

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UNION ELECTRIC COMPANY,
Petitioner,

v.

BIRCHTECH CORPORATION,
Patent Owner.

Case: IPR2025-01118
Patent 10,343,114

**PETITIONER'S OPPOSITION TO PATENT OWNER'S
REQUEST FOR DISCRETIONARY DENIAL**

UPDATED EXHIBIT LIST

Exhibit No.	Exhibit Description
1001	United States Patent No. 10,343,114 (“ 114 Patent ”)
1002	Declaration of Dr. Radisav Vidic
1003	Curriculum Vitae of Dr. Radisav Vidic
1004	U.S. Patent Publication No. US 2008/0107579 (May 8, 2008) (“ Downs ”)
1005	U.S. Provisional Patent Application No. 60/555,353 (filed Mar. 22, 2004) (“ Downs-Provisional ”)
1006	Redline comparison between U.S. Patent Publication No. US 2008/0107579 (Downs, EX1004) and U.S. Provisional Patent Application No. 60/555,353 (Downs-Provisional, EX1005) using Downs-Provisional as the original version (“ Downs-Redline ”)
1007	U.S. Patent No. 5,827,352 (Oct. 27, 1998) (“ Altman ”)
1008	U.S. Patent Pub. No. 2004/0003716 to Nelson (published Jan. 8, 2004) (“ Nelson ”)
1009	U.S. Provisional Patent Application No. 60/377,790 (filed May 6, 2002) (“ Nelson-Provisional ”)
1010	Redline comparison between U.S. Patent Pub. No. 2004/0003716 (Nelson, EX1008) and U.S. Provisional Patent Application No. 60/377,790 (Nelson-Provisional, EX1009) using Nelson-Provisional as the original version (“ Nelson-Redline ”)
1011	US Patent Publication No. 2004/0013589 (Jan. 22, 2004) (“ Vosteen ”)
1012	Steve Blankinship, “A Variety of Hg Capture Solutions Are Available,” Power Engineering, Vol. 113, Issue 6, (Jan. 6, 2009) (“ Blankinship ”)
1013	U.S. Patent No. 8,652,235 (Feb. 18, 2014) (“ Olson-235 ”)

Exhibit No.	Exhibit Description
1014	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 ”)
1015	Hawley’s Condensed Chemical Dictionary, (Van Nostrand Reinhold, 13 th Ed.), Definition of “Compound,” 291 (1997)
1016	Hawley’s Condensed Chemical Dictionary, (Van Nostrand Reinhold, 13 th Ed.), Definitions of “Alkaline-Earth Metals,” “Calcium Hydroxide” and “Lime, Hydrated,” 33, 196, 671-672 (1997)
1017	U.S. Provisional Application No. 60/605,640 as filed with U.S. Patent and Trademark Office (USPTO) (“ the Provisional ”)
1018	U.S. Application No. 11/209,163 as filed with USPTO (“ the ‘163 Application ”)
1019	U.S. Application No. 12/201,595 as filed with USPTO (“ the ‘595 Application ”)
1020	U.S. Application No. 12/429,058 as filed with USPTO (“ the ‘058 Application ”)
1021	U.S. Application No. 14/102,896 as filed with USPTO (“ the ‘896 Application ”)
1022	U.S. Application No. 15/295,594 as filed with USPTO (“ the ‘594 Application ”)
1023	File History for United States Patent No. 10,343,114 (U.S. Application No. 15/978,760)(“ the ‘760 CIP ”) – but NOT including prior art references therein
1024	Reserved
1025	Reserved

