

Decision 10-07-046 July 29, 2010

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Implement the Commission's Procurement Incentive Framework and to Examine the Integration of Greenhouse Gas Emissions Standards into Procurement Policies.

Rulemaking 06-04-009
(Filed April 13, 2006)

DECISION GRANTING, IN PART, PETITION OF NATURAL RESOURCES DEFENSE COUNCIL ET AL. TO MODIFY DECISION 07-01-039

1. Summary

This decision grants, in part, a petition to modify Decision 07-01-039 filed by Natural Resources Defense Council, the Environmental Defense Fund, Green Power Institute, Union of Concern Scientists, and The Utility Reform Network (NRDC et al.). These parties propose modifications to the decision to further clarify the content of the plan a load-serving entity must file as part of an application for a Commission finding that a carbon capture sequestration powerplant complies with the Emissions Performance Standard the decision adopts. Though we do not adopt verbatim the language NRDC et al. proposes, we modify the decision (1) to clarify that the plan must comply with federal and/or state monitoring, verification and reporting requirements applicable to projects designed to permanently sequester carbon dioxide and prevent its release from the subsurface, and (2) to further specify how a plan may meet

monitoring, verification and reporting requirements if federal and/or state requirements do not exist or have not been finalized.

2. Background and Related Procedural History

Senate Bill (SB) 1368 (Stats. 2006, ch. 598), enacted in September 2006, directs the Commission, no later than February 1, 2007, to establish an interim greenhouse gas emission performance standard (EPS) and to adopt rules to enforce this standard. By Decision (D.) 07-01-039, the Commission timely adopted Interim Rules for the Greenhouse Gas Emissions Performance Standard (Interim EPS Rules), which govern carbon dioxide (CO₂) emissions from most baseload generation facilities that provide electric power to California ratepayers.¹

In summary, with the sole exception of certain newer, combined cycle natural gas-fueled powerplants that SB 1368 expressly deems to be EPS compliant, SB 1368 prohibits the Commission from approving, and any load serving entity (LSE) from making, a long-term financial investment in a baseload powerplant that does not meet the EPS. In developing the Interim EPS Rules, the Commission was obliged to closely examine the scope of what D.07-01-039 terms covered procurements and, as relevant here, whether covered procurements that utilize CO₂ sequestration projects should merit a blanket exemption from the EPS. D.07-01-039 determines that a blanket exemption is not needed since “SB 1368 provides the flexibility to both encourage new technologies while meeting the EPS.”² Moreover, D.07-01-039 finds that in

¹ See *Interim Opinion on Phase 1 Issues: Greenhouse Gas Emissions Performance Standard* (2007) D.07-01-039. The Adopted Interim Rules are Attachment 7 to the decision.

² D.07-01-039 at 93.

calculating the net emissions for CO₂ sequestration projects, CO₂ that is sequestered through injection in geological formations should not be counted.

D.07-01-039 requires that LSEs request, by application, a Commission finding of EPS compliance for all such CO₂ sequestration projects. The decision describes the contents of the plan in text at pages 93-94 and page 175, in Conclusion of Law 47, and in Ordering Paragraphs 3(c)ii and 6. We quote Conclusion of Law 47 here, as it contains the most comprehensive and contextual description:

Because of the unique nature of CO₂ geological injection sequestration projects, an LSE entering into an EPS covered procurement utilizing such projects should request Commission pre-approval by application. In order to ensure that the purposes of SB 1368 are served, the LSE should be required to (1) provide documentation that the project has a reasonable and economically and technically feasible plan that will result in the permanent sequestration of CO₂ once the injection project is operational and (2) present projections (and documentation of those projections) of net emissions over the life of the powerplant, and (3) provide documentation that the CO₂ injection project complies with applicable laws and regulations.³

On November 30, 2009, The Natural Resources Defense Council, the Environmental Defense Fund, Green Power Institute, Union of Concerned Scientists, and The Utility Reform Network (collectively, NRDC et al.), filed this petition seeking modification of D.07-01-039. At the request of Southern California Public Power Authority (SCPPA), the assigned Administrative Law Judge (ALJ) extended the time for responses to January 15, 2010. The following

³ D.07-01-039, Conclusion of Law 47.

parties filed timely responses: SCPPA, the Division of Ratepayer Advocates (DRA), and the Southern California Edison Company (SCE). Hydrogen Energy California, LLC (HECA) requested party status in order to file a response and the ALJ granted the request. HECA is the sponsor of a proposed, integrated gasification combined cycle project to be located in Kern County, California and would produce hydrogen for low-carbon power generation with carbon capture for use in enhanced oil recovery and CO₂ sequestration. The ALJ also granted the request of NRDC et al. to file a reply on January 25, 2010.

