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January 13, 2023

By email to Keehner.Denise@epa.gov

Denise Keehner, Director
Office of Pollution Prevention and Toxics
Office of Chemical Safety and Pollution Prevention
Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Re: Request for Approval of Extension Request and Enforcement Discretion Regarding DecaBDE Rule

Dear Ms. Keehner:

Our client RSCC Wire & Cable LLC ("RSCC") needs your help to avoid a major disruption of power supplies in the U.S. Without your help, resulting disruption of the national economy is possible, due to the expiration this month of a deadline in the PBT rule on decabromodiphenyl ether ("decaBDE") related to the use of wire and cable for applications in nuclear power plants, 40 C.F.R. § 751.405(a)(2)(ii). Multiple nuclear power plants may have to unexpectedly go offline, possibly for several months or longer, due to the unavailability of replacement wire and cable (used in multiple equipment items and for many different applications) that do not contain decaBDE.

RSCC urgently asks that the Office of Pollution Prevention and Toxics ("OPPT") approve its pending request for a further extension of the compliance deadline in the decaBDE rule related to wire and cable used in the nuclear industry, including power generation facilities, until April 30, 2024. While OPPT considers this pending request, RSCC further asks OPPT to request the Office of Enforcement and Compliance Assurance (OECA) to issue enforcement discretion to permit resumption of manufacture, processing and distribution of wire and cable that contain decaBDE for nuclear power generation facilities until such time as OPPT can approve RSCC's extension request.

Without OPPT approval of a further extension or enforcement discretion, RSCC and other manufacturers and importers of wire and cable to nuclear facilities will be unable to fulfill

existing and expected future orders from nuclear power plants or to supply wire and cable in emergent situations. This could result in shutdowns of multiple nuclear power facilities, resulting in costs of millions of dollars per day and potential disruption of the national energy grid and the national economy. This would also increase reliance on carbon-intensive power sources, such as coal-fired power plants.

The rest of this letter describes RSCC, its business, and its efforts to qualify wire and cable containing a replacement flame retardant; its participation in the decaBDE rulemaking; its pending extension request; and justifications for the extension request and a related request for enforcement discretion.

1. About RSCC

RSCC is a wholly owned subsidiary of Marmon Holdings, Inc. and Berkshire Hathaway.

RSCC is the de facto sole source manufacturer of certain safety power cables used in nuclear facilities as a critical component in the safety systems that are in place to prevent radioactive material from being released into the environment in the event of a catastrophic facility failure (known as design basis events ("DBE") or loss of coolant accidents ("LOCA")). These safety power cables are designated by the Nuclear Regulatory Commission ("NRC") as Class 1E cables. Nuclear facilities required to use these products include nuclear power generation facilities throughout the U.S. and the world.

These cables must meet NRC requirements in 10 C.F.R. § 50.49. Part of those requirements is qualification to meet NRC regulatory guidelines and industry standards, including the Institute of Electrical and Electronics Engineers ("IEEE") 383 standard for instrumentation and power cable insulation for nuclear power plants.[1] That standard does not require the use of decaBDE specifically, but it does require cables to maintain a minimum level of physical properties following extreme levels of thermal, radiation, steam, and chemical exposure. IEEE 383 has cable burn test requirements that necessitate the use of an appropriate flame retardant.

For the history of nuclear facilities, decaBDE has been the only fire retardant used and known to allow Class 1E cables (and wire and cable in other equipment used for other nuclear applications) to achieve the level of resilience required to ensure the cables are able to function during the extreme conditions of a DBE or LOCA postulated to occur during the qualified lifetime of the cable (or other equipment). Although not completely understood, the decaBDE fire retardant used in combination with other ingredients creates a powerful synergistic effect that makes the cable insulation remarkably resilient to environmental stressors. The unavailability of an immediate qualified substitute for decaBDE-containing wire and cable may

[1] The IEEE 383 (2015 version), IEEE Standard for Qualifying Electric Cables and Splices for Nuclear Facilities, is available at https://standards.ieee.org/ieee/383/5182/.

very well result in the interruption of power production and possible catastrophic risk to human health and the environment.

In 2016, Congress amended TSCA to require EPA to adopt restrictions on certain persistent, bioaccumulative, and toxic (PBT) chemicals, including decaBDE. That same year, RSCC began working to find an alternative to the decaBDE fire retardant. Over the course of the next three years, it performed extensive R&D investigating more than sixty different fire retardant combinations in its effort to find any chemical that could produce a resilience equivalent to that provided by decaBDE. By 2019, RSCC had identified only two possible candidates that utilized a decaBDE replacement. It immediately began the arduous process required by the NRC to qualify wire and cable made with the alternatives. In 2021, and in light of the looming 2023 deadline and the time consuming qualification process, RSCC realized that it could only move forward with a single candidate.

