

**RESPONSE TO REQUEST FOR INFORMATION REGARDING ‘ENSURING THE
CONTINUED SECURITY OF THE UNITED STATES CRITICAL ELECTRIC
INFRASTRUCTURE’**

Submitted by: ABB Enterprise Software Inc., the U.S. based operating company subsidiary of
Hitachi ABB Power Grids Ltd. (“Hitachi ABB Power Grids”)

Michael Coe
Director, Energy Resilience Division of the Office of Electricity
U.S. Department of Energy
Mailstop OE-20, Room 8H-033
1000 Independence Avenue, SW
Washington, DC 20585

Re: Notice of Request for Information (RFI) on Ensuring the Continued Security of the United States Critical Electric Infrastructure (86 Fed. Reg. 21309)

Dear Mr. Coe:

Hitachi ABB Power Grids, a key supplier of products, systems, software and services to the electric sector, is pleased to submit our comments in response to the Request for Information (RFI) issued on April 22, 2021, by the Office of Electricity, Department of Energy (DOE). The RFI, entitled “Ensuring the Continued Security of the United States Critical Electric Infrastructure,” was issued to seek information that allows the United States Government to consider whether to recommend a replacement Executive Order that appropriately balances national security, economic, and administrability considerations, the Department is seeking information from electric utilities, academia, research laboratories, government agencies, and other stakeholders on various aspects of the electric infrastructure.

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?

Providers of electrical equipment, services and software to the U.S. power grid, including States, Indian Tribes and units of local government that regulate or operate portions of the grid, can be a valuable resource for technical assistance in identifying security risks on the grid. Simply put, the manufacturers and developers of the equipment and control systems on the grid are likely the best resources in identifying weaknesses in that grid.

States, Indian Tribes and units of local government should commit the resources necessary to engage and contract with these providers to identify grid security issues. This assistance could include testing services, software evaluation and other attempts to simulate the potential effectiveness of cyberattacks. The federal government could provide significant assistance here

in terms of committing money or offering other incentives to these entities to ensure the availability of the resources necessary for these activities.

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?

At present, we believe that utility companies are complying with the existing rules and procedures, based on the information they have. However, the threat landscape is evolving quickly, and it will take a collaborative effort involving government, utilities and their supply chain partners to identify the most critical threats and develop the most effective strategies to mitigate those threats.

Utilities have continually and diligently focused on assessing risk and complying with the standards and regulations that are currently in place. The reality is that the grid continues to evolve and must integrate very different energy and data inputs than has historically been the case. Therefore, the threats will remain dynamic, and will require the continued engagement between utilities, the bulk power system (BPS) supply chain and government to re-envision how best to address vulnerabilities in both existing and future systems. This will remain an ongoing challenge.

In our view, the Department of Energy should engage directly with the private sector to help understand where, how and why certain electrical equipment is sourced for use on the U.S. power grid. It is the private sector that has the information the Department needs to make informed decisions about how enact cost-effective regulations applicable to the supply of equipment from outside the United States.

In many cases, the private sector can demonstrate that certain types of equipment sourced from outside the United States, and even from potential adversary countries, presents little risk. Additionally, the private sector can help the Department of Energy understand how deep into the component level any proposed regulations should go. While there is risk in sourcing components from China and other countries, in many cases that risk is minimal and the cost of any prohibition on the importation of low-risk equipment and subcomponents is simply not worth the benefit.

As an example of risk reduction that does justify the cost, diversification of critical grid systems protecting critical infrastructure should be considered. Homogeneity in the grid increases the danger as a weakness in one location is then duplicated in others.

In practice, diversifying the grid may likely be cumbersome given the large installed base and established standardization of operational, maintenance and testing procedures that exist today. Direction and/or incentives could be used to encourage, at the very least, genuine diversification of primary and backup systems, utilizing different products from different manufacturers with substantially different architecture or protocols. Incentives or equitable recovery mechanisms that would help justify such diversification could likely encourage the

industry to move in that direction thereby reducing the homogeneity of these existing systems. Such a topic could be discussed, and solutions proposed by a group made up of utilities, government and private sector suppliers to the bulk power system (the “BPS”) in order to understand the potential and viability of such a program.

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?

The Department can propose and promulgate clear, focused rules that explicitly state what is allowed on the grid and what is not. Amorphous, undefined rules that can be broadly interpreted by both grid operators as well as suppliers will cause confusion in the industry (as was the case with the previous iteration of Executive Order 13920), and potentially lead to an increase in the cost of providing equipment to the grid (a cost that in most cases is ultimately borne by the consumer) as alternative, often expensive supply sources must be located. In our view, while it was understandable, utilities overreacted to Executive Order 13920 and began enacting broad policies prohibiting the use, in some cases, of any equipment or non-critical subcomponents from China or other potential adversaries, on the grid. Many also required ‘deep dives’ into supply chains that were frankly unnecessary given the low risk of some of the materials and components involved.

