

UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT TRIAL AND APPEAL BOARD

PacifiCorp and
MidAmerican Energy Company,

Petitioners

v.

Birchtech Corp.

Patent Owner

IPR2025-00688
Patent No. 10,933,370

**PETITIONERS' AUTHORIZED RESPONSE TO
PATENT OWNER'S DIRECTOR REVIEW REQUEST**

TABLE OF CONTENTS

I.	THE DIRECTOR DID NOT ERR IN REFERRING THE PETITION	2
II.	THE BOARD SHOULD ADDRESS PO’S MISSTATEMENTS DURING PROSECUTION	2
III.	THE PTAB IS THE MORE EFFICIENT FORUM	5
	A. There are only two petitions per patent, not 12 or 17	5
	B. The Board can efficiently handle two petitions per patent	6
	C. The Board has coordinated the proceeding schedules	7
	D. The Board is equipped to interpret USPTO regulations	9
	E. MDL will not address all the validity issues	9
	F. The MDL Case is stayed and will not try invalidity at all	10
IV.	PO HAS NO SETTLED EXPECTATIONS	10
V.	CONCLUSION	13

TABLE OF AUTHORITIES

Page(s)

Cases

<i>Arista Networks, Inc. v. Orckit Corp.</i> , IPR2024-01239, Paper 7 (P.T.A.B. Mar. 12, 2025)	13
<i>Belcher Pharms., LLC v. Hospira, Inc.</i> , 11 F.4th 1345 (Fed. Cir. 2021)	4
<i>Microsoft Corp. v. Partec Cluster Competence Center GmbH</i> , IPR2025-00318, Paper 9 at 3 (June 12, 2025)	5
<i>Midwest Energy Emissions Corp. v. A.J. Gallagher & Co.</i> , No. 1:19-cv-01334-CJG, ECF No. 791 (D. Del. Sept. 25, 2025)	7
<i>Posco v. Arcelormittal</i> , IPR2025-00370, Paper 10 (P.T.A.B. June 25, 2025)	12
<i>Mercedes-Benz Group AG v. Phelan Group LLC</i> , IPR2025-00413, Paper 13 (P.T.A.B. June 25, 2025)	12
<i>Tesla v. Intellectual Ventures</i> , IPR2025-00217, Paper 10 (P.T.A.B. June 13, 2025)	12

Statutes

35 U.S.C. § 6	5
35 U.S.C. § 315(d)	4

Other Authorities

37 C.F.R. § 42.70	4
37 C.F.R. § 42.122(a)	4

PETITIONERS' EXHIBIT LIST

Exhibit	Description of Exhibits
1001	U.S. Patent No. 10,933,370 to Olson et al. (filed April 12, 2018) ("370 Patent" or "Challenged Patent")
1002	Declaration of Dr. Stephen Niksa in Support of Petition for <i>Inter Partes</i> Review of U.S. Patent No. 10,933,370 ("370 Niksa Decl.")
1003	Curriculum Vitae of Dr. Stephen Niksa
1004	Family Tree of ME2C Patents
1005	U.S. Patent Publication No. 2004/0013589 to Vosteen et al. (filed July 24, 2002) ("Vosteen589")
1006	U.S. Patent Pub. No. 2008/0107579 to Downs et al. (published May 8, 2008) ("Downs-Boiler")
1007	U.S. Patent Prov. App. No. 60/555,353 (filed Mar. 22, 2004) ("Downs-Boiler-Provisional")
1008	Travis Starns, "Full-Scale Test of Mercury Control with Sorbent Injection and an ESP at Wisconsin Electric's Pleasant Prairie Power Plant," Session AE1-C, Paper No. 43249, Air & Waste Management's Association's 95 th Annual Conference (Baltimore, MD: June 23-27, 2002) ("Starns")
1009	Massachusetts Dep. of Environmental Protection, Bureau of Waste Prevention, "Evaluation of the Technological and Economic Feasibility of Controlling and Eliminating Mercury Emissions from the Combustion of Solid Fossil Fuel" (Dec. 2002) ("Mass-EPA"), available at https://web.archive.org/web/20030411074158/http://www.state.ma.us/dep/bwp/daqc/files/mercfeas.pdf and at https://www.mass.gov/doc/evaluation-of-technological-economic-feasibility-of-controlling-eliminating-mercury-emissions/download

