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VIA E-MAIL

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Re: ***Midwest Energy Emissions Corp. v. Ameren Corporation et al.*, No. 4-24-cv-00980 (E.D. Mo.) and *In re Midwest Energy Emissions Corp. Pat. Litig.*, No. 4:24-md-3132 (S.D. Iowa)**

Dear Counsel:

I write regarding the above-captioned proceedings ("District Court Proceedings"). Union Electric Company has filed the following petitions for *inter partes* review (IPR) against Birchtech Corporation ("ME2C"):

Proceeding	Date Filed	Patent
IPR2025-01117	June 27, 2025	10,596,517
IPR2025-01118	June 27, 2025	10,343,114
IPR2025-01322	July 18, 2025	10,668,430
IPR2025-01323	July 18, 2025	10,589,225
IPR2025-01324	July 18, 2025	10,993,370

The above proceedings are collectively referred to herein as "IPR Proceedings." The tables in attached Appendix A list the grounds and references asserted in each of the IPR Proceedings.

Union Electric hereby stipulates and agrees that, if the PTAB institutes an *inter partes* review in connection with one Asserted Patent, Union Electric will be bound by the full scope of the estoppel under 35 U.S.C. § 315(e)(2) for that particular Asserted Patent as of the date of the PTAB's institution decision on the merits (*i.e.*, Union Electric will forgo invalidity in district court based on "any ground that petitioner raised or reasonably could have raised during that inter partes review"). *See Sotera Wireless, Inc. v. Masimo Corp.,* IPR-2020-01019, Paper 12, 18-19 (PTAB Dec. 1, 2020) (precedential as to §II.A). For example, if the PTAB institutes *inter partes* review

in IPR2025-01117, then the estoppel provisions of 35 U.S.C. § 315(e)(2) will apply for U.S. Patent No. 10,596,517.[1]

Pursuant to *Sotera*, Union Electric reserves the right to assert the grounds in the District Court Proceedings based on any prior art not comprised solely of patents and printed publications, including system art, either alone, or in combination with other prior art. However, Union Electric also stipulates, going beyond *Sotera*, that if the PTAB institutes *inter partes* review on a particular petition, then Union Electric will not use the specific references appearing in the grounds in Appendix A for that petition in any obviousness combination, including in combination with system art. For example, if the PTAB institutes IPR2025-01117, then Union Electric will not use any of Downs, Altman, Nelson, Vosteen, Blankinship, or Olson-235 in any obviousness combination (including combinations with system art) against U.S. Patent No. 10,596,517 in the District Court Proceedings. If the PTAB institutes IPR2025-01118, then Union Electric will not use any of Downs, Altman, Nelson, Vosteen, Blankinship, or Olson-235 in any obviousness combination (including combinations with system art) against U.S. Patent No. 10,343,114 in the District Court Proceedings. If the PTAB institutes IPR2025-01322, then Union Electric will not use any of Downs, Altman, Nelson, Vosteen, Blankinship, or Olson-235 in any obviousness combination (including combinations with system art) against U.S. Patent No. 10,668,430 in the District Court Proceedings. If the PTAB institutes IPR2025-01323, then Union Electric will not use any of Downs, Altman, Nelson, Vosteen, Blankinship, or Olson-235 in any obviousness combination (including combinations with system art) against U.S. Patent No. 10,589,225 in the District Court Proceedings. If the PTAB institutes IPR2025-01324, then Union Electric will not use any of Downs, Nelson, Altman, Vosteen, Pollack, or Olson-235 in any obviousness combination (including combinations with system art) against U.S. Patent No. 10,993,370 in the District Court Proceedings.

Accordingly, this stipulation ensures that IPR Proceedings would be a "true alternative" to the District Court Proceedings (*Sotera*, Paper 12 at 18-19), because Union Electric agrees: (1) not to pursue any grounds after institution in the District Court Proceedings that are within the scope of the statutory estoppel (i.e., any grounds that the statute would preclude Petitioner from pursuing after Final Written Decision); and (2) not to pursue any prior-art reference against a specific Asserted Patent if the PTAB is already addressing that reference against the specific Asserted Patent.

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[1] However, if the PTAB declines to institute a petition on a particular Asserted Patent (e.g., the PTAB denies institution on IPR2025-01117 for U.S. Patent No. 10,596,517), then Union Electric reserves the right to assert any grounds of invalidity in the District Court Proceedings against that Asserted Patent.

Please do not hesitate to call or email with any questions.

Sincerely,

/s/Robert M. Evans, Jr.
Robert M. Evans, Jr.