Exhibit No.	Exhibit Description
1026	Reserved
1027	Reserved
1028	Redline comparison between U.S. Application No. 11/209,163 and 12/201,595
1029	Redline comparison between U.S. Application No. 12/201,595 and 12/429,058
1030	Redline comparison between U.S. Application No. 12/429,058 and 14/102,896
1031	Redline comparison between U.S. Application No. 14/102,896 and 15/295,594
1032	Redline comparison between U.S. Application No. 15/295,594 and 15/978,760
1033	Reserved
1034	Reserved
1035	Reserved
1036	Reserved
1037	US Patent Publication No. US 2018/0280870A1 (“Olson-870”)
1038	Institution Decision, IPR2020–00832, Patent 10,343,114 (“832 DI”)
1039	Institution Decision, IPR2020–00834, Patent 10,343,114 (“834 DI”)
1040	Oxtoby et al., PRINCIPLES OF MODERN CHEMISTRY, 4 th ed (Saunders College Publishing: 1999) (“Oxtoby”)
1041	Evan J. Granite et al., “Sorbents for Mercury Removal from Flue Gas,” DOE/FETC/TR–98–01, U.S. Department of Energy (Jan. 1998) (“Granite”)
1042	Babcock & Wilcox, STEAM: ITS GENERATION AND USE, 40th ed. (The Babcock & Wilcox Company: 1992) (“B&W: Steam”)

Exhibit No.	Exhibit Description
1043	U.S. EPA, AP-42: External Combustion Sources, Chapter 1: Fifth Edition, Volume I (Sep. 1998), available at https://www3.epa.gov/ttn/chief/ap42/ch01/index.html (last visited Apr 10, 2020) (“ Chapter 1 of AP-42 ”)
1044	Thomas J. Feeley, et al., “A Review of DOE/NETL’s Mercury Control Technology R&D Program for Coal-Fired Power Plants,” <i>DOE/NETL &g R&D Program Review</i> (April 2003) (“ Feeley ”)
1045	Clean Air Mercury Rule: Basic Information, available at https://web.archive.org/web/20050920005951/http://www.epa.gov/mercuryrule/basic.htm (“ Clean Air Mercury Rule ”)
1046	EPA, “Mercury Study Report to Congress Volume VIII: An Evaluation of Mercury Control Technologies and Costs,” EPA Report No. EPA-452/R-97-010 (Dec. 1997), available at https://www3.epa.gov/airtoxics/112nmerc/volume8.pdf (“ EPA 1997 Mercury Study Report Vol. VIII ”)
1047	Deposition Transcript of Edwin Olson (Aug. 26, 2022) (excerpted), taken in <i>Midwest Energy Emissions Corp., et al. v. Arthur J. Gallagher & Co., et al.</i> , No. 1:19-cv-01334-CJB.
1048	Deposition Transcript of Michael Holmes (Aug. 24, 2022) (excerpted), taken in <i>Midwest Energy Emissions Corp., et al. v. Arthur J. Gallagher & Co., et al.</i> , No. 1:19-cv-01334-CJB.
1049	U.S. Patent No. 1,984,164 to Stock et al. (issued Dec. 11, 1934) (“ Stock ”)
1050	B.R. Puri, <i>Surface Complexes on Carbons</i> , in CHEMISTRY AND PHYSICS OF CARBON 191 (Philip L. Walker, ed.) (Marcel Dekker: 1970) (“ Puri ”)
1051	Roop Chand Bansal, et al., ACTIVE CARBON (Marcel Dekker:1988) 482 pages (“ Bansal ”)
1052	Frank E. Huggins et al., “XAFS Examination of Mercury Sorption on Three Activated Carbons,” <i>Energy & Fuels</i> 1999(13), p. 114-121 (1999) (“ XAFS ”)
1053	Charlene R. Crocker et al., “Mercury Control with the Advanced Hybrid Particulate Collector Technical Progress Report,” U.S. DOE- NETL (Nov. 2003) (“ Crocker ”)
1054	C. Eckberg et al., “Mercury Control Evaluation of Halogen Injection into a Texas Lignite-Fired Boiler,” Track A, Session A3 (Mercury – Control), Presentation A3c, EUEC: 8TH ELECTRIC UTILITIES