Exhibit	Description of Exhibits
1010	Sharon Sjostrom, “Full Scale Evaluations of Mercury Control Technologies with PRB Coals,” Track A, Session A3 (Mercury – Control), Presentation A3b, EUEC: 8th Electric Utilities Environmental Conference (Tucson, Arizona: January 25, 2005) (“Sjostrom”)
1011	Craig 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 Environmental Conference (Tucson, Arizona: January 25, 2005) (“Eckberg”)
1012	U.S. Patent Pub. No. 2006/0048646 to Olson et al. (published Mar. 9, 2006) (“Olson-646”)
1013	U.S. Patent No. 6,953,494 to Nelson (filed May 6, 2003) (“Nelson”)
1014	U.S. Patent No. 7,514,052 to Lissianski et al. (filed Jan. 6, 2004) (“Lissianski”)
1015	U.S. Patent Publication No. 2011/0030592 to Baldrey (filed Feb. 10, 2011) (“Baldrey”)
1016	RESERVED
1017	RESERVED
1018	RESERVED
1019	File History of U.S. Patent Application No. 15/974,343, which ultimately issued as U.S. Patent No. 10,668,430 (“’430 Patent File History”).
1020	File History of U.S. Patent Prov. App. No. 60/605,640 (“Provisional”)

Exhibit	Description of Exhibits
1021	File History of U.S. Patent Application No. 11/209,163, which ultimately issued as U.S. Patent No. 7,435,286 (“ 163 Application File History ”)
1022	File History of U.S. Patent Application No. 12/201,595, which ultimately published as 2009/0062119 and was abandoned (“ 595 Application File History ”)
1023	Excerpts of File History of U.S. Patent Application No. 15/951,970, which ultimately issued as U.S. Patent No. 10,933,370 (“ 370 Patent File History ”)
1024	RESERVED
1025	File History of U.S. Patent Application No. 12/419,219, which ultimately issued as U.S. Patent No. 8,168,147 (“ 147 Patent File History ”)
1026	File History of U.S. Patent Application No. 15/978,760 (issued as U.S. Patent No. 10,343,114) (“ 114 Patent File History ”)
1027	Babcock & Wilcox, Steam: its generation and use, 40th ed. (The Babcock & Wilcox Company: 1992) (“ B&W: Steam ”)
1028	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 ”)
1029	U.S. Patent No. 1,984,164 to Stock et al. (issued Dec. 11, 1934) (“ Stock ”)
1030	Electric Utilities Environment Conference 2005 Handout (“ EUEC Handout ”)
1031	Scan of jacket/cover of CD mailed to conference attendees from EUEC: 8th Electric Utilities Environmental Conference (Tucson, Arizona: January 23-26, 2005) (“ EUEC CD Scan ”)

Exhibit	Description of Exhibits
1032	Redline comparison between U.S. Patent Pub. No. 2008/0107579 (Downs-Boiler, EX1006) and U.S. Patent Prov. Appl. No. 60/555,353 (Downs-Boiler-Provisional, EX1007), using Downs-Boiler-Provisional as the original version (“Downs-Boiler-Redline”)
1033	U.S. Patent No. 8,512,655
1034	U.S. Patent No. 8,821,819
1035	U.S. Patent No. 9,757,689
1036	CRC Handbook of Chemistry and Physics, 86th Ed.; Lide, D.R., ed. (“CRC Press: March 2005”)
1037	Paul Chu, “Power Plant Evaluation of the Effect of SCR Technology on Mercury,” Paper No. 106, Combined Power Plant Air Pollutant Control Mega Symposium (Mega) (Washington, DC: May 19-22, 2003) (“Power Plant Evaluation”)
1038	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”)
1039	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 Hg R&D Program Review</i> (April 2003) (“Feeley”)
1040	Oxtoby et al., Principles of Modern Chemistry, 4 th ed (Saunders College Publishing: 1999) (“Oxtoby”)
1041	N.N. Greenwood and A. Earnshaw, Chemistry of the Elements, 2nd ed. (Butterworth-Heinemann: 1997) (“Greenwood”)
1042	B.R. Puri, <i>Surface Complexes on Carbons</i> , in Chemistry and Physics of Carbon 191 (Philip L. Walker, ed.) (Marcel Dekker: 1970) (“Puri”)