The final LOCA testing for this alternative cable was conducted in December 2022. RSCC expects to receive the final test report in later this month. If the LOCA testing proves successful, RSCC will position it to begin implementing use of this alternative chemical in its manufacturing processes. If the LOCA testing is not successful, RSCC will have to return to the second candidate it previously identified and complete the qualification process. RSCC expects the qualification process for this second candidate would take minimum of 12 months.

As the de facto sole source of Class 1E cables, RSCC sells directly to nuclear power companies worldwide. RSCC's nuclear customers also include several companies that connectorize the cables (and thus arguably process the flame retardant in those cables)[2] and then further distribute the cables to nuclear facilities.

2. RSCC and the DecaBDE Rulemaking

During the rulemaking that led to the decaBDE rule, RSCC met with OPPT staff multiple times (on January 7, 2020, February 4, 2020, and November 18, 2020) to explain its use of decaBDE and its need for an extended deadline for compliance.[3]

The final decaBDE rule generally prohibits the manufacture, processing, and distribution of decaBDE and articles containing decaBDE:

> Except as provided in paragraphs (a)(2) and (b) of this section, all persons are prohibited from all manufacturing and processing of decaBDE or decaBDE-containing products or articles after March 8, 2021, and all persons are prohibited from all distribution in commerce of decaBDE or decaBDE-containing products or articles after January 6, 2022.[4]

[2] "Connectorize" refers to the process of placing a digital or electronic connector on the end of a cable or wire.
[3] See EPA-HQ-OPPT-2019-0080-0583.
[4] 40 C.F.R. § 751.405(a)(1).

The rule contains a delayed compliance date for use of decaBDE in wire and cable for nuclear facilities, however:

> After January 6, 2023, all persons are prohibited from all processing and distribution in commerce of decaBDE for use in wire and cable insulation in nuclear power generation facilities, and decaBDE-containing wire and cable insulation.[5]

The preamble to the final decaBDE rule acknowledged RSCC's efforts to obtain this delayed compliance deadline:

> One commenter responded that while alternatives were available, they would need more time to successfully test and qualify an alternative chemical to decaBDE to meet the Institute of Electrical and Electronics Engineers (IEEE) 383 standard for instrumentation and power cable insulation for nuclear power plants. (EPA–HQ–OPPT–2019–0080–0583). Considering the unique safety certifications to qualify and approve an alternative chemical for this use, EPA has added a compliance delay of two years for the prohibition on the manufacture, processing and distribution in commerce of decaBDE for use in wire and cable insulation and of decaBDE containing wire and cable insulation.[6]

3. RSCC's Extension Request

RSCC is currently the sole active U.S. manufacturer of Class 1E power cables for nuclear facilities. However, there may be U.S. manufacturers of other kinds of wire and cable used in nuclear facilities for other applications, and there may also be importers of such wire and cable. Since RSCC was apparently the only wire and cable supplier for the nuclear industry to participate in the decaBDE rulemaking, it may be that other wire and cable manufacturers and importers are unaware of the decaBDE rule, or of the expiration of the January 6, 2023 compliance deadline. Considering the extensive research and development RSCC conducted in its efforts to identify even a single suitable alternative to decaBDE, RSCC expects that it is much further along in the process to replace use of decaBDE in wire and cable used in nuclear facilities than any other wire and cable manufacturers or importers.

RSCC is hopeful it will be able to commence manufacture of its Class 1E cables without decaBDE in a relatively short time. Nevertheless, based on very recent communications with its customers, the nuclear industry as a whole is likely to need to have an extension for all wire and cable manufacturers and importers that may extend well beyond the April 30, 2024 extension RSCC has requested.

[5] 40 C.F.R. § 751.405(a)(2)(ii).
[6] 86 Fed. Reg. 880. 889 (Jan. 6, 2021).

EPA originally determined that a two-year delay in the compliance deadline for this use of decaBDE was "a reasonable transition period," as explained in the Response to Public Comments document:

> Considering the unique safety certifications to qualify and approve an alternative chemical for this use, EPA has determined that the requested two years is a reasonable transition period, and it is not practicable to prohibit the processing and distribution in commerce of decaBDE for this use any earlier.[7]

As it turns out, two years was insufficient time in which to obtain qualification of nuclear facility wire and cable that do not contain decaBDE. Recognizing this, on October 18, 2022, RSCC asked OPPT for a further extension of the compliance deadline for this use of decaBDE. At this time, RSCC currently believes that an extension until April 2024 will be sufficient to allow it to finalize qualification and fully implement the decaBDE alternative into its manufacturing process so that it may distribute Class 1E cables meeting the IEEE 383 standard. As noted above, other wire and cable manufacturers and importers may need significantly more time.