Exhibit No.	Exhibit Description
	ENVIRONMENTAL CONFERENCE (Tucson, Arizona: January 25, 2005) (“ Eckberg ”)
1055	US Patent Publication No. 2006/0048646 (Mar. 9, 2006) (“ Olson-646 ”)
1056	Vosteen, B. W. et al.: Mercury-Related Chemistry in Waste Incineration and Thermal Process Flue Gases. Poster, Air Quality IV Conference. September 22nd – 24th, 2003, Arlington VA. (“ Vosteen poster ”)
1057	“Mercury Reduction Technology Shows Promise for Texas Lignite,” Power Engineering, Vol. 109, Issue 3, (Mar. 1, 2005)
1058	J. Bustard, S. Sjostrom, et al., “Full Scale Evaluation of Sorbent Injection for Mercury Control on Coal-Fired Power Plants,” International Conference on Air Quality III, Paper No. A5-4 (Sept. 9–12, 2002: Arlington, VA) (“ Bustard ”)
1059	Sharon Sjostrom et al., “Field Studies of Mercury Control Using Injected Sorbents,” AWMA ANNUAL MEETING, Session Ae-1b (2002) (“ Sjostrom-III ”)
1060	Proposed National Emission Standards for Hazardous Air Pollutants; and, in the Alternative, Proposed Standards of Performance for New and Existing Stationary Sources: Electric Utility Steam Generating Units, 69 Fed. Reg. 4652–4752 [Volume 69, No. 20] (Jan. 30, 2004) (“ EPA-Proposal ”)
1061	Vosteen et al., “Energy Process Engineering and Environmental Protection,” Study commissioned by the State Environmental Agency of North Rhine-Westphalia (April 22, 2004)
1062	S. Sjostrom et al., “Full Scale Evaluation of Mercury Control by Injecting Activated Carbon Upstream of a Spray Dryer and Fabric Filter,” POWER GEN CONFERENCE (Orlando, Florida: Nov. 29 – Dec. 2, 2004) (“ Sjostrom-I ”)
1063	Sjostrom, S., “Evaluation of Sorbent Injection for Mercury Control,” Report No. 41986R04 (Oct. 29, 2004)
1064	Sjostrom, S., “Evaluation of Sorbent Injection for Mercury Control,” Report No. 41986R05 (Feb. 2, 2005)
1065	Mercury Information Clearinghouse, “Quarter 6 – Mercury Control Field Demonstrations” (Apr. 2005)
1066	Sharon Sjostrom, “Full Scale Evaluations of Mercury Control Technologies with PRB Coals,” Track A, Session A3 (Mercury – Control), Presentation A3b, EUEC: 8TH ELECTRIC UTILITIES

Exhibit No.	Exhibit Description
	ENVIRONMENTAL CONFERENCE (Tucson, Arizona: January 25, 2005) (“Sjostrom-II”)
1067	Sharon Sjostrom, “Evaluation of Sorbent Injection for Mercury Control,” Report No. 41986R08 (Aug. 2, 2005)
1068	Chu, P. and Porcella, D. B. “Mercury stack emissions from U.S. electric utility power plants,” <i>Water, Air, Soil Pollution</i> , 80, 135-144, 1995.
1069	Meij, R. “The fate of mercury in coal-fired power plants and the influence of wet flue-gas desulfurization,” <i>Water, Air, Soil Pollution</i> , 56, 21, 1991.
1070	Galbreath, K.C. and Zygarlicke, C.J. “Mercury transformations in coal combustion flue gas,” <i>Fuel Processing Technology</i> , 65–66, 289–310, 2000.
1071	Institution Decision, IPR2020–00928, Patent 8,168,147 (“928 DI”)
1072	Senior, C.L., Sarofim, A.F., Zeng, T., Helble, J.J., and Mamani-Paco, R. “Gas-phase transformations of mercury in coal-fired power plants,” <i>Fuel Processing Technology</i> , 63, 197–213, 2000.
1073	Sliger, R.M., Kramlich, J.C., Marinov, N.M. “Towards the development of a chemical kinetic model for the homogeneous oxidation of mercury by chlorine species,” <i>Fuel Processing Technology</i> , 65–66, 423–438, 2000.
1074	Chang, R. and Offen, G., “Mercury Emission Control Technologies: An EPRI Synopsis,” <i>Power Engineering</i> , Vol. 99, No. 11, pp. 51-57, 1995.
1075	Liu, W., Vidic, R.D., Brown, T.D. “Optimization of high temperature sulfur impregnation in activated carbon for permanent sequestration of mercury,” <i>Environmental Science Technology</i> , 34, 483-488, 2000.
1076	Liu, W., Vidic, R.D., Brown, T.D. “Impact of flue gas conditions on mercury uptake by sulfur-impregnated activated carbon,” <i>Environmental Science Technology</i> , 34, 154-159, 2000.
1077	Brief in Support of Plaintiff’s Motion for Transfer of Actions to the Southern District of Iowa, filed in <i>In re Midwest Energy Emissions Corp. Patent Litigation</i> , No. 4:24-md-1332 (S.D. Iowa).
1078	Granite, E.J., Pennline, H.W. and Hargis, R.A. “Novel sorbents for mercury removal from flue gas,” <i>Industrial Engineering Chemistry Research</i> , 39, 1020-1029, 2000.
1079	Lee, S.J., Seo, Y-C., Jurng, J., Lee, T.J. “Removal of gas-phase