Exhibit	Description of Exhibits
1043	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 ”)
1044	S. Niksa et al., <i>Predicting Complete Hg Speciation Along Coal-Fired Utility Exhaust Systems</i> , MEGA Symposium, Paper # 45 (Washington, DC: Aug. 2004) (“ Hg Speciation ”)
1045	D.L. Laudal et al., <i>Evaluation of Mercury Speciation at Power Plants Using SCR and SNCR NOx Control Technologies</i> , Paper No. A5-01, Int’l Conf. on Air Quality III (Arlington, VA: Sept. 9-12, 2002) (“ Laudal ”)
1046	U.S. Patent No. 4,196,173 to DeJong (“ DeJong ”)
1047	U.S. Patent No. 5,695,726 to Lerner (“ Lerner ”)
1048	Carey, T. R., Jr., O. W. H., Richardson, C. F., Chang, R., & Meserole, F. B. (1998). Factors Affecting Mercury Control in Utility Flue Gas Using Activated Carbon. <i>Journal of the Air & Waste Management Association</i> , 48(12), 1166–1174. https://doi.org/10.1080/10473289.1998.10463753 (“ Carey ”)
1049	NETL - Mercury Emissions Control, February, 2003, available at https://web.archive.org/web/20030315093905fw_/http://www.netl.doe.gov/coalpower/environment/mercury/control-tech/inactive.html (“ U.S. DOE, Completed Mercury Projects, February, 2003 ”)
1050	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 ”)
1051	U.S. EPA, “Study of Hazardous Air Pollutant Emissions from Electric Utility Steam Generation Units -- Final Report to Congress,” (Vol. 1 1998), available at

Exhibit	Description of Exhibits
	https://www3.epa.gov/ttn/utox/eurtc1.pdf (“U.S. EPA – Vol. 1 1998”)
1052	U.S. EPA, “Mercury Study Report to Congress Volume 1: Executive Summary,” EPA-452/R-97-003 (Dec. 1997), available at https://www.epa.gov/sites/production/files/2015-09/documents/volume1.pdf (“U.S. EPA – Exec. Summary Vol. 1 Dec. 1997”)
1053	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 Nov. 20, 2024) (“Chapter 1 of AP-42”)
1054	U.S. DOE, Mercury Emissions Control - Regulatory Drivers (Jan. 24, 2003), available at https://web.archive.org/web/20030416142937/http://www.netl.doe.gov/coalpower/environment/mercury/regs.html (“Mercury Emissions Control”)
1055	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”)
1056	EPA Newsroom, “EPA Announces First-Ever Rule to Reduce Mercury Emissions from Power Plants” (Mar. 15, 2005), available at https://archive.epa.gov/epapages/newsroom_archive/newsreleases/91ab7266e65751b985256fc50067d9b0.html (“3/15/2005 EPA Press Release”)
1057	EPA Newsroom, “Public Comment Period Begins for Proposed Power Plant Regulations” (Jan. 29, 2004), available at https://archive.epa.gov/epapages/newsroom_archive/newsreleases/4daf1d46e8dd755c85257036005511f9.html (“1/29/2004 EPA Press Release”)

Exhibit	Description of Exhibits
1058	EPA Newsroom, “EPA Supplements Proposal to Reduce Power Plant Mercury Emissions,” (Feb. 24, 2004), available at https://archive.epa.gov/epapages/newsroom_archive/newsreleases/5810096dabfc9eba85256e440078905f.html (“ 2/24/2004 EPA Press Release ”)
1059	Sharon Sjostrom et al., “Field Studies of Mercury Control Using Injected Sorbents,” AWMA Annual Meeting, Session Ae-1b (2002) (“ Field Studies of Mercury Control ”)
1060	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 ”)
1061	EUEC 2005 home page, available at https://web.archive.org/web/20050303090129/http://www.euec.com/
1062	Charlene R. Crocker et al., “Mercury Control with the Advanced Hybrid Particulate Collector Technical Progress Report,” U.S. DOE-NETL (Nov. 2003) (“ Crocker ”)
1063	Redline Comparison, showing changes from ’163 Application (as published at 2006/0048646) to ’970 Application (as published at 2018/0229182)
1064	Redline Comparison, showing changes from ’558 Application (as published at 2015/0246315) to ’970 Application (as published at 2018/0229182)
1065	U.S. Patent No. 8,168,147
1066	RESERVED
1067	U.S. Patent No. 10,589,225
1068	RESERVED

