of North America and then contract with PG&E and other pipeline owners to transport the gas to the end point in California.

Pipeline capacity into California has more than tripled in the last 15 years, but demand has risen as well—mostly because of population growth and electric



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Jones & Stokes

Figure 1-1
General Project Location

power plants switching from oil to natural gas to fuel their boilers and reduce air pollutant emissions. On occasion, especially during cold spells, the pipeline companies cannot get enough gas into their systems to meet demand. Pressure in the pipe begins to drop, and the pipeline companies are forced to cut off supplies, first to "interruptible" or "non-firm" customers and then to "firm" customers only as a last resort. This situation occurred in winter 1998–1999 for more than 10 days, forcing most fossil-fueled plants in the state to switch to fuel oil in order to fire the boilers, which produce substantially greater air emissions.

The state's two largest natural gas utilities, PG&E and Southern California Gas Company, for years have stored natural gas in various storage facilities around the state as a method of alleviating the effects of a supply shortage. As a result of California Assembly Bill 2744, other independent companies now are also allowed to build such facilities and compete directly with PG&E and Southern California Gas Company in offering natural gas services, including storage services, providing they meet all applicable laws and regulations. Increasing the total amount of natural gas storage capacity within California will help to reduce the negative effects of supply curtailments and also will allow natural gas users to buy gas when it is plentiful and inexpensive, inject it into a storage facility, and then withdraw it later when gas prices are relatively higher. Potential customers for such services might include owners of gas-fired electric power plants, industries and businesses, and groups of schools that pool their gas purchasing power.

Additionally, the following excerpt from the application is included to further describe the need for this expansion:

In their *Energy Action Plan II* issued October 2005, the CPUC and the California Energy Commission identified as Key Action #4 under Natural Gas Supply, Demand, and Infrastructure the need to "[e]ncourage the development of additional in-state natural gas storage to enhance reliability and mitigate price volatility."[1] Kirby Hills II is fully consistent with this key action item.

Capacity at the Lodi Facility and Kirby Hills I is currently fully subscribed through a combination of short-term and long-term contracts with a variety of market participants. In February/March of this year, LGS conducted an open season for up to 12 Bcf of additional working capacity with 100 MMcf/d of firm injection and 200 MMcf/d of firm withdrawal capacity. The open season began on February 16, 2007, and continued until March 15, 2007. At the end of this period, Bid Response Forms were received from 22 market participants with indications of demand for 26.5 Bcf of storage capacity. LGS is in the process of negotiating storage services agreements with some of these parties.

In addition to this direct expression of market interest for incremental storage capacity, there are also other indications that the energy market in California, and especially in northern California, has a need for incremental gas storage capacity. In July 2006, the CPUC issued D.06-07-010 in A.05-03-001 adopting PG&E's

[1] *Energy Action Plan II*, October 2005, p. 13.

proposal for a 1-day-in-10-year planning standard for PG&E's core customers. Adoption by the CPUC of this reliability standard adds demand for at least 100 MMcf/d of incremental storage withdrawal capacity and approximately 2–3 Bcf of storage capacity.[2] As a result of the new planning standard, the CPUC also authorized PG&E "to acquire the additional storage capacity that it needs to meet this standard from third-party storage providers."[3]

In 2006, the California Energy Commission approved the construction of 2,780 megawatts of new natural gas-fired generation in northern California.[4] This new generation is expected to come on-line between 2008 and 2010. The increase in regional natural gas-fired generating capacity requiring swing gas supplies will add to the demands placed on California's existing natural gas infrastructure. The *Energy Action Plan II* notes this factor when it calls on the State of California to promote infrastructure enhancements, including "additional . . . storage capacity."[5] Increasing load-area high performance gas storage infrastructure enhances the ability to efficiently and cost-effectively use the existing utility gas infrastructure in a time of rising natural gas demand, particularly swing demand. Load-area gas storage infrastructure can also provide added reliability during times of heightened weather-related demand or supply interruptions associated with disruptions on the interstate gas delivery system to California.

Finally, a growing and extensive natural gas storage infrastructure is a necessary complement as California increasingly relies on liquefied natural gas (LNG) imports in the future to meet its energy requirements. By smoothing out lumpy LNG deliveries, load-area gas storage infrastructure can accommodate and enhance the value of this energy resource.

Organization of the Proponent's Environmental Assessment

This PEA has been organized into the following sections.

Executive Summary: Summarizes the environmental impacts of the proposed project and mitigation measures identified to reduce or eliminate significant impacts, and summarizes alternatives to the proposed project.

Chapter 1. Introduction. Provides an introduction and overview that describes the proposed project and the purpose of the supplemental PEA.

[2] D.06-07-010, *mimeo*, at p. 7.
[3] *Id.*, at p. 2. Thereafter, on January 24, 2007, PG&E filed Advice Letter 2801-G requesting approval of two incremental gas storage contracts (including a contract with LGS for 0.5 Bcf of inventory and 50,000 MMcf/d of withdrawal capacity) to enhance core portfolio reliability for a two year period that includes the 2007/08 and 2008/09 winters seasons. These contracts were approved by the CPUC in Resolution G-3398 on March 15, 2007.
[4] See D.06-06-035 and D.06-11-048.
[5] *Energy Action Plan II*, October 2005, pp. 11-12.

Chapter 2. Project Description. Describes the project area, general plan designation and zoning, project background, construction methods, operations and maintenance program, Applicant-Proposed Measures (APMs) that will be implemented as part of the Phase II project, and required permits and approvals expected for the proposed Phase II project.

Chapter 3. Environmental Analysis. CPUC's Information and Criteria List require that the PEA must include a description of the environment in the vicinity of the proposed project and within the potential range of impacts as it exists before commencement of the project. Chapter 3 describes existing conditions, evaluates the environmental impacts of the proposed project, and identifies previously identified and new mitigation measures for the significant impacts identified in this PEA.

Chapter 4. Citations. Lists the references or personal communications cited in the various resource sections.

Chapter 5. List of Preparers. Lists the people who prepared the report.