City of ARCATA

736 F Street
Arcata, CA 95521

City Manager (707) 822·5953
Environmental Services 822·8184
Police 822·2428
Recreation 822·7091
Community Development 822·5955
Finance 822·5951
Public Works 822·5957
Transportation 822·3775

February 16, 2017

Merrian Borgeson, Senior Scientist
Natural Resources Defense Council
111 Sutter St., 20th Floor, San Francisco, CA 94104

Dear Merrian Borgeson,

Thank you for your thoughtful motion for consideration to the California Public Utilities Commission addressing the fact that the three prong fuel substitution test has negatively impacted the ability of switching technologies to successfully enter the market place. The City of Arcata has been working on emission reduction strategies for decades now and has a goal to support fuel switching as a means to reduce emissions.

Please add the signature below to your motion before the CPUC to show the City of Arcata support. If you have any questions feel free to contact me or our City Manager, Karen Diemer at 707.822.5953.

Sincerely,

Susan Ornelas

Susan Ornelas, Mayor
City of Arcata

Signature for Motion:

Susan Ornelas

Susan Ornelas, Mayor
City of Arcata
736 F Street
Arcata, CA 95521
707.822.5953
citymgr@cityofarcata.org

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Create a Consistent Regulatory Framework for the Guidance, Planning, and Evaluation of Integrated Distributed Energy Resources.	Rulemaking 14-10-003 (Filed October 2, 2014)

MOTION OF THE NATURAL RESOURCES DEFENSE COUNCIL (NRDC)

February XX, 2017

Merrian Borgeson
Pierre Delforge
Natural Resources Defense Council
111 Sutter St., 20th Floor
San Francisco, CA 94104
415-875-6100
mborgeson@nrdc.org

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Create a Consistent Regulatory Framework for the Guidance, Planning, and Evaluation of Integrated Distributed Energy Resources.	Rulemaking 14-10-003 (Filed October 2, 2014)

MOTION OF THE NATURAL RESOURCES DEFENSE COUNCIL (NRDC)

I. Introduction

Pursuant to Rule 11.1 of the Commission's Rules of Practice and Procedure, the Natural Resources Defense Council (NRDC) respectfully submits this motion requesting that the Commission address issues related to the three-prong fuel substitution test within the Integrated Distributed Energy Resources (IDER) proceeding. This test has effectively served as a roadblock to rebates and other incentives for virtually all fuel substitution opportunities – even when there are significant climate benefits and energy savings available. The three-prong test is unnecessarily restrictive and is opaque in terms of the "burden of proof" required to pass the test. It is time to update the test to align it with the state's climate and energy policies.

To enable program administrators to launch new programs with confidence, we request that the Commission address the following issues through the Cost Effectiveness Working Group of the IDER proceeding:

1) Review the three-prong test for utility, clarity, and alignment with Commission policies and California's climate goals; update (or remove) the test and provide detailed guidance on the methodology for conducting the test.
2) Clarify under what conditions the test must be passed (e.g. for substitution of regulated fuels vs substitution between regulated and unregulated fuels such as propane and wood).
3) Provide detailed guidance, with clear example cases, on how projects or programs that include fuel substitution will be assessed using the Commission's standard cost effectiveness tests required of all DER programs.

Below we provide background on the test, rationale for why this issue is important to address at this time, and a list of ## stakeholders that support this motion. We appreciate consideration of this request, and look forward to working with the Commission on this issue.

II. Discussion

A. Background on the Three-Prong Fuel Substitution Test

The California Public Utilities Commission's (CPUC) three-prong fuel substitution test determines what fuel substitution projects can be rewarded with utility customer-funded energy efficiency incentives. The test applies to substitution from natural gas to electricity, and from electricity to natural gas.[1]

The CPUC established the three-prong fuel substitution test[2] in the early 1990s when a primary concern was to mitigate the risk of "fuel wars" between utilities in Southern California as energy efficiency programs were ramping up. At the time, NRDC supported the three-prong test due to concern both about the successful roll-out of new energy efficiency programs and about increased air pollution and greenhouse gas emissions that would result from switching from natural to electricity due to the emissions from electricity generation at that time. However, given both the significantly cleaner electric resource mix and the maturity of California's energy efficiency programs, it is time to reconsider the three-prong fuel substitution test.