Exhibit	Description of Exhibits
1069	U.S. Patent Pub. No. 2018/0229182 to Olson et al. (published Aug. 16, 2018) (“Published ’970 Application”)
1070	Roop Chand Bansal, et al., Active Carbon (Marcel Dekker:1988). (“Bansal”)
1071	<i>Midwest Energy Emissions Corp., et al. v. Arthur J. Gallagher & Co., et al.</i> , No. 1:19-cv-01334-CJB, Dkt. No. 440 (D. Del. June 24, 2022) (“Dkt No. 440”)
1072	<i>Midwest Energy Emissions Corp., et al. v. Arthur J. Gallagher & Co., et al.</i> , No. 1:19-cv-01334-CJB, Dkt. No. 447 (D. Del. July 12, 2022) (“Dkt No. 447”)
1073	Welcome Page of CD mailed to conference attendees of the 2002 Air & Waste Management’s Association’s 95 th Annual Conference & Exhibition (Baltimore, Maryland: June 23-27, 2002) (“AWMA CD Scan”)
1074	Main Menu of CD mailed to conference attendees of the 2002 Air & Waste Management’s Association’s 95 th Annual Conference & Exhibition (Baltimore, Maryland: June 23-27, 2002) (“AWMA CD Scan, Main Menu”)
1075	Author Index of CD mailed to conference attendees of the 2002 Air & Waste Management’s Association’s 95 th Annual Conference & Exhibition (Baltimore, Maryland: June 23-27, 2002) (“AWMA CD Scan, Author Index”)
1076	Papers by Session of CD mailed to conference attendees of the 2002 Air & Waste Management’s Association’s 95 th Annual Conference & Exhibition (Baltimore, Maryland: June 23-27, 2002) (“AWMA CD Scan, Papers by Session”)
1077	Scan of jacket/cover of CD mailed to conference attendees of the 2002 Air & Waste Management’s Association’s 95 th Annual

Exhibit	Description of Exhibits
	Conference & Exhibition (Baltimore, Maryland: June 23-27, 2002) (“AWMA CD Photo”)
1078	AWMA Website (Internet Archive), available at https://web.archive.org/web/20020613041559/http://www.awma.org/about/overview.htm (“AWMA Overview”)
1079	AWMA Website (Internet Archive), available at https://web.archive.org/web/20020527005933/http://www.awma.org/_/ (“AWMA Homepage”, advertising AWMA 2002 Conference)
1080	AWMA Website (Internet Archive), available at https://web.archive.org/web/20020604012426/http://www.awma.org:80/about/ (“AWMA About Page”)
1081	AWMA Website (Internet Archive), available at https://web.archive.org/web/20020601173851/http://www.awma.org/ACE2002/tech-program/MondayPM.asp#AE-1c (“AWMA Technical Program Schedule for June 24, 2002 for Session AE-1C”)
1082	AWMA Website (Internet Archive), available at https://web.archive.org/web/20020616091740/http://www.awma.org/ACE2002/exhibition/list.asp (“AWMA 2002 Conference list of exhibitors”)
1083	AWMA Website (Internet Archive), available at https://web.archive.org/web/20020601121532/http://www.awma.org/ACE2002/top10list.asp (“AWMA 2002 Conference Top Ten Reasons”)
1084	AWMA Website (Internet Archive), available at https://web.archive.org/web/20020610093515/http://www.awma.org/ACE2002/welcome.asp (“AWMA 95th Annual Conference and Exhibition Welcome Page”)

Exhibit	Description of Exhibits
1085	AWMA Website (Internet Archive), available at https://web.archive.org/web/20020806044928/http://www.awma.org:80/pubs/bookstore/ItemInfo.asp?OrderCode_s=VIP-110-CD (“AWMA Bookstore Page for 2002 AWMA Conference CD”)
1086	AWMA Website (Internet Archive), available at https://web.archive.org/web/20020806041256/http://www.awma.org:80/pubs/bookstore/ (“AWMA Bookstore Homepage”)
1087	State of Massachusetts Mass-EPA (Internet Archive) (dated Jan. 6, 2003), available at https://web.archive.org/web/20030106044457/http://www.state.ma.us/dep/bwp/about.htm (describing mission of Mass Department of Environmental Protection, Bureau of Waste Prevention)
1088	State of Massachusetts Mass-EPA (Internet Archive) (dated Dec. 21, 2002), available at https://web.archive.org/web/20021221040816/http://www.state.ma.us/dep/bwp/bwpprogs.htm (describing the divisions and programs of the Mass Bureau of Waste Prevention)
1089	State of Massachusetts Mass-EPA (Internet Archive) (dated Jan. 6, 2003), available at https://web.archive.org/web/20030106024342/http://www.state.ma.us/dep/bwp/bwppubs.htm (describing the publications by program of the Mass Bureau of Waste Prevention)
1090	State of Massachusetts Mass-EPA (Internet Archive) (dated Dec. 20, 2002), available at https://web.archive.org/web/20021220143210/http://www.state.ma.us/dep/bwp/daqc/daqcpubs.htm#ecp (describing the Air Program Planning Unit Publications of the Mass Bureau of Waste Prevention)
1091	Internet Archive Standard Affidavit, explaining how to interpret hyperlinks, available at https://archive.org/legal/affidavit.php

