

**UNITED STATES OF AMERICA
BEFORE THE
DEPARTMENT OF ENERGY**

**Notice of Request for Information (RFI) on)
Ensuring the Continued Security of the United)
States Critical Electric Infrastructure)**

VIA EMAIL

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COMMENTS OF POWELL INDUSTRIES, INC.

Powell Industries, Inc. (“Powell”) thanks the Department of Energy (“DOE”) for the opportunity to respond to this Request for Information (“RFI”) and its efforts to solicit the insight of the entities who will be impacted by any future mandates, or lack thereof.

Powell is a publicly traded company based in Houston, Texas, USA. We are listed on the NASDAQ under the symbol POWL. We have a successful 75 year history of innovating, developing and manufacturing critical electrical power distribution equipment used by utilities for the generation (fossil fuel, nuclear and renewable) and distribution of electrical energy. Powell’s equipment is utilized in transportation systems (both DC and AC systems) for light and heavy rail; industrial markets including oil, gas and petrochemical, pulp and paper, mining; and commercial and light industrial including municipal water plants, universities, data centers, and related commercial construction markets.

We operate seven integrated manufacturing facilities. Five of our facilities are in the United States, one in Alberta, Canada, and one in the United Kingdom. We compete globally. We are actively involved with many of the leading industry organizations and participate in the development of regulatory standards, including the leadership of several ANSI (American National Standards Institute) committees and we participate in IEEE (Institute of Electrical and Electronics Engineers) and IEC (International Electrotechnical Commission) standards groups.

As one of few remaining manufacturers of primary distribution electrical equipment, domiciled in the United States, we believe that the very nature of our Company and the markets in which we compete, coupled with a deep understanding of supply chain and materials required to manufacture our products, allows us to provide the DOE with unique insight to this RFI.

Provided below are Powell's select responses to the questions posed in the RFI:

Response to Section A. Development of a Long-Term Strategy

1. What technical assistance would States, Indian Tribes, or units of local government need to enhance their security efforts relative to the electric system?

- a. Any technical assistance received should be expanded beyond the "electric system" to include electrical infrastructure serving transportation systems; more specifically, heavy and light rail systems across the United States. Heavy and light rail systems transport millions of riders each day across the country. Many of these riders are workers in critical occupations such as nurses/doctors, government employees, law enforcement, etc. Because rail systems are located in densely populated urban areas, any sudden or lengthy disruption of this service would have a significant impact on the ability of these people to commute to their place of employment to perform their critical duties. These rail systems operate directly from the electric distribution system and it is important that this critical infrastructure is also protected from supply chain risks associated with foreign adversaries.
- b. The creation and maintenance of a database, available to all domestic and foreign procurement entities, of approved products, services and suppliers.

2. What specific additional actions could be taken by regulators to address the security of critical electric infrastructure and the incorporation of criteria for evaluating foreign ownership, control, and influence into supply chain risk management, and how can the Department of Energy best inform those actions?

- a. See Section B.1.
- b. Support a U.S.-based facility or lab where physical components can be tested for potential risk to the critical electric infrastructure. Many testing facilities are currently owned and operated by foreign companies. High power electrical equipment, as previously defined as 69,000 volts and above in the suspended Executive Order 13920, cannot be fully tested at any test facility in the United States.
- c. The only practical method to ensure that critical components are available during a catastrophic event is to maintain a physical inventory of those components.

Consider modification of the inventory tax code to provide relief for maintaining critical inventory.

- d. The integrity of the US electrical system is increasingly vulnerable to disruption as a result of manufacturing supply chains moving to foreign countries over the past several decades. The DOE should consider incentive systems/programs to encourage growth in U.S. technical expertise for power systems and provide financial incentives to U.S. entities willing and capable of undertaking development of domestic technology.
- e. Require all critical infrastructure electrical systems be subject to the Domestic Preference/Country of Origin Requirements required in U.S. Government Contracts including, without limitation, FTA Buy America, Buy American Act and Trade Agreements Act. These Domestic Preference/Country of Origin rules are confusing even to experienced contracting professionals, thus, an effort should be undertaken to simplify and harmonize their requirements in order to put a robust enforcement process in place. For example, the current Buy American Act regulation requires 55% of the cost of a product's components be of U.S. origin but the sub-components of manufactured products can be of foreign origin. For Rolling Stock under the FTA Buy America, only 70% of the cost of all components must be of U.S. origin and a component is considered to be of U.S. origin as long as 70% of its sub-components, by cost, are of U.S. origin. These requirements should be modified to be consistent and to: (i) increase the domestic content requirement to 80% for all manufactured electrical equipment being integrated into critical infrastructure including the electrical system; (ii) clearly define certain electrical products and offerings as being either an end product, component or subcomponent (See 2(c) below); (iii) require any sub-component and/or software/firmware content be only of U.S., Free Trade Agreement or Qualifying Country origin (as noted above currently sub-component content may be from a foreign adversary); and (iv) do away with the minimum dollar threshold at which these requirements apply, otherwise spare parts orders could come from suppliers beholden to foreign adversaries.
- f. United States country of origin requirements for electrical equipment are often watered down because the electrical equipment is usually a small percentage of the overall "end product" on a project which includes civil/structural work, construction, steel, concrete, etc. In these cases, the FTA Buy America and the Buy American Act requirements can be met with the other, more costly components of the project resulting in more flexibility in choosing electrical equipment suppliers who supply products of non-U.S. origin. Since the electrical equipment is a likely target to disrupting performance of the electrical and/or transportation system, it makes sense to review how the end product, component and sub-component is defined.