Clear, express, and explicit rule-making is key, in addition to establishing a Power Grid Equipment Manufacturer Subsector Coordinating Council to help facilitate responsible and effective procurement practices by the private sector. We believe such a Council will help develop and advocate for a well-defined, risk-based approach to regulations to address these concerns without imposing undue costs and burdens on the industry and ultimately the consumer.

The costs and benefits of these actions are easy to state, but can be admittedly hard to implement. China is a cost-effective source of some common components for the U.S. power grid. That is simply a fact. The hard part of what the Department must do is determine where and when the risk of a Chinese-sourced piece of equipment, subcomponents or products is too high in comparison to the anticipated benefit associated with prohibiting the use of that product. Broad bans of ‘all’ Chinese products and components, and subcomponents from the grid would be ineffective and costly given that alternatives are not readily available in many cases. Clear rules drafted after an evaluation of the actual risk of using that equipment versus the cost and delays that are likely to occur if supply chains are required to move elsewhere is the answer. Sourcing decisions are anything but simple and require years of development, investment, testing and established quality control.

As stated above, to make these decisions properly, the Department should engage directly, and deeply, with the private sector to have frank discussions about each piece of equipment or component in the supply chain that comes from a country defined as a foreign adversary. The Department can then better draft rules that protect the grid without unduly raising the cost of this equipment via forced supply from other sources. We must be mindful that as society looks to electrification as a tool to support decarbonization goals, we will need to keep all options open that do not pose a threat to simply keep up with anticipated demand in a cost efficient manner.

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?

Yes. Presently, the Department and other agencies are working with the private sector in a collaborative partnership to review standards and best practices for improving Supply Chain Risk Management. The Department's Cybersecurity, Energy Security, and Emergency Response (CESER) office's CyTRICS and other programs are being developed to identify potential risks to the U.S. power grid. These types of programs could be leveraged in developing standards that foreign-sourced equipment must meet and be certified before being utilized on the U.S. power grid. We believe that reputable companies that have established programs in the areas under review should be categorized and managed differently than new entrants without history, substantial U.S. footprint or demonstrated processes to control these risks. Again, more dialogue by the Department with private industry would be beneficial to understanding how this is managed in the BPS supply chain and implemented by responsible utilities and other grid stakeholders.

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?

Yes, with significant caveats. There certainly exists foreign-sourced equipment that is simply too risky to place on the U.S. power grid either because of known risks or the importance of that device or system to the overall grid functionality and reliability. Drawing the line between equipment that is considered high risk, versus equipment that is not (and for which prohibition would carry a significant cost) is the key question. Using the approaches defined in the section above, the private sector and the Department can collaboratively develop clear rules and standards that draw this line in the appropriate places. Rules that can be interpreted to ban low-risk, non-programmable/addressable equipment from China (or other foreign adversaries) such as fabrications, insulators, capacitors, castings, fasteners for example, do not make sense. Items like those mentioned pose little risk but limiting supply can be consequential and costly. The cost and availability impacts to U.S. utilities and ultimately consumers will far outweigh any benefit.

Engagement with the private sector on these matters is the key to resolving them appropriately. We believe there should be public-private partnerships that encourage innovation and investments to be funded in a way that protects the grid and enhances resiliency/reliability efforts for the United States. These rules, in our view, cannot be written in a vacuum without significant input from utilities, equipment manufacturers and service providers, each offering a different vantage point and visibility into the problems and potential solutions.

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?

We do not feel qualified to answer this question.

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?

We believe the answer to Item (3) is the same as Item (1) above.

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

Utilities, together, have varying degrees of experience in identifying critical infrastructure in their service territories, the potential threats to it, and their own ability to comply with some of the applicable security requirements. We believe it is vital that any given utility have a solid, baseline understanding of what is considered critical infrastructure in its own service territory. However, we are in continual dialogue with utilities with systems of varying size and complexity to help identify existing weaknesses, and to assist in security-related grid regulation matters. This suggests that even for the largest utilities in the country, there is some room for improvement in vulnerability assessment and system mitigation when looking deeper into the actual companies they contract with, technology and supply chain of the products, systems and services they apply to the electric power system.

As a long-standing supplier of BPS products, systems, software and services, Hitachi ABB Power Grids would like to thank the Department for requesting input from technology companies like ourselves. We would also suggest a productive path to solutions to the issues you have raised would be enhanced via the establishment of a Power Grid Equipment Manufacturer Subsector Coordinating Council (or Similar Platform). We would be happy to assist in setting up such a Council.

If requested by the Department, Hitachi ABB Power Grids will of course continue to extend our cooperation and make our experts available to the Department of Energy's community to provide a deeper discussion and insight into our feedback and recommendations. If you would like to do so, we look forward to meeting with you to discuss this matter further at your earliest possible convenience.

Sincerely,



John Haysbert
Vice President
Government & Institutional Relations - US
Email: john.haysbert@hitachi-powergrids.com