Exhibit	Description of Exhibits
1092	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
1093	Deposition Transcript of Phillip O’Keefe Vol. 1 (Mar. 2, 2023), taken in <i>Midwest Energy Emissions Corp., et al. v. Arthur J. Gallagher & Co., et al.</i> , No. 1:19-cv-01334-CJB.
1094	Deposition Transcript of Phillip O’Keefe Vol. 2 (Mar. 3, 2023), taken in <i>Midwest Energy Emissions Corp., et al. v. Arthur J. Gallagher & Co., et al.</i> , No. 1:19-cv-01334-CJB.
1095	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.
1096	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.
1097	Deposition Transcript of John Pavlish (Aug. 25, 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.
1098	Affidavit of Tanya Zeif, Custodian of Records for Internet Archive (1/10/2025), sponsoring Exhibits 1078-1086
1099	Affidavit of Tanya Zeif, Custodian of Records for Internet Archive (1/13/2025), sponsoring Exhibits 1009, 1061, 1087-1090
1100	RESERVED
1101	RESERVED
1102	RESERVED
1103	RESERVED

Exhibit	Description of Exhibits
1104	<i>IN RE: MIDWEST ENERGY EMISSIONS CORP. PATENT LITIGATION</i> , No. 4:24-md-03132-SHL-WPK, Dkt. No. 60 (S.D. Iowa Mar. 7, 2025) (“ Dkt No. 60 ”)
1105	<i>NRG Energy, Inc. et al. v. Midwest Energy Emissions Corp.</i> , IPR2020-00926, Paper 13 (P.T.A.B. Sep. 4, 2020)
1106	Clarion Energy Content Directors, “A Variety of Hg Capture Solutions Are Available” (June 1, 2009), available at https://www.power-eng.com/environmental-emissions/a-variety-of-hg-capture-solutions-are-available/ (“ Variety of Hg Capture Solutions ”)
1107	Modern Power Systems, “Full scale tests show KNXTM is effective for mercury control” (October 1, 2009), available at https://www.modernpowersystems.com/analysis/full-scale-tests-show-knxtm-is-effective-for-mercury-control/ (“ KNXTM is effective ”)
1108	RESERVED
1109	RESERVED
1110	Petitioner PacifiCorp’s Stipulation Regarding District Court Proceedings
1111	Petitioner MEC’s Stipulation Regarding District Court Proceedings
1112	Petitioners WPL and IPL’s Stipulation Regarding District Court Proceedings
1113	Puget Sound Energy, Colstrip Facts, available at: https://www.colstripfacts.com/faqs#:~:text=Talen%20Energy%20owns%2030%25%20interest,operator%20of%20all%20four%20plants.&text=PacifiCorp%20owns%20a%2010%25%20interest%20in%20units%203%20%26%204

Exhibit	Description of Exhibits
1114	Plaintiff's Initial Infringement Contentions (March 18, 2025) served in In re: Midwest Energy Emissions Corp. Patent Litig., No. 4:24-md-03132-SHL-WPK (S.D. Iowa) and filed publicly at ECF 106-3
1115	Exhibit A to Plaintiff's Initial Infringement Contentions (March 18, 2025) served in In re: Midwest Energy Emissions Corp. Patent Litig., No. 4:24-md-03132-SHL-WPK (S.D. Iowa) and filed publicly at ECF 106-3
1116	Coal Explained: Use of Coal, U.S. Energy Information Administration (last updated Sept. 14, 2023), available at: https://www.eia.gov/energyexplained/coal/use-of-coal.php#:~:text=In%202022%2C%20coal%20accounted%20for,19.5%25%20of%20U.S
1117	What EPA is Doing to Reduce Mercury Pollution, and Exposures to Mercury, U.S. Env't Protection Agency (last updated July 11, 2024), available at https://www.epa.gov/mercury/what-epa-doing-reduce-mercurypollution-and-exposures-mercury
1118	Birchtech, Technology Overview, available at https://www.birchtech.com/tech-overview
1119	Exec. Order No. 14261, 90 Fed. Reg. 15517 (April 8, 2025)
1120	Patent Owner's Response to Petitioners' Motion to Stay Pending Inter Partes Review In re: Midwest Energy Emissions Corp. Patent Litig., No. 4:24-md-03132-SHL-WPK, ECF 128 (S.D. Iowa)
1121	Docket Navigator, Time to Trial in the Southern District of Iowa, https://search.docketnavigator.com/patent/binder/0/0 (last accessed June 2, 2025)
1122	Deere & Co. et. al v. Kinze Mfg., Inc. et. al, 4:20-CV-00389 (S.D. Iowa) (Docket Sheet)
1123	Piatz v. State Farm Mut. Auto. Ins. Co., 3:21-CV-00007 (S.D. Iowa) (Judge Locher) (Docket Sheet and ECF 8)