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	elemental mercury by iodine- and chlorine-impregnated activated carbons,” <i>Atmospheric Environment</i> , 38, 4887–4893, 2004.
1080	U.S. Patent No. 5,435,980 (“ Felsvang ”)
1081	U.S. Patent No. 6,878,358 to Vosteen
1082	Declaration of Tracey J. Olanyk (6/2/2025), authenticating various exhibits including Blankinship EX1012
1083	Expert Report of Philip J. O’Keefe, PE Regarding Infringement (Oct. 25, 2022) (excerpted), submitted by Patent Owner in <i>Midwest Energy Emissions Corp., et al. v. Arthur J. Gallagher & Co., et al.</i> , No. 1:19-cv-01334-CJB
1084	Buschmann, J, et al., “The KNX™ Coal Additive Technology A Simple Solution for Mercury Emissions Control,” POWER GEN CONFERENCE (Las Vegas, Nevada: Dec. 6 – Dec. 8, 2005)
1085	Vassileva, S.V., et al., “Contents, modes of occurrence and origin of chlorine and bromine in coal,” <i>Fuel</i> 79 (2000) 903–921.
1086	Petitioner’s Stipulation Regarding District Court Proceedings
1087	Reply Brief in Support of Motion to Transfer, <i>In re Midwest Energy Emissions Corp. Patent Litigation</i> , MDL No. 3132
1088	Patent Owner’s Contact to Petitioner Regarding Patent Portfolio
1089	Petitioner’s Response to Patent Owner Regarding Patent Portfolio
1090	Patent Owner’s Third-Party Subpoena in <i>Midwest Energy Emissions Corp. and MES Inc. v. Arthur J. Gallagher & Co., et. al.</i> , District of Delaware Case No. 19-1334 to Petitioner
1091	Case No. 4-24-md-031232-SHL-WPK, Docket #56 - Proposed Scheduling Order
1092	Multi-District Litigation Docket Report (Excerpted) in <i>In re Midwest Energy Emissions Corp. Patent Litigation</i> , No. 4:24-md-1332 (S.D. Iowa).
1093	Plaintiff’s Infringement Contentions, in <i>In re Midwest Energy Emissions Corp. Patent Litigation</i> , No. 4:24-md-1332 (S.D. Iowa).
1094	Docket #60 - Case Management Order, filed in <i>In re Midwest Energy Emissions Corp. Patent Litigation</i> , No. 4:24-md-1332 (S.D. Iowa).

Exhibit No.	Exhibit Description
1095	Joint Motion to Stay filed in <i>In re Midwest Energy Emissions Corp. Patent Litigation</i> , No. 4:24-md-1332 (S.D. Iowa).
1096	Order Entering Stay and Continuing All Case Deadlines in <i>In re Midwest Energy Emissions Corp. Patent Litigation</i> , No. 4:24-md-1332 (S.D. Iowa).