B. Language of the Three-Prong Test

The three-prong test has components that attempt to assess a) energy savings, b) cost effectiveness, and c) environmental impact. As described in the California Energy Efficiency Policy Manual, the three-prong fuel-substitution test stipulates that:

> *Fuel-substitution programs/projects, whether applied to retrofit or new construction applications, must pass the following three-prong test to be considered further for funding:*
>
> *a. The program/measure/project must not increase source-BTU consumption. Proponents of fuel substitution programs should calculate the source-BTU impacts using the current CEC-established heat rate.*
>
> *b. The program/measure/project must have TRC and PAC benefit-cost ratio of 1.0 or greater. The TRC and PAC tests used for this purpose should be developed in a manner consistent with Rule IV.4.*
>
> *c. The program/measure/project must not adversely impact the environment. To quantify this impact, respondents should compare the environmental costs with and without the program using the most recently adopted values for avoided costs of emissions. The*

---

[1] It is unclear to NRDC if the test applies to unregulated fuels such as propane and wood; we are not aware of a precedent for this, but clarification on this point from the CPCU would be helpful.

[2] D.92-10-020 and D.92-12-050 established the test. The test is further discussed in D.93-11-017.

burden of proof lies with the sponsoring party to show that the material environmental impacts have been adequately considered in the analysis.[3]

In addition, the California Energy Efficiency Policy Manual describes the "baseline" to which the proposed fuel substitution should be compared:

For purposes of applying these tests, fuel substitution proponents must compare the technologies offered by their program/measure/project with the industry standard practice same-fuel substitute technologies available to prospective participants that would have TRC and PAC benefit-cost ratio of 1.0 or greater. The burden of proof falls on the party sponsoring the analysis to show that the baseline comparison adheres to this requirement.

While this guidance might seem simple at first glance, upon closer analysis there is significant uncertainty around what "burden of proof" is acceptable (i.e. how to pass the test), inherently creating a barrier to pursuing fuel substitution programs. There are also several ways in which this policy is not the best means of ensuring that fuel substitution programs "reduce the need for supply without degrading environmental quality,"[4] a primary goal described in the California Energy Efficiency Policy Manual and in early decisions on fuel substitution. A public assessment of these issues is required as part of a process to make changes to the three-prong test so that it is better aligned with California's climate policies.

C. The Three-Prong Test is a Barrier to California's Progress on Climate

The three-prong test limits CPUC's ability to support projects that both reduce energy use and greenhouse gas emissions. Governor Brown rightly highlighted the need to "make heating fuels cleaner" in his 2015 State of the State address. While significant progress has been made building out a vision and policy framework to support the Governor's other climate pillars, much less attention has been paid to putting California on a path to clean up the fuels burned in homes and businesses. Early action from leadership states like California will be critical to catalyze the market transformation needed to reduce these emissions cost-effectively and stay within our 2050 carbon budget.

In California, direct emissions from buildings (largely from natural gas burned for space and water heating, though also from propane and wood-fueled heat) are greater than emissions from electricity imports, and on the same order as emissions from all in-state generation.[5] Notably, these emissions from buildings *do not* include fugitive emissions from production, storage,

---

[3] CPUC (California Public Utilities Commission). 2013. *Energy Efficiency Policy Manual, R.09-11-014, Version 5, July 5, 2013 p24-25:* http://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy_-_Electricity_and_Natural_Gas/EEPolicyManualV5forPDF.pdf

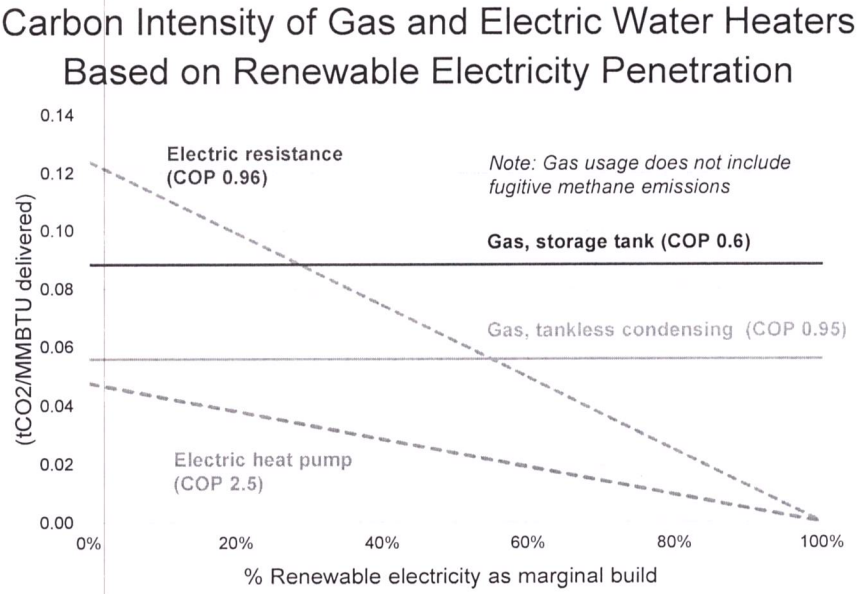
[4] Ibid.