Exhibit	Description of Exhibits
1124	Probasco et al v. MFA Inc., 4:22-CV-00117 (S.D. Iowa) (Judge Locher) (Docket Sheet and ECF 7, 9)
1125	Shin v. Winnebago Indus., Inc. et. al, 3:23-CV-00077 (S.D. Iowa) (Judge Locher) (Docket Sheet)
1126	Nuhn Industries Ltd v. Bazooka Farmstar LLC, 3:22-cv-00015 (S.D. Iowa) (Docket Sheet and ECF 286)
1127	G.W. Lisk Company, Inc. v. Gits Manufacturing Company, 4:17-cv-00273 (S.D. Iowa) (Docket Sheet)
1128	In re: Midwest Energy Emissions Corp. Patent Litig., No. 4:24-md-03132-SHL-WPK, ECF 131 (S.D. Iowa May 22, 2025) (Order Denying Without Prejudice Pre-Institution Stay)
1129	In re: Midwest Energy Emissions Corp. Patent Litig., No. 4:24-md-03132-SHL-WPK, ECF 111 (S.D. Iowa Apr. 18, 2025) (Order re: Petitioners' Deadline to File Surreply)
1130	In re: Midwest Energy Emissions Corp. Patent Litig., No. 4:24-md-03132-SHL-WPK, ECF 19 (S.D. Iowa Jan 10, 2025) (Order on Motions to Dismiss and Motion to Sever)
1131	In re: Midwest Energy Emissions Corp. Patent Litig., No. 4:24-md-03132-SHL-WPK, ECF 1 (S.D. Iowa December 17, 2024) (MDL Transfer Order)
1132	In re: Midwest Energy Emissions Corp. Patent Litig., No. 4:24-md-03132-SHL-WPK, ECF 129 (S.D. Iowa May 21, 2025) (Petitioners' Reply Brief In Support of Motion to Stay Pending Inter Partes Review)
1133	Email from Justin Nemunaitis to Joe Jacobi (Jan. 16, 2024, 11:01 AM)

Exhibit	Description of Exhibits
1134	In re Midwest Energy Emissions Corp. Patent Litig., MDL No. 3132 ECF 35 (J.P.M.L. Nov. 14, 2024) (Patent Owner’s Reply Brief in Support of Consolidation)
1135	Midwest Energy Emissions Corp. v. Arthur J. Gallagher & Co., No. 19-1334-RGACJB ECF 1 (D. Del. July 17, 2019) (Complaint for Patent Infringement)
1136	Midwest Energy Emissions Corp. v. Arthur J. Gallagher & Co., No. 19-1334-RGACJB ECF 130 (D. Del. July 15, 2020) (First Amended Complaint for Patent Infringement)
1137	Exhibit 1137 - Confidential Business Information
1138	Exhibit 1138 - Confidential Business Information
1139	Exhibit 1139 - Confidential Business Information
1140	RESERVED
1141	In re: Midwest Energy Emissions Corp. Patent Litig., No. 4:24-MD-03132-SHL-WPK, (S.D. Iowa Oct. 3, 2025) (Joint Motion to Stay Proceedings Pending Director Review of Inter Partes Review)
1142	In re: Midwest Energy Emissions Corp. Patent Litig., No. 4:24-MD-03132-SHL-WPK, (S.D. Iowa Oct. 13, 2025) (Order Granting Motions to Stay and Denying Without Prejudice or as Moot All Other Pending Motions)

