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January 5, 2005

Attn: Ms. Nancy Tronaas
Compliance Project Manager
California Energy Commission
1516 Ninth Street, MS-2000
Sacramento, CA 95814

**Subject: Petition for Post Certification Amendment and Changes – Air Quality
Elk Hills Power, LLC (99-AFC-1)**

Dear Ms. Tronaas,

Pursuant to Title 20, CCR Chapter, Section 1769 (a) (1), Elk Hills Power, LLC (EHP) is filing this petition for a proposed modification to the Commission Decision for the Elk Hills Power Project, Docket 99-AFC-1. This petition incorporates a change to one of the project's Air Quality Conditions of Certification, namely AQ-11. An application for a similar change to Permit to Operate (PTOs) #S-3523-1-4 and #S-3523-2-4 was also submitted to the San Joaquin Valley Air Pollution Control District (District) in November and to the PSD permit to EPA in October. The District has indicated that they can approve this request. EPA has not yet responded.

This petition includes a modification solely related to the duration of an extended startup, specifically to modify the duration in Condition of Certification AQ-11 to be increased from 4 to 6 hours. No changes to short or long-term emission rates are being requested. As such, the modification should be considered administrative in nature and EHP requests expedited review by CEC Staff and adoption of the amendment by the CEC in accordance with Title 20 CCR, Section 1769(a).

This petition to amend the Commission Decision approving the project contains all the information that is required pursuant to 20 CCR Section 1769, Post Certification Amendments and Changes, of the California Energy Commission's Siting Regulations.

Description of Proposed Air Quality Condition Modifications

The EHP facility started commissioning in early 2003 and completed its required performance testing in June 2003 and has been operating since that time. Elk Hills Power, LLC is requesting

modification to the Air Quality Conditions of Certification in the Commission's Decision for the Elk Hills Power project, specifically to Condition AQ-11. Condition AQ-11 specifies the maximum durations for a regular startup, an extended startup and a shutdown. EHP requests that Condition AQ-11 be modified to allow for the proposed increase to the duration of the extended startup. The purpose of the change is to allow for a longer duration for the extended start-up cycle from four to six hours. The daily and annual permitted emission rates are not affected.

Changes to Conditions

In order to incorporate the modifications discussed above, EHP proposes to modify Condition of Certification AQ-11. EHP requests the following changes and additions be made to the air quality Conditions of Certification and Verification in the Commission Decision. ~~Strikethrough~~ indicates deleted text and underlined indicates replacement or new text.

“AQ-11 Startup is defined as the period beginning with initial turbine firing until the unit meets the lb/hr and ppmv emission limits in Condition AQ-15. Shutdown is defined as the period beginning with initiation of turbine shutdown sequence and ending with cessation of firing of the gas turbine engine. Startup and shutdown duration shall not exceed the following:

- two hours for a regular startup,
- ~~four~~ six hours for an extended startup, and
- one hour for a shutdown, per occurrence. [District Rule 2201 and 4001]

Verification: The project owner shall provide records of compliance as part of quarterly records of Condition **AQ-35.**”

The proposed modification will not materially alter the conclusions contained in the Commission Decision. Furthermore, the proposed modifications will satisfy all applicable existing Conditions of Certification other than the air quality condition proposed below, and no other changes in conditions are required. The change to the startup duration requires that one Condition of Certification be modified, specifically Condition AQ-11.

Necessity for Air Quality Modifications

A modification of the Commission Decision is requested in this petition. It is considered necessary as described below.

EHP cannot complete an extended startup cycle within four hours without difficulty. Modification of the current extended startup is required. This change is considered

administrative since no change in facility potential to emit or changes to short-term emission limits are being requested at this time. These changes could not be anticipated in EHP's Application for Certification (2/1999), nor in the previous Petition for post-certification modification (4/2003) that was submitted to the Energy Commission to revise the startup emission limits, as the facility did not have any normal operating experience prior to mid-2003.

During the past year, EHP has been able to operate almost continuously, and hence has had only a limited number of extended startups. However, during the extended startups, the current four hour limitation for the complete cycle could only be met by not following all vendor specifications and/or implementing abnormal operating procedures. Therefore, EHP requests an increase in the allowed duration for extended startups.

