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01-25-10
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**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)

REPLY OF THE NATURAL RESOURCES DEFENSE COUNCIL (NRDC), THE ENVIRONMENTAL DEFENSE FUND (EDF), GREEN POWER INSTITUTE (GPI), UNION OF CONCERNED SCIENTISTS (UCS), AND THE UTILITY REFORM NETWORK (TURN) TO RESPONSES TO PETITION FOR MODIFICATION OF DECISION 07-01-039, "INTERIM OPINION ON PHASE 1 ISSUES: GREENHOUSE GAS EMISSIONS PERFORMANCE STANDARD"

January 25, 2010

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1. INTRODUCTION

The Natural Resources Defense Council (NRDC), the Environmental Defense Fund (EDF), Green Power Institute (GPI), Union of Concerned Scientists (UCS), and The Utility Reform Network (TURN) respectfully submit this reply to responses filed on January 15, 2010 to the Petition for Modification (PFM), filed November 30, 2009 by NRDC et al., of Decision 07-01-039, "Interim Opinion On Phase 1 Issues: Greenhouse Gas Emissions Performance Standard" ("Decision"). In accordance with Rule 16.4(g) of the California Public Utilities Commission's (CPUC or Commission) Rules of Practice and Procedure, NRDC et al. requested permission from Administrative Law Judge (ALJ) Vieth to file a reply to the responses to the PFM; ALJ Vieth granted permission, via an e-mail dated January 13, 2010, to NRDC et al. to file a reply by January 25, 2010. This reply is also filed in accordance with CPUC Rules 1.9 and 1.10.

On January 15, 2010, responses to the Petition were filed by the Division of Ratepayer Advocates (DRA), Hydrogen Energy California LLC (HECA), Southern California Edison Company (SCE), and Southern California Public Power Authority (SCPPA).

2. SUMMARY OF RESPONSES

SCE requests that the Commission deny the PFM. SCPPA requests that the Commission deny the PFM, or, if the Commission does not wish to deny the PFM, that it adopts their suggested modifications to the language. We contend that SCE's and SCPPA's arguments are based on an incorrect understanding of how our proposed changes in the PFM would be administered, nor are the modifications suggested appropriate, and we address them below.

HECA requests that the Commission adopt its suggested modifications to the language in the Petition, and clarify the current rule accordingly. We welcome HECA's general support to the objectives of the PFM, and address its suggested language changes below.

DRA requests that "the Commission adopt the PFM's proposed revisions to D.07-01-039, which will clarify the requirements for carbon capture and sequestration as a means of complying with the EPS, and thereby safeguard the EPS and help ensure that ratepayers obtain its intended benefits […] : protecting ratepayers from risks associated with the compliance costs associated with GHG emissions". We agree with DRA's request and stated justification for supporting the PFM.

3. THE PFM WOULD NOT CREATE DUPLICATIVE OR CONFLICTING REGULATORY REQUIREMENTS BETWEEN THE CPUC AND OTHER REGULATORY AGENCIES, NOR WOULD IT REQUIRE THE CPUC TO ADMINISTER REGULATIONS RELATED TO GEOLOGIC SEQUESTRATION.

In their respective reply briefs, SCE and SCPPA argue that because the overall regulatory framework for geologic sequestration (GS) is still evolving at the national and state level, the Commission should not interfere by establishing requirements under the SB 1368 Emissions Performance Standard (EPS). SCE and SCPPA also suggest that other regulatory bodies are better positioned to address issues related to GS regulation. SCE and SCPPA further claim that, due to the evolving nature of the GS regulatory framework, wide-ranging agency action or federal and/or state legislation has the potential to alter, conflict with, or override Commission actions. SCE and SCPPA also argue that other agencies are better suited in prescribing and administering regulations for GS projects. We believe these arguments reflect a fundamental lack of understanding of the PFM's intent, content and effect if adopted. The PFM would not require the Commission to write, adopt or administer any regulations governing the operation of GS

projects, such as well construction and maintenance, pressure limits, monitoring, verification and reporting. Instead, the PFM only relates to the implementation of the EPS by the Commission. According to the PFM, the Commission would evaluate the regulatory requirements imposed and/or administered by agencies, which have appropriate authority and geologic expertise. The evaluation would serve to inform a finding by the Commission of whether these requirements are sufficient for the purposes of certifying compliance with the EPS when power is generated coincident with CO_2 sequestration. We also expect the Commission to consult with agencies that have authority to regulate GS projects and offer its opinion on the necessary requirements for compliance with the EPS at an early stage, thereby facilitating the collection of needed permits and compliance verifications for power generation and CO_2 sequestration projects. Without these requirements, 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. As such, we recognize none of the timing, authority or duplication issues raised by SCE and SCPPA.