Appendix A – Grounds and Prior Art References

U.S. Patent No. 10,596,517

Ground	'517 Claims	Basis for Challenge (IPR2025-01117)
1.	1, 4, 6-8, 10-15, 17, 20, 22, 24-29	Anticipated by U.S. Patent Publication No. 2008/0107579 ("**Downs**")
2.	1-15, 17-30	Obvious over **Downs** and U.S. Patent No. 5,827,352 **("Altman")**; or **Downs**, **Altman**, and U.S. Patent Application Publication US2004/0003716 **("Nelson")****
3.	1-15, 17-30	Obvious over U.S. Patent Publication No. 2004/0013589 **("Vosteen") a**nd **Altman**; or **Vosteen**, **Altman** and **Nelson****
4.	1, 4, 6-7, 11-15, 17, 22-29	Anticipated by Steve Blankinship, "A Variety of Hg Capture Solutions Are Available," Power Engineering, June 2009 at 56, 58 **("Blankinship")**
5.	1-15, 17-30	Obvious over **Blankinship** and **Vosteen**; or **Blankinship** and U.S. Patent No. 8,652,235 **("Olson-235")****

** as evidenced by U.S. Patent No. 5,435,980 ("**Felsvang**") for claim 18 and S. Julien et al., "The Effect of Halides on Emissions from Circulating Fluidized Bed Combustion of Fossil Fuels," Fuel, 75(14):1644–1663 (1996) **("Julien")** for claim 30

U.S. Patent No. 10,343,114

Ground	'114 Claims	Basis for Challenge (IPR2025-01118)
1.	1-30	Obvious over **Downs** and **Altman**; **Downs Altman** and **Vosteen**; or **Downs**, **Altman**, and **Nelson****
2.	1-30	Obvious **Vosteen** and **Altman**; or **Vosteen**, **Altman** and **Nelson****
3.	23, 25-27	Anticipated by **Blankinship**

Ground	'114 Claims	Basis for Challenge (IPR2025-01118)
4.	1-30	Obvious over **Blankinship**; **Blankinship** and **Vosteen**; or **Blankinship** and **Olson-235****

as evidenced by **Julien for claims 1-24 and **Felsvang** for 1-22

U.S. Patent No. 10,668,430

Ground	'430 Claims	Basis for Challenge (IPR2025-)
1.	1-4, 6-9, 15-16, 18-19, 21-28	Anticipated by **Downs**
2.	1-4, 6-29	Obvious over **Downs** and **Altman**; or **Downs**, **Altman** and **Nelson****
3.	1-4, 6-29	Obvious over **Vosteen** and **Altman**; or **Vosteen**, **Altman** and **Nelson****
4.	1-4, 6-9, 15-16, 18-28	Anticipated by **Blankinship**
5.	1-4, 6-29	Obvious over **Blankinship** and **Vosteen**; or **Blankinship** and **Olson-235****

as evidenced by **Julien for claims 28-29

U.S. Patent No. 10,993,370

Ground	'370 Claims	Basis for Challenge (IPR2025-)
1.	1-6, 8, 11, 14-15	Obvious over **Downs** and **Nelson** or **Downs**, **Altman** and **Nelson****
2.	1-6, 8, 11, 14-15	Obvious over **Vosteen** and **Nelson**; or **Vosteen**, **Altman** and **Nelson****
3.	1-6, 8, 11, 14-15	Anticipated by U.S. Patent Application Publication No. 2011/0250111 A1 **("Pollack")**
4.	1-6, 8, 11, 14-15	Obvious over **Pollack**, **Pollack** and **Olson-235**, or **Pollack** and **Nelson**

as evidenced by **Julien for claim 6

U.S. Patent No. 10,589,225

Ground	'225 Claims	Basis for Challenge (IPR2025-)
1.	1-2, 5, 7-8, 11-12, 14-15, 17, 19-20, 23, 25-29	Anticipated by **Downs****
2.	1-2, 5-9, 11-12, 14-15,17-20, 22-29	Obvious over **Downs** and **Altman**; or **Downs**, **Altman** and **Nelson****
3.	1-2, 5-15, 17-20, 22-29	Obvious over **Vosteen** and **Altman**; or **Vosteen**, **Altman** and **Nelson**
4.	1-2, 5, 8, 11-12, 14-15, 17, 19-20, 22-23, 25-29	Anticipated by **Blankinship****
5.	1-2, 5-15, 17-20, 22-29	Obvious over **Blankinship** and **Vosteen**, or **Blankinship** and **Olson-235**

as evidenced by **Julien for claims 28-29