3. Discussion

NRDC et al. acknowledge the potential role for carbon capture and geologic sequestration (CCS) technology in California's electric energy future, particularly as a tool to permit carbon-intensive coal or petroleum coke to meet the EPS. These parties state that viable projects are being developed now and therefore, to ensure "true compliance" with the EPS, they ask the Commission to modify D.07-01-039 to require subsurface monitoring of the injected CO₂ together with verification and reporting.⁴ NRDC et al. recognize that regulation of geologic sequestration is evolving but they contend that a "regulatory gap" exists at present -- regulation at the federal level by the Environmental Protection Agency currently focuses on ground water, and not atmospheric impacts, and no other California agency is poised to address the risk of CO₂ leaking from CCS projects, they state.

For these reasons, NRDC et al. propose that the Commission add a single sentence to D.07-01-039 in six different places (two textual references, a

⁴ Petition of NRDC et al. at 2.

conclusion of law, two ordering paragraphs, and the Interim EPS Rules in the decision's Appendix 7). The sentence they propose would provide additional guidance about the content of an LSE's CCS plan, as follows:

The plan must include sufficient ongoing monitoring and reporting activities, which are enforceable under Federal and/or State law, to determine the subsurface extent and behavior of the injected CO₂, verify the permanence of sequestration, and account for any releases from the subsurface.⁵

DRA supports the proposal advanced by NRDC et al., as does HECA, though HECA suggests certain revisions. SCE opposes the proposal. SCPPA opposes it as well, though SCPPA also includes a proposal for alternative language.

SCE's substantive objection, essentially, is that because CCS plans are still evolving, it is too early to know if a regulatory gap will exist, and furthermore, that other regulatory bodies are better positioned than the Commission to step in to fix such a gap. SCE observes that D.07-01-039 already requires LSEs to submit plans that address the permanence of sequestration, among other things, and suggests that other agencies are better positioned to address the concerns raised, once those concerns are ripe. SCE also argues that the petition is untimely and we address that issue in Section 4. While SCPPA generally agrees with SCE, it also weighs in with recommendations to modify the language proposed by NRDC et al. SCPPA states that its revisions are intended to increase clarity, avoid unintended consequences, and ensure that the additional measures do not mandate the impossible. SCPPA proposes:

⁵ Petition of NRDC et al. at 6-8.

The plan must include sufficient ongoing monitoring and reporting activities, ~~which are enforceable under Federal and/or State law,~~ to determine to the extent technically feasible the subsurface extent and behavior of the injected CO₂, verify that the injected CO₂ continues to be sequestered ~~the permanence of sequestration,~~ and report ~~account for~~ any measurable releases from the subsurface.⁶

HECA also suggests modifications to the language proposed by NRDC et al., as follows:

The plan must include sufficient ongoing monitoring and reporting activities, ~~which are enforceable under Federal and/or State law~~ as required by a Federal or State agency, to determine the subsurface extent ~~and behavior~~ of the injected CO₂, verify the permanence of sequestration, and report as to the quantity of known ~~account for~~ ~~any~~ releases, if any, from the subsurface.⁷

In addition, HECA requests two further clarifications from the Commission: (1) agreement that a plan issued by a federal or state agency that includes on-going monitoring complies with the EPS Rules (as modified) and, therefore, will not be subject to de novo review by the Commission; and (2) agreement to revise the current loading order so that CCS technologies are no longer included within the same group as all other fossil fuel technologies. With respect to the latter, HECA proposes that the Commission “create a preference within the loading order category for fossil fuel generation for clean energy with CCS attributes, or establish an intermediate category for clean energy with CCS between renewable energy and fossil fuel generation.”⁸

⁶ SCPPA Response at 3.

⁷ HECA Response at 5.

⁸ HECA Response at 7.