4. THE PFM IS NECESSARY IN ORDER TO SAFEGUARD THE INTEGRITY OF THE EPS

SCE and SCPPA also argue that the current rule language of the EPS provides the Commission with sufficient oversight authority of carbon dioxide emissions in GS projects, making reference to the requirement on LSEs to:

> *"(1) provide documentation that the project has a reasonable and economically and technically feasible plan that will result in the permanent sequestration of CO_2 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 CO_2 injection project complies with applicable laws and regulations".*[1]

While we believe that the current language in the Decision is a sound start, the requirements imposed are not robust enough or sufficient to safeguard the integrity of the EPS

[1] D.07-01-039 , "Conclusions of Law", paragraph 47, p. 272-273.

with regard to CO_2 sequestration. Monitoring, verification and accounting (MVA) are integral parts of any GS project, and should be mentioned explicitly in the rule language. Ongoing rulemakings by State and Federal agencies are determining precisely what the appropriate MVA requirements are for GS projects under their jurisdiction. Future rulemakings are likely to do the same. However, as explained above, the current EPS language does not require MVA. Further, since compliance with the EPS may be sought by power generation projects from a number of states, each of which could be governed by a different regulatory framework for GS, it cannot be presupposed that the potential patchwork of regulations outside California will impose MVA requirements sufficient for EPS compliance. Some projects may even apply for compliance from states with no regulatory framework that governs GS or requires MVA. Other projects may try and avoid obtaining the necessary permits for verifying permanent GS. Given the need for proper MVA to document sequestration effectiveness and the variability across the regulatory and physical landscape, it is essential that the Commission reserve the right to evaluate the extent to which a State or Federal framework and permits meets the necessary standards on a project-by-project basis.

While we are not persuaded by HECA's interpretation that "the Interim Rule as adopted necessarily requires the submission and approval by the Commission of an appropriate and robust monitoring, reporting and verification plan to demonstrate the permanent sequestration of the carbon dioxide and satisfaction of the EPS", we are pleased that HECA is "not in general opposed to the Petitioners' request for clarification in this regard". We are encouraged by the fact that the developer of the most mature CCS plant proposals in California recognizes the need for robust monitoring, reporting and verification.

Finally, SCE cites our assertion that "project proposals relying on [CCS] technology are proceeding faster than had been anticipated, with a number of projects in the planning or permitting phase in California and outside the state", without rejecting it. We reiterate that the possibility for projects to apply for EPS compliance without being subject to, or engaging in, the necessary MVA requirements is distinct. Adoption of the PFM by the Commission would therefore inform, in advance, project developers and regulatory agencies administering GS and related regulations that MVA needs to be an integral part of the permit structure and ongoing operation of GS projects. If the PFM is not adopted, the Commission will need to use its discretion to certify EPS compliance each time an application is filed, with some applications

potentially subjected to arguments claiming that MVA is not necessary to demonstrate the permanence of the sequestration and hence compliance with the EPS. For this reason, the PFM would have the Commission clarify that MVA is required in advance, and codify this in the Decision. We believe this would add regulatory certainty and clarity, which will help both regulators and project proponents.

5. Timing Of PFM Submission

SCE claims that a "late submission" of the PFM under Rule 16.4(d) is not justified for two reasons: first, because the regulatory framework for GS is still evolving and, second, because nothing has changed that requires Commission action at this time. SCE attempts to support this claim by citing the evolving nature of the current regulatory framework for GS, and by arguing that nothing has changed since the Decision was adopted to merit a modification.

We rebut SCE's arguments in detail above, and reiterate our arguments in the PFM, viz. that the evolving and geographically variable nature of the regulatory framework for GS mandates that the Commission take measures to ensure that the EPS is not compromised, and that the faster-than-originally-expected progress made with GS proposals render the original language in the Decision inadequate in that respect.

6. Discussion Of Language Edits Suggested In The Responses

HECA and SCPPA make recommendations for language changes to the PFM, which we address here. The PFM as submitted contains the following language recommendation:

> *"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 CO_2, verify the permanence of sequestration, and account for any releases from the subsurface."*

A. Enforceability under Federal and/or State law

SCPPA recommends that the words "which are enforceable under Federal and/or State law" should be removed. MVA plans which are prepared by a project owner or operator but which are not legally enforceable are inadequate to certify compliance with the EPS. Furthermore, the Commission should not accept voluntary or other plans that may cease to be

enforced during a project's lifetime. Even though legally enforceable requirements that specify MVA at GS sites may soon be in place at the Federal level, as well as in several states including California, requirements akin to those suggested in the PFM can be administered in the interim by State agencies under existing authority. **We urge the Commission to reject the suggested deletion**.