I. INTRODUCTION

In its opening Brief (Paper 10), Patent Owner (“PO”) incorrectly asserted that non-parties Chem-Mod, LLC (“Chem-Mod”) and its sublicensees, Buffington Partners, LLC (“Buffington”) and Larkwood Energy, LLC (“Larkwood”), should be considered real parties-in-interest (“RPI”) and/or privies of Petitioner.

Petitioner’s Opposition (Paper 14) proved there was no evidence to support such a finding as: (1) none of Chem-Mod, Buffington, or Larkwood is controlling, funding, directing or otherwise involved in this Petition in any way; and (2) Petitioner had no opportunity to litigate the validity or infringement of the ‘114 Patent in the Delaware case as Petitioner was not a party thereto nor a party in any IPR related to that case. Petitioner also noted the Board had already rejected nearly identical RPI and privity arguments in IPR2025-00278.

In its Reply, PO asserts only that Buffington and Larkwood are privies of Petitioner premised on purported “factual findings and legal conclusions” in a Delaware Court’s September 22, 2025 Order denying the Delaware Defendants’ post-trial motion for JMOL. Reply at 4-5. That Order contains no facts to support a privity finding here, and there remains zero evidence that Buffington or Larkwood is controlling, funding, directing, or otherwise involved in this proceeding in any way – because they simply are not. For these reasons, and for those established in Petitioner’s Opposition, PO’s discretionary denial request should be denied.

II. ARGUMENT

A. Legal Standards Regarding Privity

“Privity” is a limited exception to the “deep-rooted historic tradition that everyone should have his own day in court.” *Taylor v. Sturgell*, 553 U.S. 880, 892–93, 894 n.8 (2008) (quotation omitted). For IPRs, the “[privity] analysis seeks to determine whether the relationship between the purported ‘privy’ and the relevant other party is sufficiently close such that both should be bound by the trial outcome and related estoppels.” PTAB November 2019 Consolidated Trial Practice Guide, (“CTPG”) at 14-15. Privity “is essentially a shorthand statement that collateral estoppel is to be applied in a given case.” CTPG at 15.

“[T]he privity inquiry in this context naturally focuses on the relationship between the named IPR petitioner and the party in the prior lawsuit.” *WesternGeco LLC v. Ion Geophysical Corp.*, 889 F.3d 1308, 1319 (Fed. Cir. 2018). “For example, it is important to determine whether the petitioner and the prior litigant’s relationship—as it relates to the lawsuit—is sufficiently close that it can be fairly said that **the petitioner had a full and fair opportunity to litigate the validity of the patent in that lawsuit.**” *Id.* (emphasis added). “[A] manufacturer-customer relationship alone does not establish privity, even with indemnity provisions.” *Samsung Electronics Co. Ltd. v. Netlist Inc.*, IPR2022-00615, Paper 62 at 23 (PTAB June 30, 2023) (citation omitted); *See also WesternGeco*, 889 F.3d at 1319.

The CTPG further explains that the relevant considerations for privity include:

(1) whether the non-party had the opportunity to exercise control over the petitioner's participation in the IPR; (2) the non-party's relationship with the petitioner and with the petition, including any involvement in the filing; and (3) the nature of the entity filing the petition. CTPG at 15-18; *see also Microsoft Corp. v. Worlds, Inc.*, IPR2021-00277, 2021 WL 2460652, *6 (PTAB June 16, 2021).

B. Neither Buffington Nor Larkwood is a Privy of Petitioner

PO's opening Brief identified no evidence that Buffington or Larkwood is controlling, funding, or otherwise has any involvement with the Petition or Petitioner's role in this proceeding. There is also no evidence of any coordination between Petitioner and either of Buffington or Larkwood as to Petitioner's decision to bring this proceeding or the contents of the Petition. There is no such evidence because Petitioner is acting independently here, in the MDL, and in the Missouri case to defend itself against PO's infringement claims as is Petitioner's right. Nothing in the Delaware Court's recent post-trial order changes these facts.