3. What actions can the Department take to facilitate responsible and effective procurement practices by the private sector? What are the potential costs and benefits of those actions?

- a. Update and clarify the Buy American Act and the FTA Buy America.
 - b. A review and revision of governmental entity procurement practices should be undertaken because current procurement practices have the unintended consequence of discouraging public or privately held, well capitalized companies better able to manage supply chain risk and stand behind their commitments, from bidding on contracts. The financial strength of one manufacturing company that has a robust supply chain process should be given consideration over the financial strength or weakness of another manufacturing company that does not have processes in place to properly vet and qualify suppliers. Further, governmental contracts should be modified to include reasonable indemnity and warranty obligation as well as a consequential damage waiver and limitation of liability provisions; otherwise, a competitive advantage is given to companies willing to take on unlimited exposure to win the contract but which have unknown assets and/or the ability to manage country of origin supply chain requirements.
 - c. When manufacturers provide a country of origin certification, it should be required to include a breakdown of the sub-component(s) country of origin to ensure that no critical sub-components (i.e. information system sub-components) are of foreign origin. In order to protect and incentivize U.S. supply chain growth, a well-funded robust enforcement program needs to be in place to protect those companies in the U.S. manufacturing base that are compliant with these domestic content/country of origin requirements.
- 4. Are there particular criteria the Department could issue to inform utility procurement policies, state requirements, or FERC mandatory reliability standards to mitigate foreign ownership, control, and influence risks?**

The first step is to organize a group of key stakeholders that do not have a vested interest or financial tie, currently, to adversarial foreign states. A risk-based approach to identify technology and supply chain priorities where domestic manufacturing, with some amount of time and investment, could develop to mitigate future risks. A pragmatic approach should then be implemented, inclusive of both the private sector and public sector, to continue to monitor and advise the DOE in an on-going process.

As one example, a material that may not be considered, today, as critical by utilities or industrial users is ceramics. Ceramics (i.e., porcelain) are a core component of vacuum interrupter and outdoor insulation technology that is used in the vast majority of transmission and distribution systems and switching devices. The supply chain for this basic material, along with the manufacturing processes for these critical elements, have been moved from the U.S. to foreign states over the last several decades.

Future standards should be specific. They should strive to remove the ambiguity down to a specific product or service.

Beyond the current challenges presented by several decade's long migration of manufactures of electrical distribution equipment and their associated supply chains away from the United States, is the increase of renewable energy and the adoption of digital technology into all aspects of the electrical energy value chain. The specificity will need to include forward consideration on software, firmware (programmable components) and their origin and how the information provided should be monitored.

Powell would concur on the following as submitted by Mr. Jeffrey Sweet of American Electric Power, in response, to this RFI:

- *Be explicit as to which products and services are covered by them.*
- *Must state without ambiguity the level of component which is subject to them (e.g., chips, boards, subsystems, entire application, modules within an application, open source components used within an application, operating system, firmware, etc.).*
- *Must include a list of the specific countries, manufacturers, and/or systems which are impacted by the controls established.*
- *Specific language on who is responsible for the entry and maintenance of information relative to the products and services covered by any new standards or regulations.*
- *Set specific requirements regarding when information is to be provided by manufacturers and developers to the regulating authority or any system or service for the collection of that information.*

Response to Section B. Prohibition Authority

1. To ensure the national security, should the Secretary seek to issue a Prohibition Order or other action that applies to equipment installed on parts of the electric distribution system, i.e., distribution equipment and facilities?

- a. Powell believes that the United States Critical Power Distribution System (CPDS) should be expanded to include electrical distribution medium voltage equipment, 2,400 volts to 69,000 volts as defined by American National Standards Institute C84.1-2020 for Electric Power Systems and Equipment – Voltage ratings (60 Hertz).

For example, all electrical power generated in the United States is produced at voltages below 69,000 volts and is transformed to higher voltages for transmission and distribution.

- b. It is reasonable to assume that it will take time for the Department to address the matters discussed in Response to A (2) and (3) above by legislation. Therefore, the Secretary should seek a Prohibition Order promptly to limit critical infrastructure, transportation and utility procurement of electrical equipment to manufacturers

whom can demonstrate their products meet at least an 80% U.S. country of origin component test under the FTA Buy America and the Buy American Act requiring all sub-components be of U.S., Free Trade Agreement or Qualifying country origin.

- 2. In addition to DCEI, should the Secretary seek to issue a Prohibition Order or other action that covers electric infrastructure serving other critical infrastructure sectors including communications, emergency services, healthcare and public health, information technology, and transportation systems?**

See Response to A 1(a) above.

- 3. In addition to critical infrastructure, should the Secretary seek to issue a Prohibition Order or other action that covers electric infrastructure enabling the national critical functions?**

See Response to B 1(a) above.

- 4. Are utilities sufficiently able to identify critical infrastructure within their service territory that would enable compliance with such requirements?**

No comment by Powell.

Powell would like to thank the DOE for the opportunity to provide input to this Request for Information. As a manufacturer of electrical distribution equipment, with our Corporate Headquarters in the United States, we have a unique perspective on the global landscape of supply chain risks and evolving technology challenges that face our industry and our country. Powell and its team members are available for any follow up or assistance that we can provide to the DOE and/or our customers that will help provide a more resilient, robust and secure energy infrastructure.

Respectfully submitted,



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