Patent Owner (“PO”) seeks Director Review of two stages: Discretionary Denial and Institution.¹ Yet PO does not identify a single error that took place, let alone one warranting reversal of the Director’s and Panel’s prior decisions. Rather, the focus of PO’s argument is that the multi-district litigation (“MDL”) court is a more efficient forum. But since the institution decisions for IPR2025-00687 and IPR2025-00688, the efficiency in favor of the PTAB is even greater: (a) the MDL case is stayed pending IPR; (b) other than PacifiCorp and one other defendant (neither of whom will go to trial in Iowa), the remaining defendants have been dismissed from MDL; (c) and the PTAB will address claims of the ’370 Patent that have never been asserted in the MDL case.

But beyond efficiencies, trial at the PTAB is particularly appropriate to correct multiple misrepresentations concerning the ’370 patent. First, PO suggests that the ’370 Patent was asserted in the Delaware litigation. Paper 34 at 1, 5. It was not. Prior to PO suing PacifiCorp and MidAmerican, the ’370 Patent had not been asserted. Second, misrepresentations secured allowance of the ’370 Patent—PO amended the claims to distinguish prior art by reciting “the 1:100 to about 30:100” weight-ratio limitation, but just two months earlier, PO told the PTAB in a proceeding on a family patent that the same ratio was entitled to “no patentable

¹ Other than updating cites to the relevant papers, Petitioners are filing identical response briefs in IPR2025-00687 and IPR2025-00688.

weight” due to its obviousness. The PTAB is in the best position to address these prosecution misdeeds that secured allowance of the ’370 Patent. *See Thryv, Inc. v. Click-To-Call Techs., LP*, 590 U.S. 45, 54 (2020) (Board is positioned to “weed out bad patent claims efficiently.”).

I. THE DIRECTOR DID NOT ERR IN REFERRING THE PETITION

The Director Review process does not provide a generic redo, but is instead “limited to” certain issues. *See* Director Review Process § 2.B. Other than generalized reluctance in having its patent challenged, PO has not identified any abuse of discretion, erroneous findings of fact, or erroneous conclusions of law. Rather, PO argues policy: deny IPR petitions for patents in an MDL case due to supposed efficiencies (even though all of those efficiencies have recently evaporated); and deny IPR petitions filed against patent owners who previously litigated *other* patents (not the challenged patent) due to supposed settled expectations. These policies do not exist and should not be created.

II. THE BOARD SHOULD ADDRESS PO’S MISSTATEMENTS DURING PROSECUTION

Petitioners call the Director’s attention to the prosecution history and PO’s misstatements that caused the ’370 Patent to be improperly issued. *See Tessell, Inc. v. Nutanix, Inc.*, IPR2025-00322, Paper 14 at (P.T.A.B. June 12, 2025) (“Office may consider unfair dealings as a factor when determining whether to exercise discretion”).

During prosecution of the '370 Patent in November 2020, the claims were amended to distinguish prior art by reciting a “weight ratio” of various halogen species to sorbent “from 1:100 to 30:100” (sometimes referred to as a 1-30% limitation):

Independent claim 1 is presently amended to recite “...wherein a weight ratio of I⁻, I₂, Br⁻, Br₂, Cl⁻, Cl₂, or a combination thereof in the additive fed to the combustion chamber to an amount of the sorbent material added to the mercury-containing gas is from 1:100 to 30:100...”
Independent claim 20 is correspondingly amended. Support can be found in the present published U.S. application at paragraphs [0021], [0025], and [0072].

IPR2025-00688, Paper 1 at 15-16; EX1023 at 1592.² Applicants then argued to the '370 Patent Examiner that this 1-30% ratio distinguished over the prior art *Felsvang* anticipatory reference:

Felsvang mentions a range of the weight of HCl in the flue gas to the weight of activated carbon injected into the flue gas of from 65:100-14200:100. Therefore, Felsvang fails to describe or suggest a weight ratio of I⁻, I₂, Br⁻, Br₂, Cl⁻, Cl₂, or a combination thereof in the additive fed to the combustion chamber to an amount of the sorbent material added to the mercury-containing gas of from about 1:100 to 30:100. Felsvang fails to describe or suggest all the features of independent claims 1 or 20; therefore, these claims are patentable over Felsvang.

EX1023 at 1593. PO made similar arguments for the six grounds of obviousness references. *Id.* at 1594-1597.

