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Independent Regulatory Review Commission

Shell Oil Company
200 N. Dairy Ashford
Houston, TX 77079

Secretary Patrick McDonnell
Chair,
Environmental Quality Board,
P.O. Box 8477, Harrisburg, PA 17105-8477

December 14, 2020

RE: Regional Greenhouse Gas Initiative Comments from Shell Oil Company

Dear Chairman McDonnell:

Shell Oil Company (Shell) appreciates the opportunity to provide comments on the Commonwealth of Pennsylvania's proposal for participation in the Regional Greenhouse Gas Initiative (RGGI). Shell Oil Company, headquartered in Houston, Texas with approximately 19,000 employees, is a wholly owned U.S. subsidiary of Royal Dutch Shell plc. Shell, with various affiliates, is engaged in the exploration, production, refining and transportation of oil and natural gas and manufacture chemical products, and is one of the largest natural gas and power marketing and trading firms in North America. Shell is active in business ventures that develop renewable resources (wind, solar, biofuels), hydrogen technologies for the transportation of power production sectors, and supply the world with liquified natural gas, and advanced biofuels.

Shell Chemical Appalachia LLC (SCA), a wholly owned U.S. subsidiary of Royal Dutch Shell plc is building a manufacturing facility in western Pennsylvania which once operational will produce an estimated 3 billion ton of polyethylene. Comments in this letter represent views of all these corporate entities.

Shell, SCA, and their affiliates have long recognized the challenge of climate change and the role of energy in sustaining a suitable quality of life for society. Our overall goal is to provide more energy to meet growing world demand while providing cleaner energy to help reduce carbon emissions. Shell commends the Commonwealth's aspiration of a net reduction in greenhouse gas emissions: 26% by 2025, and 80% by 2050 from 2005 levels and its efforts in moving forward joining the RGGI.

Shell has significant interests in RGGI, as an electricity consumer; a producer of electricity from resources fueled with natural gas, renewables and combined heat and power (CHP) facilities; an electricity marketing and trading firm that provides hedges of firms that sell electricity to retail customers; and a developer of carbon dioxide (CO2) capture, utilization, and storage (CCUS) technologies. With our global affiliates, we also call upon substantial experience with other greenhouse gas (GHG) regulatory programs in North America, Europe and Asia.

Shell, SCA and their affiliates believe that, while technological developments will emerge, effective policy and cultural change is essential to accelerate the growth of low carbon business and consumer choices and opportunities. We welcome efforts made by governments to reach the global climate agreement cooperatively and support long-term climate goals that balance environmental pressures with development opportunities. Royal Dutch Shell plc and its subsidiaries (Shell Group) particularly welcomed the United Nations Paris Agreement on climate change. Shell Group is aiming to become a net-zero emissions energy business by 2050 or sooner. Shell Group intends to meet its customers' demand for cleaner energy, keeping in pace with society. Becoming a net-

zero emissions energy business is a huge task, and the business plans that Shell Group has today will not get there. So, these plans must change over time, as society and customers also change.

Shell believes that the transition to low-carbon solutions is best underpinned by meaningful government-led carbon pricing mechanisms. A market-based approach to reducing carbon emissions that starts with RGGI and expands to all sectors of the economy will be the most efficient way of achieving these goals as it will minimize any financial burden on consumers as we transition from fossil fuels. Shell supports regulatory systems that establish a price on carbon, such as the RGGI program.

SCA's new polyethylene plant under construction in Monaca, Pennsylvania, is built upon an Act 2 brownfield site. To build the facility, SCA decommissioned, cleaned up and removed decades of historic contamination left behind from the former zinc smelter. Millions of tons of soil were moved to cover and cap the former facility's contaminated footprint. This work has improved local soil, water and groundwater quality above historic conditions. Repurposing brownfield sites is an excellent example of industry collaborating with Pennsylvania Department of Environmental Protection (PADEP) to promote the construction of new and modern manufacturing facilities that will provide economic benefits to the Commonwealth while enhancing the environment.