In their reply, NRDC et al. state that they do not intend for “the Commission to write, adopt or administer any regulations governing the operation of GS [geologic sequestration] projects.”⁹ They reiterate their view that “the potential for compromising the integrity of the EPS is very real, and we argue that projects should not be deemed compliant with the emissions threshold without the necessary monitoring, verification and accounting requirements in place – all of which can be administered by the most appropriate State or Federal agency in each case.”¹⁰ NRDC et al. suggest the following revisions to their initial proposal, given the alternative language from SCPPA and HECA:

The plan must include sufficient ongoing monitoring and reporting activities, which are enforceable under Federal and/or State law and administered by the relevant Federal and/or State Agencies, to determine the subsurface extent and geophysical, geochemical and hydrogeological behavior of the injected CO₂, verify the permanence of sequestration, and detect and report ~~account for any~~ releases from the subsurface, if any.¹¹

The threshold question for our consideration is whether, given the evolving state of CCS regulation, D.07-01-039 contains insufficient guidance regarding the content of an LSE application that seeks a Commission finding of EPS compliance for a CCS project. Focusing on the language in Conclusion of Law 47 (which is identical or similar to the language found elsewhere in D.07-01-039), we agree with NRDC et al. that ongoing monitoring, reporting and

⁹ Reply of NRDC et al. at 2-3.

¹⁰ Reply of NRDC et al. at 3.

¹¹ Reply of NRDC et al. at 7.

enforcement are critically important aspects of D.07-01-039's specification that an LSE develop a "reasonable and economically and technically feasible plan that will result in the permanent sequestration of CO₂ once the injection project is operational." We also agree with NRDC et al. and other parties that our own jurisdictional charge does not include the development of regulations governing ongoing monitoring, reporting and enforcement of CCS.

Therefore, because we believe we must act within our jurisdiction to ensure the integrity of the EPS, but at this point do not know exactly how regulation of CCS will unfold at either the state or federal level, in order to avoid any regulatory gap we agree we should modify D.07-01-039 to clarify our expectation of the contents of any LSE plan. In our view, the various proposals that reference federal or state laws and agencies fail to adequately address two things relevant to the Commission's responsibilities for LSE compliance with the EPS: (1) the LSE plan must comply with federal and/or state monitoring, verification and reporting requirements *applicable to projects designed to permanently sequester CO₂* (that is, prevent CO₂ releases into the atmosphere) and, (2) the absence of such state and/or federal monitoring, verification and reporting requirements, or the fact that they have yet to be finalized, should not prevent an LSE from filing an application for a Commission finding of EPS compliance for a CCS project. Finally, since D.07-01-039 already specifies that a plan must be technically feasible as well as reasonable and economically feasible, we add no additional language on that point.

The following modification clarifies our intent.

The plan must comply with Federal and/or State monitoring, verification and reporting requirements applicable to projects designed to permanently sequester CO₂ by preventing its release from the subsurface. If at the time the application is filed Federal

and/or State requirements have not been finalized, the plan must include monitoring activities to detect releases of injected CO₂ from the subsurface, must provide for verification of any detected releases and must include a schedule for reporting any detected releases to the Commission or other Federal and/or State agencies requesting that information.

This language should be added to D.07-01-039, in lieu of the language that NRDC et al. have proposed, in each of the six places where NRDC et al. have asked us to modify the decision. Given the evolving state of CCS regulation, we decline to be more prescriptive at this time. HECA's request that we modify the loading order is beyond the scope of the petition and we need not address it further.

4. Timeliness of the Petition

Rule 16.4(d) of the Commission's Rules of Practice and Procedure requires that a petition for modification be filed and served within one year of the effective date of the decision the petition proposes to modify. If more than one year has elapsed, the petition must also explain why the petition could not have been presented within one year of the effective date of the decision. If the Commission determines that the late submission has not been justified, it may on that ground issue a summary denial of the petition.

NRDC et al. filed this petition more than two and an half years after D.07-01-039's effective date. The petition gives two reasons. First, in the one-year anniversary after D.07-01-039's effective date, NRDC et al. state that very little was known about how the federal and state regulatory framework for carbon capture sequestration would evolve. They contend it now appears that a regulatory gap may result, which if unaddressed by this Commission, could undermine California's implementation of the EPS under SB 1368. Second,

within that same time period, the potential role of CCS in EPS compliance has advanced to a degree not reasonably foreseen and a number of projects are now in the planning or permitting stage both within California and outside the state, particularly in Utah and Wyoming.

NRDC et al have reasonably explained why the petition was not filed within the one-year anniversary of the effective date of D.07-01-039. The petition is properly filed.

4. Comments on Proposed Decision

The proposed decision of the ALJ in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the Commission's Rules of Practice and Procedure. NRDC requested, and received, authorization to file comments late. No party sought leave to file reply comments.