During the several months since making its extension request, RSCC has been cooperating with your staff on this request. RSCC has been communicating primarily with Scott Drewes and Brooke Porter, who RSCC understands to be in the Existing Chemicals Risk Management Division of OPPT.

RSCC has answered OPPT's questions and provided requested information, but to date it has not received a definitive response to the extension request. On January 6, 2023, Scott Drewes informed RSCC:

> We are still exploring if there are any options that would allow RSCC to continue the processing and distribution of decaBDE and decaBDE-containing wire and cable insulation. We will get back to you as soon as possible on this issue.
>
> As you are aware, after today January 6th, 2023, all persons are prohibited from all processing and distribution in commerce of decaBDE for use in wire and cable insulation in nuclear power generation facilities, and decaBDE-containing wire and cable insulation. In meantime, please be aware that RSCC would be in violation of the regulations at 40 CFR 751.405(a)(2)(ii) if it continues to process or distribute decaBDE and decaBDE-products for this use after today.

In light of the expiration of the compliance deadline, RSCC halted its manufacture, processing, and distribution of Class 1E cables for the nuclear industry that contain decaBDE. Thus, RSCC is in compliance with the decaBDE rule.

[7] Regulation of Persistent, Bioaccumulative, and Toxic Chemicals Under TSCA Section 6(h), RIN 2070-AK34, Response to Public Comments (Dec. 2020) at 57.

RSCC is aware that its customers that connectorized the RSCC cables have limited inventories of these cables, but is unaware of whether those customers have similarly halted further processing and distribution of the cables or equipment items containing decaBDE.

4. Justification for the Extension Request

The need for adequate fire protection in cables used in nuclear power plants is critical, as shown by a near-catastrophic fire at the Browns Ferry, Alabama nuclear power plant on March 22, 1975. According to a retrospective on that incident:

> The fire involved a total area of about 1200 square feet. About 1600 cables were damaged; 628 of these cables were "safety related." Commercial nuclear power plants in the US typically have two redundant trains of safety-related equipment, referred to as Division I and Division II. During the fire, safety-related equipment, including the emergency core cooling systems, failed to operate properly because of damage to control cabling serving the equipment. The fact that safety-related equipment in both safety trains was affected by the fire was unexpected and represented a serious failure of the plant's safety programme.[8]

IEEE originally adopted IEEE 383 in 1974, the year before the fire, but the cables at that nuclear power plant had not been qualified to meet that standard. IEEE has continued to update that standard, most recently in 2015.

Once RSCC successfully qualifies its alternative Class 1E cables under IEEE 383, it must then implement this change into its manufacturing process, complete the months-long manufacture of these alternative cables, and supply them to its nuclear facility customers. To install those cables, the nuclear facilities must be in shutdown mode. For RSCC's connectorization customers, such customers must receive the RSCC-manufactured cables, connectorize them, and further distribute the connectorized equipment to the nuclear power plants for use in their nuclear operations during shutdowns. RSCC expects that those steps will take an additional 15 months. Other wire and cable manufacturers and importers are likely to need significantly more time.

Accordingly, RSCC requests an extension of the compliance deadline in 40 C.F.R. § 751.405(a)(2)(ii) until April 30, 2024, to allow the time needed for it and potentially other wire and cable manufacturers and importers to qualify replacement products, manufacture them, and distribute them to nuclear power plants.

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[8] "Remembering the Browns Ferry fire, 40 years on" (Mar. 22, 1975), https://www.neimagazine.com/features/featureremembering-the-browns-ferry-fire-40-years-on-4578707/. See also "Fire at Browns Ferry Nuclear Plant, Tennessee Valley Authority, March 22, 1975, Final Report of Preliminary Investigating Committee (May 7, 1975), https://www.nrc.gov/docs/ML0821/ML082110307.pdf.

5. Justification for Request for Enforcement Discretion

RSCC recognizes that OPPT may need additional time in which to act on its extension request. It notes that EPA has twice engaged in rulemaking over periods of several months to extend the compliance deadline for another PBT rule, that for PIP (3:1).[9]

In the meantime, multiple nuclear power plants have an urgent need for new and replacement Class 1E cables meeting the IEEE 383 standard. Thirteen nuclear facilities in the U.S. have scheduled outages for maintenance in just the first six months of 2023, the first beginning on January 27.[10] Cable replacement is almost always a necessary aspect of such outages and replacement cables for many applications must meet IEEE 383. RSCC has outstanding orders from many of these nuclear power plants with scheduled outages in the next six months. Moreover, RSCC has a limited supplies of small sections of IEEE 383-compliant cables in its inventory (and it is aware that its direct customers may also have limited supplies of such IEEE 383-compliance cables) that are used solely for emergency use. All of these cables contain decaBDE. Their use is not a viable substitute for the long lengths and different configurations required by nuclear facilities during scheduled maintenance outages.