Contrary to PO's assertions otherwise, the Delaware Court's post-trial decision that there was sufficient evidence presented during the Delaware trial to "support the [jury's] conclusion that CERT took affirmative steps to encourage infringement" and acted willfully in doing so (EX2016 at 17, n. 19) does not fill the void of evidence of privity in PO's opening Brief. Nothing in the Delaware Court's

Order even suggests that Buffington or Larkwood is: (1) controlling the Petition or Petitioner's role in this proceeding; (2) funding this proceeding; or (3) coordinating with Petitioner or had any substantive involvement with Petitioner's decision to bring this proceeding. And PO has identified no evidence that Petitioner is somehow acting as a proxy for Buffington or Larkwood to provide either with the opportunity to "lodg[e] a successive attack for which it already had a first bite." *See Uniloc 2017 LLC v. Facebook, Inc.*, 989 F.3d 1018, 1028 (Fed. Cir. 2021).

The Board and the Federal Circuit have made clear that it would be "improper" to find a party is a privy of a petitioner where there is such a lack of evidence. To quote the Board in *ASSA Abloy AB v. CPC Patent Tech. Pty, Ltd*:

There is no persuasive evidence that Apple has any control or substantive involvement over the Petition or over Petitioner's role in this proceeding. There is no persuasive evidence of joint funding. There is no persuasive evidence of direct or implied coordination between Apple and Petitioner as to their respective decisions to bring these proceedings. There is no persuasive evidence that Apple was a "litigating agent" for Petitioner. Under these circumstances, a finding that Apple is a privy of Petitioner "would be improper."

IPR2022-01006, 2024 WL 3799645, *24 (PTAB Aug. 13, 2024) (emphasis added); *Uniloc 2017*, 989 F.3d at 1029 ("improper" to find party was an RPI or privy where no "evidence of control," "joint funding," or "substantial coordination"); *Luminex Int'l Co. v. Signify Holdings B.V.*, IPR2024-00101, Paper 20, at 9, 23 (PTAB Nov. 21, 2024) (RPI and privity concern whether an "unnamed party is controlling, funding, or directing an IPR proceeding"). The same result should follow here.

PO's reliance on generic indemnity provisions continues to miss the point. *See* Reply at 4-5; *see also* EX2016 at 17. What the jury "could" infer during the Delaware trial does not change the plain and generic language of the indemnity provisions here (which were entered into many years before the '114 Patent issued) or that neither Buffington nor Larkwood is indemnifying Petitioner – they are not. The law is clear that such indemnity provisions do not create privity. *Bae Sys. Info. & Elec. Sys. Integration, Inc. v. Cheetah Omni, LLC*, IPR2013-00175, Paper 20 at 4 (PTAB July 23, 2013) (holding indemnity provisions do not establish a right of control of a proceeding, and noting "indemnification is not one of the 'substantive legal relationships' cited in *Taylor*, 553 U.S. at 894, as binding a person not a party to a lawsuit to a judgment in that suit."); *WesternGeco*, 889 F.3d at 1321-22.

III. ADDITIONAL CONSIDERATION REGARDING *FINTIV* FACTOR 1

After this Surreply was authorized (EX3001), the MDL granted a Joint Motion to Stay Proceedings filed by **both** PO and the MDL Defendants. EX1095, EX1096. The Stay Order continued all case deadlines. *Id.* PO joined the Motion to Stay despite its representation in its Brief that a "stay is unlikely." Paper 10 at 17.

IV. CONCLUSION

The "general rule against nonparty preclusion" applies here as Petitioner is not "simply serving as a proxy" of Buffington or Larkwood. And PO does not allege such. There is no privity and PO's request for discretionary denial should be rejected.

Dated: October 17, 2025

Respectfully submitted,

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CERTIFICATE OF SERVICE UNDER 37 C.F.R. § 42.6(e)(4)

It is hereby certified that on this 17th day of October, 2025, a copy of the foregoing document was served via electronic mail, as consented to by Patent Owner upon the following counsel of record:

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