Environmental Progress
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July 22nd, 2016

VIA ELECTRONIC FILING

Honorable Kathleen H. Burgess
Secretary
New York Public Service Commission
Empire State Plaza, Agency Building 3
Albany, New York 12223-1350

RE: CASE 15-E-0302 - Proceeding on the Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard

Dear Secretary Burgess:

Please find attached a letter addressed to the Commission from over forty leading scientists, conservationists and environmentalists from all over the world supporting the Department of Public Service's new proposal for nuclear subsides in the above referenced proceeding.

Respectfully submitted on behalf of all of the individuals signed onto the letter,

Cesar Penafiel

Director of Analytics
Environmental Progress

The Honorable Audrey Zibelman, Chair of the New York Public Service Commission

The Honorable Patricia L. Acampora, Commissioner of the New York Public Service Commission

The Honorable Diane X. Burman, Commissioner of the New York Public Service Commission

The Honorable Gregg C. Sayre, Commissioner of the New York Public Service Commission

July 14, 2016

Dear Commissioners Zibelman, Acampora, Burman and Sayre,

We are writing as scientists, environmentalists and concerned citizens to urge you to pass the Clean Energy Standard (CES) proposed by the New York State Department of Public Service (NYSDPS), including the Zero-Emissions Credit (ZEC) subsidy for nuclear power plants. This measure is critical to safeguarding New York's low-carbon nuclear power, ensuring the security of the electricity supply, and meeting the state's decarbonization goals.

We are moved by a growing scientific and environmental consensus that nuclear power must play a central role in fighting climate change. That truth is plain to see in New York, whose nuclear plants make the state's electricity supply one of the cleanest in the country.

Per-capita greenhouse emissions from New York's power sector are just one fourth of the U. S. average thanks to nuclear power, which produced 32 percent of the state's total electricity generation and 57 percent of its zero-emissions generation last year.

Unfortunately, temporarily low natural-gas prices are depressing electricity markets and threatening the financial viability of many nuclear plants, including those in New York. The upstate Ginna, Fitzpatrick and Nine Mile Point plants are especially at risk. Swift action by the Commission is needed to save these plants and prevent the damage to the climate that would result from their closure.

If retired, these upstate reactors would be replaced by fossil-fueled plants—mainly natural gas-fired—emitting 15.5 million tons of extra carbon dioxide every year, according to the NYSDPS White Paper on the Clean Energy Standard. That would raise greenhouse emissions from the state's power sector by 50 percent. Emissions of nitrogen oxide, particulates and other air pollutants would also rise.

It would take many years to replace that lost zero-emissions capacity from growth in New York's wind and solar sectors, which together produce just one fifth the electricity annually that the upstate reactors do. Meanwhile, the increase in annual carbon dioxide emissions would be five times larger than the reduction New York is mandated to make under the EPAs Clean Power Plan, and might make compliance impossible.

Even if New York meets its own 50 percent renewable electricity target in 2030, if the state's nuclear fleet closes then the zero-emissions share of electricity generation would be *lower* than the current 56 percent, and power-sector emissions would likely be higher than today.

The loss of nuclear plants would not only irreversibly set back state clean-energy initiatives, it would also make the power grid less secure. Over-dependency on natural gas would make New York vulnerable to fuel-supply interruptions of the kind seen in the recent polar vortex episode and, this summer, in Southern California's Aliso Canyon gas-storage crisis. And the loss of reliable nuclear plants will worsen grid instability caused by the growing share of intermittent renewable power.

The experts tasked with running New York's power system recognize that the abundant, reliable, zero-emissions energy from nuclear plants make them indispensable to the state's decarbonization efforts. That's why the New York Independent System Operator, in a comment on the CES, told the Commission that "retaining all existing nuclear generators is critical to the State's carbon emission reduction requirements as well as maintaining electric system reliability." We agree.

Fortunately, the Clean Energy Standard's Zero-Emissions Credits offer an efficient, economical way to preserve nuclear power, based on two common-sense principles. First, ZECs put a monetary value on the benefits provided by zero-emissions nuclear power, a value derived from the federal government's estimate of the social cost of carbon (SCC). Second, ZECs embody a fair and equitable standard in treating nuclear power on a similar footing with other low-carbon sources. ZECs acknowledge and support nuclear plants for their beneficial clean attributes in the same way that the CES supports renewable sources with renewable energy credits.

Low-carbon energy should also be affordable, and provisions of the ZEC nuclear subsidy ensure that it will be. ZECs will have a price cap of $17.48 per megawatt-hour (MWh), rising to $29.15 per MWh in 2029, when the ZEC provision expires. That compares favorably with renewable energy subsidies. Recent procurements by the New York State Energy Research and Development Authority have given renewable projects state subsidies averaging $22 per MWh for 20 years, on top of federal subsidies like the $23 per MWh Production Tax Credit. Nuclear subsidies will likely be lower than the ZEC caps because when plant revenues are projected to exceed a baseline of $39 per MWh the ZEC subsidy is reduced by the amount of the excess.