Without the ability to obtain the necessary cables or equipment items for their maintenance turnarounds, nuclear power plants face a difficult choice: (1) delay the outages until IEEE 383-compliant cables without decaBDE become available; (2) conduct the outages as scheduled but resume operation without replacing cables that are due for replacement; or (3) extend nuclear facility outages until replacement cables without decaBDE become available.

The first option is unacceptable, as nuclear power plants normally operate for extensive periods without an outage, only scheduling them when necessary.[11] Outages are scheduled well in advance and require complex coordination of maintenance resources and arrangement for substitute sources of electrical power. Moreover, continued operation with cables or equipment items past their replacement dates, i.e., qualified lives, would violate NRC requirements.[12] It would also raise questions about safe operation and compliance with the NRC regulations and plant licenses perhaps dictating plant shutdown. These safety and license expectations apply to the second of these options as well.

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[9] See 86 Fed. Reg. 14398 (Mar. 16, 2021) (proposed extension rule); 86 Fed. Reg. 51823 (Sept. 17, 2021) (final extension rule); 86 Fed. Reg. 59684 (Oct. 28, 2021) (proposed extension rule); 87 Fed. Reg. 12886 (Mar. 8, 2022) (final extension rule).

[10] See "Nuclear Outage Schedule 2023-2024 Current and Upcoming Outages," https://outagecalendar.com/upcoming-outages; "Status of Nuclear Outages," https://www.eia.gov/nuclear/outages/#/?day=6/29/2023.

[11] One source estimates that outages appear about every 18-24 months. "Why nuclear outages are actually a good thing," https://nuclear.duke-energy.com/2018/03/13/why-nuclear-outages-are-actually-a-good-thing#:~:text=Most%20nuclear%20plants%20power%20down,fuel%20assemblies%20with%20new%20ones. However, some nuclear plants may have longer periods of operation between outages.

[12] 10 C.F.R. § 50.49.

The second option is also unacceptable, since the utilities would not normally schedule a subsequent outage for an extended period and the facilities could need to have the cables in use well after their scheduled replacement times. NRC regulations and related guidance prohibit continued use of cables past their qualified times of use.

The third option – extended shutdowns of nuclear power plants – presumably would meet both EPA and NRC requirements, but at a cost of millions of dollars per day in increased energy costs. Shutdowns during the winter and summer, while electricity demand is highest, would be particularly costly. Loss of output from multiple power plants due to the decaBDE rule would have enormous consequences on the national energy grid and economy, as well as increase reliance on carbon-intensive power sources.

To avoid those unacceptable alternatives, RSCC asks OPPT to request OECA to grant enforcement discretion to allow resumption of manufacture, processing, and distribution of nuclear facility wire and cable that contain decaBDE while EPA acts on the extension request. OPPT did this in the case of PIP (3:1), another PBT chemical.[13] With PIP (3:1), OPPT requested a No Action Assurance letter for 180 days, during which time it expected to be able to adopt a final rule extending the compliance deadline. A similar period of enforcement discretion may be appropriate, but only if OPPT is similarly close to issuing a notice of proposed rulemaking on an extension. Otherwise, a longer period of enforcement discretion would be necessary.

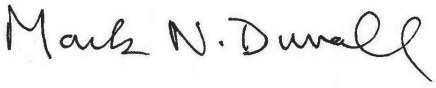
6. Additional Information

OPPT may be receiving comments on the need for an extension and grant of enforcement discretion from the nuclear power industry and from the NRC.

For more information on RSCC, please feel free to contact Eric Rasmussen, at eric.rasmussen@marmoniei.com or (860) 653-8435. For other purposes related to these requests, please contact me at mduvall@bdlaw.com or (202) 789-6090.

Thank you for consideration of these requests.

Sincerely,



Mark N. Duvall

[13] See request from Assistant Administrator Michal Freedhoff, "Request for No Action Assurance Regarding the Prohibition of Processing and Distribution of Phenol Isopropylated Phosphate (3:1), PIP (3:1), for Use in Articles and PIP (3:1)-containing Articles under 40 CFR 751.407(a)(1)" (Mar. 8, 2021), https://www.epa.gov/sites/default/files/2021-03/documents/10021-08_memo_freedhoff_to_starfield_tsca_pip_31_naa_signed_2021-03-08.pdf.

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