HECA recommends that the words "which are enforceable under Federal and/or State law" be replaced by the words "as required by a Federal or State Agency". While we recognize the motive behind the suggested change, which is to clarify that CPUC need not administer, or itself enforce these activities, we point out that in some cases such activities may not, in fact, be required by a Federal or State Agency. Actual MVA requirements enforced by a competent agency are essential, and in the absence of such requirements CPUC should not accept projects as compliant with the EPS. **We propose that the following addition which should further clarify the point raised by HECA: "which are enforceable under Federal and/or State law <u>and administered by the relevant Federal and/or State Agencies</u>".**

B. Technical feasibility

SCPPA recommends the following addition "to determine <u>to the extent technically feasible</u> the subsurface extent and behavior of the injected CO_2". Technical feasibility is a consideration that will underlie agencies' regulatory requirements in relation to monitoring and reporting the extent and behavior of the plume, as well as the Commission's evaluation of those requirements for the purposes of the EPS. The addition would invite arguments that could diminish the robustness of those requirements, and **we urge the Commission to reject the addition**.

C. Behavior of the injected CO_2

HECA argues that the term "behavior" as applied to a geologic formation is vague and undefined, not used in regard to the technology or science of GS, and suggests its deletion. We point out that the term "subsurface extent" by itself could be regarded to be static, without taking into account evolution over time. The intent behind the use of the term "behavior" in addition to "subsurface extent" is dual: to capture the temporal evolution of the CO_2 plume, and also the key geophysical and geochemical interactions between the injected CO_2 plume and the subsurface

environment, as well as hydrogeological movement. **We therefore urge that the term be clarified to "geophysical, geochemical and hydrogeological behavior." If this text is added, the term "behavior" will no longer be vague, and the suggested deletion should be rejected**.

D. Accounting for releases

HECA points out that the phrase "account for any releases from the subsurface" could be interpreted as requiring unattainable levels of accuracy for measuring and detecting CO_2 releases. SCPPA also makes this point, and further suggests that the term "account for any releases" be substituted by "report any measurable releases". We clarify that our intent is not to impose unreasonable requirements for surface and subsurface monitoring, nor is it to imply that surface or subsurface releases always take place during GS operations. **We propose an alternative to HECA's and SCPPA's suggested change as follows: " […] , and detect and report ~~account for~~ ~~any~~ releases from the subsurface, if any".**

E. Permanence of sequestration

SCPPA claims that the term "permanent" is not defined in the Decision, that its interpretation could vary, and that verification of "permanence", which implies an indefinite time horizon, is not possible within finite time horizons. We point out that the Decision uses the term "permanent" in several places, as outlined in the PFM. Cognizant that agencies with jurisdiction to regulate GS will likely define this term, and wishing to give the Commission discretion as to its interpretation, **we believe that the term "permanence" is understandable, well thought-out, and successful in signaling the intended timeframes and performance standards for sequestration – we therefore urge that SCPPA's suggested change be rejected**.

7. Summary of Our Suggested Changes To The PFM Text

Based on the discussion above, we recommend the following changes to the operative PFM text as originally proposed:

> *"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 CO_2, verify the permanence of sequestration, and detect and report ~~account for any~~ releases from the subsurface, if any."*

8. CONCLUSION

We appreciate the opportunity to reply to the responses to the Petition for Modification for Decision 07-01-039, submitted on November 30, 2009. We urge the Commission to proceed to modify the Decision as per our updated language recommendation above in order to safeguard the integrity of the EPS, protect consumers from the significant financial and reliability risks of high GHG-emitting energy sources, and ensure that low carbon generation facilitated through CCS retains the appropriate environmental effectiveness.

Dated: January 25, 2010.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that I have this day served a copy of the **"Reply of the Natural Resources Defense Council (NRDC), the Environmental Defense Fund (EDF), Green Power Institute (GPI), Union of Concerned Scientists (UCS), and The Utility Reform Network (TURN) to Responses to Petition for Modification of Decision D0701039, 'Interim Opinion On Phase 1 Issues: Greenhouse Gas Emissions Performance Standard' " in the matter of R.06-04-009** to all known parties of record in this proceeding by delivering a copy via email or by mailing a copy properly addressed with first class postage prepaid.

Executed on January 25, 2010, at San Francisco, California.

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