In a combined-cycle system, bringing a power block online is a complicated process. EHP consists of two combustion turbines (CTs), two heat recovery steam generators (HRSGs), and one steam turbine. The two CTs share a common starting system and only one CT can be started at a time. The startup sequence includes multiple steps in which the equipment power output is "ramped up" until it reaches normal operating conditions (defined as Mode 6). This consists of carefully increasing the CTs speed and load as the HRSGs, steam drums, steam piping, emissions control equipment, steam turbine, and other equipment are heated and brought to a stable operating condition. Operating the systems within these vendor specified boundaries is required to protect personnel and equipment, as well as maintain warranties.

During a typical startup at EHP, one CT is started and ramped up to low load where it is held until the exhaust gases bring the respective HRSG and steam systems to a specified temperature. The second CT is allowed to start following synchronization of the first CT and is also held at low load for warm up of its HRSG and steam systems. Both CTs are required in order to supply an adequate amount of steam for the steam turbine and its auxiliary equipment. One CT is dedicated to run in temperature matching mode for steam turbine warm-up. The other CT is utilized for auxiliary uses, primarily for the air ejectors, which establish and maintain steam turbine condenser vacuum.

The HRSGs have three separate pressure sections, each with temperature increase rate limitations. As soon as the HRSGs achieve the proper temperature, the steam turbine and its auxiliaries are started and gradually heated as steam becomes available to drive the systems. Increases in steam turbine speed are constrained by the temperature differential between the metal surfaces and the steam and can not be exceeded. Both CTs must be held at low load until the HRSGs can provide sufficient heat for operating the associated fuel gas heaters required for the Dry Low NO_x combustion system. The CT load cannot be raised again until the fuel gas reaches the vendor specified set point. Loads are increased gradually until eventually normal operating loads and conditions are reached.

During the startup process the Oxidation Catalyst, for CO/VOC control, increases in effectiveness as the exhaust gas temperature increases. The Selective Catalytic Reduction (SCR) system for NO_x control does not become effective until the proper exhaust gas temperature is reached and ammonia injection begins. EHP has continued to optimize the SCR effectiveness and minimize emissions during startup by lowering the ammonia injection temperature within the vendor specifications and permit limits. Currently ammonia injection begins when the exhaust gas temperature reaches 500° F. The early introduction of ammonia reduces NO_x emissions through the remainder of the startup process but cannot achieve compliance with the 2.5 ppm_{vd} @ 15% O₂ NO_x permit limit until the CT begins operating in Mode 6 (Dry Low-NO_x Mode).

It should be noted that the system ramp up and the time it takes to reach normal operating conditions are limited by various factors, such as the physical equipment limitations discussed above and the temperature of the equipment prior to commencing combustion (i.e., normal start vs. extended start). There can also be limitations on how fast electrical power can be added to, or subtracted from, the electrical grid. These requirements are external to EHP (and in fact to all other operators within the CA-ISO control area), and may cause extended startups, since these requirements limit a facility's ability to efficiently reach optimum operating conditions.

Timing of Request for Air Quality Condition Modifications

Only limited information regarding time needed to startup the CTG was available during the EHP certification proceeding. Additional information has subsequently become available such that characterization of an extended startup is more certain.

Because of the insignificance and nature of the proposed change, the proposed modification does not materially change the assumptions, rational, findings, or other bases of the Final Decision.

Compliance with Laws, Ordinances, Regulations and Standards

Previous EHP applications have provided a comprehensive review of the requirements applicable to the facility and a demonstration of compliance. This application involves only a minor change of conditions without short or long term emission changes. EHP has applied to the District and EPA for a change of conditions. No other LORS are affected by the change.

Potential Effects on the Public

The proposed modifications to the CEC Conditions in the Air Quality category will not affect project equipment or the significance of environmental impacts. Therefore, the proposed modifications are not anticipated to affect nearby property owners, the public, or parties in the application proceedings. The nearest residence to the facility is approximately five miles away.

The list of property owners surrounding the project is provided in the table below

