

Congress of the United States
Washington, DC 20515

February 6, 2020

The Honorable Dan Brouillette
Secretary of Energy
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585

Dear Secretary Brouillette:

We write to request the United States Department of Energy (DOE) consider supporting, through funding and technical assistance, the development of the San Rafael Energy Research Center (SRERC) in Orangeville, Emery County, Utah.

Located in the heart of Utah's coal country, the SRERC would play a key role in advancing new energy technologies. In particular, this facility could be a leader in the areas of molten salt technology, thorium fuel, nuclear energy, advanced coal, other mixed fuel combustion, and the harvesting of medical isotopes.

In support of this development, Emery county has secured a 30,000 square foot building and 34 acres of land. The state of Utah has already appropriated one million dollars to further develop the facility and expects to produce further financial support for years to come. Lou Hrkman and Angelos Kokkinos from the DOE Office of Fossil Fuels recently visited the site.

Utah is well-positioned to move forward an advanced energy research center such as the SRERC. The state is fortunate to have: 1) A thriving highly educated workforce 2) A large and growing young talent base 3) One of the fastest emerging tech-based industries in the country 4) An ability to communicate internationally through a highly bilingual workforce, and 5) Broad support for rural community economic development.

As you know, sustainable energy transitions continue to evolve and the interest in advancing small modular nuclear power and expanding carbon capture technology remains high. Envisioned as a research center for industry, academic institutions, and government entities, the SRERC supports the development of a diversified coal industry and alternatives for uranium-based nuclear power.

Once fully operational, the facility can make advancement in the following areas:

CARBON-BASED MATERIALS TO PRODUCTS

The SRERC will support innovative carbon-driven development. Utah is known for its strong entrepreneurial spirit and we already have groups working in this area. At the University of Utah researchers are focusing on fine tuning production of coal-based pitch. The plan is to use this material for carbon fiber production (replacing more expensive petroleum-based approaches). Solid Carbon Products, a high-tech firm located in Provo, Utah, is developing a waste CO₂ process that produces carbon black in a more environmentally acceptable manner.

MOLTON SALT TECHNOLOGIES

The SRERC, in collaboration with Utah State University and Brigham Young University, is investigating molten salt technology, thorium-powered nuclear energy, and medical isotope harvesting. Molten salt reactors represent an advanced nuclear technology that will allow for domestic production of both isotopes used in nuclear medicine and a rare isotope that is part of groundbreaking cancer treatments. Because the United States uses more medical isotopes than any other country, the SRERC plans to develop a program that supports the Medical Isotope Production Act passed by Congress in 2011. Additionally, the Center plans to develop new clean options for low-level nuclear energy. The State of Utah has legislatively appropriated funds toward the establishment of a molten salt lab to be licensed for radioactive materials.

COMBUSTION TESTING

The SRERC has obtained and installed a 1 MW_{th} entrained flow combustor for fuel conversion research. This furnace was constructed in the mid 1990's for DOE's Low Emission Boiler Systems and High Performance Power Systems programs. Over its lifetime it has been leveraged to investigate NO_x Emission Reduction, Fuels Characterization and Oxy-coal combustion. It continues to be a powerhouse for pulverized coal and biomass combustion. Currently national and international companies are positioning themselves for its use. Promising areas of current interest are biomass/coal co-combustion and plasma technologies.

COAL TO LIQUIDS AND COAL GASIFICATION

The SRERC can help develop new coal to liquids processes that are less expensive than conventional petroleum routes. These processes could make use of Utah's vast natural resources such as iron for improved catalysis, include biomass and natural gas feedstock blends, and be designed to include innovative carbon capture. While there are many uses for synthetic gas perhaps one of the most promising under consideration by the SRERC is as a gateway feedstock for ammonia and fertilizer production. DOE's Office of Fossil Energy has also expressed renewed interest in coal gasification for both Integrated Gasification and Combined Cycle (IGCC) and for generation of feedstock for chemical processes. Of particular interest, is the development of a gasification test platform at the scale of approximately 1 MW_e where researchers and technology developers can come and test, or exercise their equipment, whether it be for fuel conversion, syn-gas cleanup or for the power cycle. The SRERC is an ideal location for such an installation. The facility is able to leverage the support of gasification expertise at both Brigham Young University and the University of Utah and the technical and operation expertise of hundreds of individuals trained during their careers in the nearby power stations and coal mines.

COAL FIRST

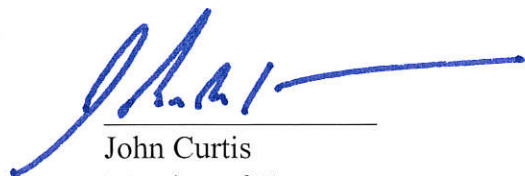
One of the premier initiatives of DOE's Office of Fossil Energy is the Coal First Program. We understand this program is already in the engineering and design phase to demonstrate modular, zero-emission coal-fired power generation. One of the next steps will be to select sites for installation and demonstration of these technologies. PacifiCorp's Hunter Power Station is in close proximity to the SRERC and has all of the desirable attributes for hosting such a project, including availability of geologic sequestration of CO₂ and support from coal combustion researchers operating out of the SRERC. More importantly the community support for such a demonstration is higher than most anywhere else in the country.

As the administration continues to boost domestic energy production and advance carbon free fossil energy, we believe the SRERC can play an important role in this national effort. The Center's program areas will unite the power of market forces and new technologies to reduce carbon emissions in a way that protects health, sustains economic development and offers other benefits to Utahns and all Americans.

We respectfully request that the Office of Fossil Energy work with the SRERC to support Center programs in advanced coal technology and also ask the Office of Nuclear Energy for support of the SRERC's efforts to pursue molten salt and medical isotope development at the facility.

We appreciate your consideration of this request and would be happy to provide you and your staff with additional information if desired.

Sincerely,



John Curtis
Member of Congress



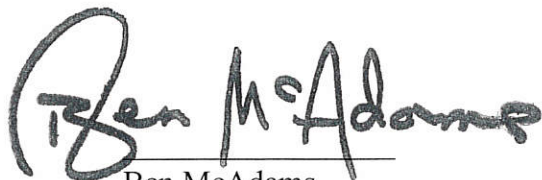
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