[5] cite

transmission, distribution, and onsite losses of natural gas. And as our electricity mix gets cleaner, as required by existing law, these direct emissions from buildings will increasingly stick out like a sore thumb. Already fossil fuels burned onsite account for over 40% of emissions from buildings in California.[6] To cut emissions by 80 percent economy-wide by 2050, we need to drastically reduce emissions from residential and commercial buildings.[7] In addition to increasing energy efficiency and renewable electricity – which will not, alone, be sufficient – there are two strategies to significantly cut emissions from buildings:

- **Electrification** of building equipment for space and water heating with high-efficiency technology, powered by electricity from renewable sources.
- **Decarbonized fuels** such as biogas and synthetic gas generated from renewable electricity to replace the remaining direct use of fossil fuels in buildings.

Both pathways will be challenging and logistically complex, but reducing emissions through one or both of these pathways will be required to meet long term climate targets. A suite of electric technologies are already known and commercially available, but will need policy support to move into wider market adoption. As shown in the graphic below, high efficiency electric heat pump water heaters (the dotted green line) already reduce emissions at most levels of renewable electricity penetration – and offer significant emissions reduction potential for states like California ramping up to 50 percent renewable electricity and beyond. Decarbonized gas should also be explored, but is currently far less developed and analysis will be needed to better understand its potential, cost, and environmental impacts (some of which is scheduled to occur through the 2017 Integrated Energy Policy Report).[8]



[6] cite
[7] cite
[8] cite

The current structure of the three-prong test essentially takes the energy efficiency funding available through California's efficiency program administrators off the table for projects that involve fuel substitution – even when these projects use highly-efficient technologies and significantly reduce climate pollution. The CPUC should consider changes to this test to enable progress towards state policy goals, while also affirming the principle established in D.92-02-075 and reiterated in D.92-10-020 that fuel substitution should only be promoted "if it has a neutral or beneficial effect on the environment."

D. Request for Considering Key Issues Regarding the Three-prong Test

Given the need to align the three prong test with California's energy and climate goals, NRDC asks that the Commission move quickly to re-examine this policy. To enable program administrators to launch new programs with confidence, we request that the Commission address the following issues:

1) Review the three-prong test for utility, clarity, and alignment with Commission policies and California's climate goals; update (or remove) the test and provide detailed guidance on the methodology for conducting the test.

2) Clarify under what conditions the test must be passed (e.g. for substitution of regulated fuels vs substitution between regulated and unregulated fuels such as propane and wood).

3) Provide detailed guidance, with clear example cases, on how projects or programs that include fuel substitution will be assessed using the Commission's standard cost effectiveness tests required of all DER programs.

NRDC requests that these issues be addressed with significant stakeholder input and with active participation from CEC staff through the Cost Effectiveness Working Group of the IDER proceeding (R.14-10-003). The goal of the IDER proceeding is to "To deploy distributed energy resources that provide optimal customer and grid benefits, while enabling California to reach its climate objectives."[9] Questions around cost effectiveness and appropriate use of utility customer funds for DERs are being addressed within the IDER's Cost Effectiveness Working Group, and therefor make this group a good fit for addressing issues related to the three-prong test.

Another possible venue is the Energy Efficiency (EE) proceeding (R.13-11-005). The EE proceeding encompasses the use of and restrictions on utility-customer energy efficiency funds, and in fact the topic of fuel substitution was included in the November 2013 OIR for the EE proceeding[10] – though this topic was not included in the recent Phase III Scoping Ruling.

---

[9] Decision 15-09-022, page 2.
[10] See the Order Instituting Rulemaking Concerning Energy Efficiency Rolling Portfolios, Policies, Program, Evaluation, and Related Issues (Issued November 21, 2013), page 24.

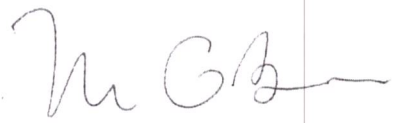
However, this proceeding has an extremely full agenda for 2017 that may not allow space for attention to these issues or the opportunity for wide stakeholder engagement, which could be accomplished through the Cost Effectiveness Working Group. NRDC favors including this topic in the IDER proceeding, but defers to the Commission in deciding what venue is most appropriate given staff capacity and other considerations.

III. Conclusion and Stakeholder Support

We appreciate the consideration of this request, and encourage a speedy resolution of these issues. Addressing the three-prong test is just one barrier among many in decarbonizing California's buildings, and it is important that we make rapid progress. NRDC is able to provide analysis on the three-prong test, and is aware that a wide range of other stakeholders are also eager to engage on this topic.

The following stakeholders have agreed to sign on in support of this motion and also encourage the Commission to act quickly:

Signatories should be added in this format:



Merrian Borgeson, Senior Scientist
Natural Resources Defense Council
111 Sutter St., 20th Floor, San Francisco, CA 94104
415-875-6100
mborgeson@nrdc.org