List of Property Owners

APN	Owner	Address
101-010-02	Pacific Gas & Electric Co.	Main Headquarters, San Francisco, CA 94105
102-050-17	Farmers Co-Operative Gin Inc.	2531 Wasco Way, Buttonwillow, CA 93206-9711
102-050-20	Farmers Co-Operative Gin Inc.	2531 Wasco Way, Buttonwillow, CA 93206-9711
102-050-02	Patricia E. Houchin	140 W. 1 st Street, Buttonwillow, CA 93206
103-100-26	Alan S. Jacobs, et. Al.	RR2 Box 700, Prairie City, OR 97869
103-120-01	Buttonwillow Land and Cattle Company	7540 Tracy Ave., Buttonwillow, CA 93206
103-120-13	Farmers Co-Operative Gin Inc.	2531 Wasco Way, Buttonwillow, CA 93206-9711
103-120-12	Farmers Co-Operative Gin Inc.	2531 Wasco Way, Buttonwillow, CA 93206-9711
103-120-09	Patricia E. Houchin	140 W. 1 st Street, Buttonwillow, CA 93206
102-080-04	Patricia E. Houchin	140 W. 1 st Street, Buttonwillow, CA 93206
102-080-03	Dana C. and Martha Lee Hair	629 Oleander Ave., Bakersfield, CA 93304-2042
102-080-05	Arthur J. and Jane Torrigiani	Wasco Way and Buerkle Rd., 288 3 rd St., Buttonwillow, CA 93206
103-210-01	Margaret M. Hair	629 Oleander Ave., Bakersfield, CA 93304-2042
103-210-23	Charles M. Parsons, Trustee	5632 Brite Rd., Buttonwillow, CA 93206
103-210-05	Betsy Bleecker Wallace, et. al.	6616 Kane Way, Bakersfield, CA 93309
102-230-10	John and Christine Romanini, Trustees	P.O. Box 786, Buttonwillow 93206
102-230-11 102-230-13	Milne and Mary Stearns	4529 Wasco Way, Buttonwillow, CA 93206
102-230-06	Betsy Bleecker Wallace, et. al.	6616 Kane Way, Bakersfield, CA 93309
103-220-04	John and Christine Romanini, Trustees	P.O. Box 786, Buttonwillow 93206
159-270-03	Chevron USA, Inc.	P.O. Box 1392, Bakersfield, CA 93302
159-220-27	John and Christine Romanini, Trustees	P.O. Box 786, Buttonwillow 93206
103-220-08	L.C. and Mary H. Shepherd	4506 Wasco Way, Buttonwillow 93206

List of Property Owners

APN	Owner	Address
103-220-17	Nancy Romanini, Trustee	5900 Desert Hills, Bakersfield, CA 93309
103-220-12	Nancy Romanini, Trustee	5900 Desert Hills, Bakersfield, CA 93309
158-020-25	C.J. and Allene Shepherd and Floyd E. Shepherd, Trustees	7208 Norris Rd., Bakersfield, CA 93308
158-020-14	Norman C. Shepherd	P.O. Box 147, Buttonwillow, CA 93206
158-020-13	Norman C. Shepherd	P.O. Box 147, Buttonwillow, CA 93206
158-030-02	Letlow Russell, et. al.	386 W. 3 rd Street, Buttonwillow, CA 93206
159-090-01	C.J. and Allene Shepherd and Floyd E. Shepherd, Trustees	7208 Norris Rd., Bakersfield, CA 93308
159-090-09	John E. Leibrock, et. al.	431 Starmount Ln., Bakersfield, CA 93308
159-090-20	James Tavioli	393 W. 3 rd Street, Buttonwillow, CA 93206
159-090-17	James Tavioli	393 W. 3 rd Street, Buttonwillow, CA 93206
159-090-10	Maricio M. Moreno	5302 Wasco Way, Butonwillow, CA 93206
159-110-26	Brent L. and Janet M. Selick	819 Miller Ave., South San Francisco, CA 94080
158-010-09	Occidental of Elk Hills	28590 Highway 119, Tupman, CA 93276 –1001
159-110-02	Eugene L. Davis, etux, Trustees	630 Grove Ave., Ukiah, CA 95482
159-110-25	Antoinette M. Conner	5847 Round Up Way, Bakersfield, CA 93306

Summary of Request

As demonstrated in this petition, the requested modification of the air quality Condition of Certification AQ-11 is not anticipated to have an adverse effect on the public or the environment. The modifications will not affect compliance with applicable LORS. Accordingly, EHP requests that the Energy Commission Staff expedite review of this petition, and request Commission approval of the proposed modified condition in accordance with Title 20 CCR Section 1769 (a)(3).



We are available to meet with Staff at your earliest convenience to discuss this petition. Should you have any questions or need additional information, please call me at (661) 763-2724. We appreciate your assistance with this matter.

Sincerely,

James L. McArthur
Plant Manager

CC: Richard Carter, SER
Jeff Hanig, OEVC
Taylor Miller, SER
Marilyn Teague, SER
Raymond Kelly, SER
EHP File – CEC