These constraints limit the impact on rate-payers. At the initial ZEC maximum of $17.48 per MWh, the subsidy for upstate plants would raise electricity rates by about 0.32 cents per kilowatt-hour state-wide, an increase of 1.8 percent for residential rate-payers and 5.4 percent for large industrial customers. An increase of that size added to current wholesale rates would still leave them lower than they have been for all but two of the last ten years.

These modest costs will be more than compensated by the economic benefits of preserving nuclear plants. In addition to the avoided social cost of carbon—at $23 per MWh, higher than the ZEC subsidy cap—there are market benefits. Losing nuclear capacity could drive up electricity prices by reducing supply, so the price benefit of keeping plants open may compensate for the cost of the subsidy. The benefits of preserving thousands of upstate jobs and tax revenue are also

substantial. NYSDPS staff estimate that the economic benefits of the ZEC subsidy are in total about four times larger than the maximum cost.

Everyone would benefit from the CES and its nuclear subsidy. Communities would benefit from the preservation of thousands of well-paying jobs. New York's economy would benefit from the continuance of a cheap, reliable electricity supply. The renewables sector would benefit from other CES mandates that give it plenty of support and room to grow.

Most of all, the climate benefits, and with it our children and grandchildren. New York's nuclear plants have many decades of useful life left in them, generating power while preventing the emission of hundreds of millions of tons of greenhouse gases. They can shoulder much of the burden of transitioning the state towards a cleaner, more sustainable future.

The closure of New York's nuclear plants would undo all the progress the state has made towards its greenhouse targets. In recognizing the value of all zero-emissions energy sources, treating them fairly and supporting them efficiently, the ZEC ensures that New York would instead go forward decisively in cleaning up its electricity sector and become a global leader in energy policy.

We ask the Commission to listen carefully to the advice of its own staff, consider the consensus on the importance of nuclear power that we share, and enact this foresighted Clean Energy Standard with its Zero-Emissions Credit.

Sincerely,

Climate, Conservation and Other Scientists

Brand, Stewart, founder, Whole Earth Catalogue, Long Now Foundation

Brook, Barry, Professor and Chair of Environmental Sustainability, University of Tasmania

Ellis, Erle C., Ph.D, Professor, Geography & Environmental Systems, University of Maryland

Emanuel, Kerry, Professor of Atmospheric Science, Massachusetts Institute of Technology

Fargione, Joseph, Ph.D, ecologist

Hansen, James, Climate Science, Awareness, and Solutions Program, Columbia University, Earth Institute, Columbia University

Lea, David W., Professor, Earth Science, University of California

Marvier, Michelle, Professor, Environmental Studies and Sciences, Santa Clara University

Muller, Elizabeth, Founder and Executive Director, Berkeley Earth

Muller, Richard A., Professor of Physics, UC Berkeley, CoFounder, Berkeley Earth

Raven, Peter H., President Emeritus, Missouri Botanical Garden. Winner of the National Medal of Science, 2001

Terry, Jeff, Professor of Physics, Illinois Institute of Technology

Scholars, Conservationists and Environmentalists

Asafu-Adjaye, John, PhD, Senior Fellow, Institute of Economic Affairs, Ghana, Associate Professor of Economics, The University of Queensland, Australia

Coward, Robert, Vice-President/President-Elect, American Nuclear Society

Crary, John, Crary Family Foundation

Cravens, Gwyneth, author, *Power to Save the World*

Gogan, Kirsty, Executive Director, Energy for Humanity

Lassiter, Joe, Professor, Harvard Business School

Goldstein, Joshua S., Prof. Emeritus of International Relations, American University

Grecheck, Gene, immediate past president, American Nuclear Society

Gruener, Garrett, Managing Director, Gruener Ventures

Klein, Andrew, President, American Nuclear Society

Kharecha, Pushker, Climate Science, Awareness, and Solutions Program, Columbia University, Earth Institute, Columbia University

Kirsch, Steve, CEO, Token

Lassiter, Joe, Professor, Harvard Business School

Lavine, John, Professor and Medill Dean Emeritus, Northwestern University

Lewis, Martin, Department of Geography, Stanford University

Lynas, Mark, author, *The God Species*, *Six Degrees*

McCormick, Steve, Former CEO, The Nature Conservancy

McDonald, Norris, President, Center for Environment, Commerce & Energy/African American Environmentalist Association

Page, Carl, President, Anthropocene Institute

Pinker, Steven, Harvard University, *Better Angels of Our Nature*

Pritzker, Rachel, Pritzker Innovation Fund

Pritzker, Roland, Pritzker Innovation Fund

Rhodes, Richard, Pulitzer Prize recipient, author of *Nuclear Renewal* and *The Making of the Atomic Bomb*

Robbins, Paul, Director, Nelson Institute for Environmental Studies

Rothrock, Ray A., Partner Emeritus Venrock, venture capitalist

Saran, Samir, Vice President, Observer Research Foundation, Delhi, India

Shellenberger, Michael, President, Environmental Progress

Stone, Robert, filmmaker, “Pandora’s Promise"

Tindale, Stephen, Alvin Weinberg Foundation, former Executive Director, Greenpeace UK

Walker, Barrett P., Alex C. Walker Foundation