NRDC asks us to insert the word "adequate" into the proposed, revised rule, as follows:

The plan must comply with Federal and/or State monitoring, verification and reporting requirements applicable to projects designed to permanently sequester CO₂ by preventing its release from the subsurface. If at the time the application is filed **adequate** Federal and/or State requirements have not been finalized, the plan must include monitoring activities to detect releases of injected CO₂ from the subsurface, must provide for verification of any detected releases and must include a schedule for reporting any detected releases to the Commission or other Federal and/or State agencies requesting that information.

We decline to make this additional change because we deem it unnecessary. As noted above, D.07-01-039 unequivocally requires that an LSE develop a "reasonable and economically and technically feasible plan that will

result in the **permanent** sequestration of CO₂ once the injection project is operational.” (Emphasis added) If interested parties believe that federal and/or state monitoring rules do not ensure permanence, we are certain they will raise their concerns in response to a future LSE application.

5. Assignment of Proceeding

Michael R. Peevey is the assigned Commissioner. On September 21, 2009, this proceeding was reassigned to ALJ Jean Vieth.

Findings of Fact

1. Ongoing monitoring, reporting and enforcement are critically important aspects of D.07-01-039’s specification that an LSE develop a “reasonable and economically and technically feasible plan that will result in the permanent sequestration of CO₂ once the injection project is operational.”
2. While the Commission’s jurisdictional charge does not include the development of regulations governing ongoing monitoring, reporting and enforcement of CCS, in undertaking its responsibilities for LSE compliance with the EPS, the Commission must ensure the integrity of the EPS.
3. It is reasonable to modify D.07-01-039 to clarify our expectation of the contents of any LSE plan. The language in Ordering Paragraph 2 addresses two matters relevant to the Commission’s responsibilities for LSE compliance with the EPS that party proposals inadequately address. One, the LSE plan must comply with federal and/or state monitoring, verification and reporting requirements *applicable to projects designed to permanently sequester CO₂* (that is, prevent CO₂ releases into the atmosphere). Two, the absence of such state and/or federal monitoring, verification and reporting requirements, or the fact that they have yet to be finalized, should not prevent an LSE from filing an application for a Commission finding of EPS compliance for a CCS project.

4. D.07-01-039 already specifies that a plan must be technically feasible, reasonable and economically feasible.

Conclusions of Law

1. The petition for modification should be granted in part but the language in Ordering Paragraph 2 should be added to D.07-01-039 in lieu of the language proposed by NRDC et al.; in all other respects the petition for modification should be denied.

2. NRDC et al. have met the requirements of Rule 16.4(d), regarding the timeframe for filing a petition for modification; the petition is properly filed.

O R D E R

IT IS ORDERED that:

1. Decision 07-01-039 is modified as follows (additions to existing text are underlined and deletions appear with overstrikes).

(a) Decision text at 93-94:

Because of the unique nature of such CO₂ sequestration projects, we will require LSEs to file an application requesting a Commission finding of EPS compliance for any covered procurement that employs a geological formation injection. As part of this filing, the LSE shall provide documentation demonstrating that the CO₂ capture, transportation and geological formation injection project has a reasonable and economically and technically feasible plan that will result in a permanent sequestration of CO₂ once the injection project is operational. The plan must comply with Federal and/or State monitoring, verification and reporting requirements applicable to projects designed to permanently sequester CO₂ by preventing its release from the subsurface. If at the time the application is filed Federal and/or State requirements have not been finalized, the plan must include monitoring activities to detect releases of injected CO₂ from the subsurface, must provide for verification of

any detected releases and must include a schedule for reporting any detected releases to the Commission or other Federal and/or State agencies requesting that information. This may mean that the sequestration project might become operational after the powerplant comes on line or the LSE enters into the contract. In implementing §§ 8341(d)(2) and (5), we clarify today that we will determine EPS compliance for such powerplants based on reasonably projected net emission over the life of the plant.

(b) Decision text at 175:

We also require LSEs to file an application requesting a Commission finding of EPS compliance for any covered procurement that employs geological formation injection for CO₂ sequestration. As part of this filing, the LSE shall provide documentation demonstrating that the geological formation injection project has a reasonable and technically feasible plan that will result in a permanent sequestration of CO₂ once the project is operational. The plan must comply with Federal and/or State monitoring, verification and reporting requirements applicable to projects designed to permanently sequester CO₂ by preventing its release from the subsurface. If at the time the application is filed Federal and/or State requirements have not been finalized, the plan must include monitoring activities to detect releases of injected CO₂ from the subsurface, must provide for verification of any detected releases and must include a schedule for reporting any detected releases to the Commission or other Federal and/or State agencies requesting that information.