During SCA's define phase for this facility, a key decision was made to build a 259 MW cogeneration (cogeneration, CHP) unit fueled by natural gas to supply internal power and back-up steam rather than purchasing power from sources that rely on fuels with a higher CO2e footprint. Some surplus electricity will be sold into the wholesale energy markets administered by PJM Interconnection. The SCA facility is energy efficient and applies best available control technology (BACT) in its design including the recycling of tail gas for additional power generation. The cogeneration facility unit is expected to reduce the combined direct and indirect CO2e emissions charged to site chemical production by 389 KTPA (excluding credit for indirect CO2e associated with exported power) based on the carbon intensity of generating resources located in Pennsylvania's power grid in 2020.

It is within this context that we appreciate the opportunity to work with governments and other motivated stakeholders to design and implement programs like RGGI.

As related to Title 25 Chapter 145 Interstate Pollution Transportation Reduction, Subchapter E CO2 Budget Trading Program General Provisions, Shell submits the following detailed comments.

Some of the key strategies and actions detailed in the Commonwealth's Climate Action Plan relate to SCA's facility. These include:

- "Increase use of clean, distributed electricity generation resources;
    - Incentivize and increase use of CHP;
- Create a diverse portfolio of clean, utility-scale electricity generation:
    - Limit carbon emissions through an electricity sector cap and trade program:
- Reduce impacts of fossil fuel energy production and distribution: and
    - Implement policies and practices to reduce methane emissions across oil and natural gas systems."

These strategies and actions align with Shell's determination to play our part in a cleaner energy future. Shell recognizes that RGGI was created to reduce the greenhouse gas emissions of the power generation industry that contribute to climate change. Shell supports Pennsylvania's participation in RGGI. The cap and trade structure that is the heart of RGGI is an effective way to transition Pennsylvania's power sector to a low carbon future and generate funding for programs to reduce carbon across the broader economy including sustainable transportation and energy conservation.

CHP facilities such as SCA's provide several environmental and economic benefits that the Commonwealth should consider in its application of RGGI. Developers of such facilities will have to factor in RGGI compliance

costs and that could discourage them from locating such facilities within the Commonwealth of Pennsylvania and ultimately have a negative economic impact. Given the other benefits CHP facilities offer, the Commonwealth should take a measured approach to the application of RGGI to CHP facilities to avoid that outcome and exclude newer, more efficient facilities as the regulation could discourage such facilities from being built in the Commonwealth.

For SCA, the new compliance cost for obtaining RGGI credits for a project that is still under construction is significant. It could be as much as $7MM per year based on the price of CO2 allowances in the most recent RGGI auction. In order for the Commonwealth to incentivize and increase the use of combined heat and power, we offer the following be recommendations and enhancements for Title 25 Chapter 145 Interstate Pollution Transportation Reduction, Subchapter E CO2 Budget Trading Program General Provisions so that cogeneration facilities can be part of the solution:

1. Begin RGGI program compliance for the SCA facility commencing with the first three (3) year control period (3 years) following commercial operation of the facility is fully operational and the Title V permit is application filed. This would allow facilities to begin RGGI program compliance after the initial startup and shakedown period aligned with normal operations. It also allows the facility and ones like it to be accounted for accurately during a full control period.
2. Provide unencumbered carbon allowance allocations for the first year of a facility's startup period analogous to US Environmental Protection Agency's Acid Rain Program.

Shell, SCA and Pennsylvania share aspirations for a lower carbon future and Shell believes that its CHP facility can contribute to this future. RGGI is one opportunity to continue Pennsylvania's trajectory of emissions reductions while preserving the proud status as an economic powerhouse and an energy producing state. In order to achieve this goal, careful and objective consideration must be taken so that unintended consequences of program implementation do not hinder innovative solutions such as the continued use of CHP. Working to progress innovation toward carbon neutrality, Pennsylvania will be a leader in energy innovation as well as energy generation.

If you have any questions or comments concerning the information included in this letter or the attached documentation, please feel free to contact Kimberly Kaal at 724-709-2467, Kimberly.Kaal@shell.com or John T. Hines at 717-202-7169, j.hines@shell.com, if you have any questions or need additional information.

Sincerely,

Hilary Mercer

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Vice President
Pennsylvania Chemicals, Shell Polymers