(c) Conclusion of Law 47:

Because of the unique nature of CO₂ geological injection sequestration projects, an LSE entering into an EPS covered procurement utilizing such projects should request Commission pre-approval by application. In order to ensure that the purposes of SB 1368 are served, the LSE should be required to: (1) provide documentation that the project has a reasonable and economically and technically feasible plan that will result in the permanent sequestration of CO₂ once the injection project is

operational. The plan must comply with Federal and/or State monitoring, verification and reporting requirements applicable to projects designed to permanently sequester CO₂ by preventing its release from the subsurface. If at the time the application is filed Federal and/or State requirements have not been finalized, the plan must include monitoring activities to detect releases of injected CO₂ from the subsurface, must provide for verification of any detected releases and must include a schedule for reporting any detected releases to the Commission or other Federal and/or State agencies requesting that information; (2) present projections of net emissions over the life of the powerplant; and (3) provide documentation that the CO₂ injection project complies with applicable laws and regulations.

(d) Ordering Paragraph 3(c) ii:

As part of this filing, PG&E, SCE and SDG&E shall provide documentation demonstrating that the CO₂ capture, transportation and geological formation injection project has a reasonable and economically and technically feasible plan that will result in the permanent sequestration of CO₂ once the project is operational, and that the CO₂ injection project complies with applicable laws and regulations. The plan must comply with Federal and/or State monitoring, verification and reporting requirements applicable to projects designed to permanently sequester CO₂ by preventing its release from the subsurface. If at the time the application is filed Federal and/or State requirements have not been finalized, the plan must include monitoring activities to detect releases of injected CO₂ from the subsurface, must provide for verification of any detected releases and must include a schedule for reporting any detected releases to the Commission or other Federal and/or State agencies requesting that information. This showing shall include any emissions-related provisions that may be required through contract and/or permit conditions.

(e) Ordering Paragraph 6:

For covered procurements that employ geological formation injection for CO₂ sequestration, LSEs other than PG&E, SCE and SDG&E shall request Commission pre-approval by filing a separate application with service on the service list in this proceeding, or its successor proceeding. As part of this filing, the LSE shall provide documentation demonstrating that the CO₂ capture, transportation and geological formation injection project has a reasonable and economically and technically feasible plan that will result in the permanent sequestration of CO₂ once the project is operational, and that the CO₂ injection project complies with applicable laws and regulations. The plan must comply with Federal and/or State monitoring, verification and reporting requirements applicable to projects designed to permanently sequester CO₂ by preventing its release from the subsurface. If at the time the application is filed Federal and/or State requirements have not been finalized, the plan must include monitoring activities to detect releases of injected CO₂ from the subsurface, must provide for verification of any detected releases and must include a schedule for reporting any detected releases to the Commission or other Federal and/or State agencies requesting that information. The LSE shall also make a showing of EPS compliance by presenting projections, and documentation of those projections, of net emissions over the life of the life of the powerplant. This showing shall include any emissions-related provisions that may be required through contract and/or permit conditions.

(f) Attachment 7 (Adopted Interim EPS Rules), Rule 6.B(2):

The CO₂ capture, transportation and geological formation injection project has a reasonable and economically and technically feasible plan that will result in a permanent sequestration of CO₂ once the injection project is operational. The plan must comply with Federal and/or State monitoring, verification and reporting requirements applicable to projects designed to permanently sequester CO₂ by preventing its release from the subsurface. If at the time the application is filed Federal and/or State requirements have not been finalized, the plan must

include monitoring activities to detect releases of injected CO₂ from the subsurface, must provide for verification of any detected releases and must include a schedule for reporting any detected releases to the Commission or other Federal and/or State agencies requesting that information.

2. The petition to modify Decision 07-01-039 filed by Natural Resources Defense Council, the Environmental Defense Fund, Green Power Institute, Union of Concern Scientists, and The Utility Reform Network on November 30, 2009 is granted to the extent consistent with Ordering Paragraph 1 and is otherwise denied.

3. Rulemaking 06-04-009 remains open.

This order is effective today.

Dated July 29, 2010, at San Francisco, California.

MICHAEL R. PEEVEY
President
DIAN M. GRUENEICH
JOHN A. BOHN
TIMOTHY ALAN SIMON
NANCY E. RYAN
Commissioners