But just two months earlier, in September 2020, PO took the exact opposite

² The claims were ultimately amended by the Examiner to replace the specified halogen ions and molecular halogens with “additive.” EX1023, 1576.

approach regarding the patentability of the 1:100-30:100 ratio. In seeking an earlier invention date for the '147 Patent (parent to the '370 Patent), PO argued to the PTAB that the 1-30% ratio should be given “no patentable weight” and that it “would have been obvious to a POSITA”:

Petitioners’ expert testified—and ME2C does not dispute—that the 1%-30% range limitation is not entitled to any patentable weight. See Ex. 1003 at ¶ 369 (“Through routine process optimization and routine experimentation, a POSITA would have adjusted the rate of addition of the promoter and/or the rate of addition of the sorbent material to achieve a range from about 1 g to about 30 g of promoter per 100 grams of the sorbent material . . . The range presented nothing more than optimization of result-effective variables that would have been obvious to a POSITA.”).

EX1105 (IPR2020-00926, Paper 13) at 34-35 (emphasis added). The Examiner of the '370 Patent was not provided with this information and ultimately allowed the claims because “the prior art of record ... fails to disclose or suggest a motivation for using a weight ratio of additive added to the coal and/or combustion chamber, to an amount of injected sorbent is from about 1:100 to about 30:100, in combination with the other recited process steps.” EX1023 at 1574-1575; EX1002 ¶¶162-165. Thus, the “alleged critical improvement over the prior art was therefore already within the public domain, just not before the examiner.” *See Belcher Pharms., LLC v. Hospira, Inc.*, 11 F.4th 1345 (Fed. Cir. 2021).

PO argued out of both sides of its mouth—that the 1-30% ratio was immaterial when seeking a prior invention date for the parent '147 Patent, yet it distinguished

over prior art when seeking patentability for the '370 Patent.³ Due to PO's misstatements, there was a "material error by the Office" during examination of the '370 Patent, so "it is an appropriate use of Office resources to review the potential error." *See Microsoft Corp. v. Partec Cluster Competence Center GmbH*, IPR2025-00318, Paper 9 at 3 (June 12, 2025).

III. THE PTAB IS THE MORE EFFICIENT FORUM

The PTAB, not MDL, is in the best position to resolve the issues of invalidity of PO's patents, including PO's prosecution misdeeds that secured allowance of the '370 Patent. This is particularly true now that the other defendants have settled the litigation and/or been dismissed; the only defendants remaining in the MDL Court are PacifiCorp (Petitioner) and Union Electric, and the case against them is stayed pending IPR. To the extent the stay is ever lifted, neither of these defendants are resident in Iowa, so the MDL Court will transfer them to other jurisdictions for trial.

A. There are only two petitions per patent, not 12 or 17

PO raises a new argument, that subsequent actions by an unrelated party are relevant to the IPR2025-00687 and -688 proceedings. PO asserts that there have been "17 IPRs filed against 6 patents," including the five petitions filed by "Union

³ Notably, in its POPR on the '370 Patent, PO does not dispute that the asserted prior art does disclose the 1:100-30:100 ratio. *See generally* IPR2025-00688, Paper 17.

Electric Company” for which discretionary denial briefing is not complete. Paper 34 at 2, 5 (emphasis in original). This argument was not raised in the prior papers and should not be considered. *See* Director Review Process § 3.E.

PO is also wrong. As PO admits, there are “two distinct groups of Petitioners.” Paper 34 at 4. PO does not, and cannot, contend there was any coordination or other “relationship, if any, between” these two distinct groups. *See* Consolidated Trial Practice Guide (Nov. 2019) at 57 n.1 (“CTPG”). PO is concocting a novel “reverse *General Plastics*” argument, suggesting that later petitions by a completely unrelated entity should be used to deny institution on the earlier-filed petitions. But that is not the law. *General Plastics* and its progeny can be applied to “follow-on” petitions, not earlier-filed petitions. *See* CTPG at 56.

B. The Board can efficiently handle two petitions per patent

For each challenged patent, Petitioners filed one petition using prior art dated before PO’s earliest asserted priority date and one petition challenging the priority date by using intervening prior art. *See* CTPG at 59 (“more than one petition may be necessary ... when there is a dispute about priority date requiring arguments under multiple prior art references”). There is no overlap in prior art between the two petitions per patent. *See* Paper 2. As the Board stated, “Patent Owner does not challenge that multiple Petitions are necessary.” IPR2025-00688, Paper 29 at 3 n.3.

PO now complains about the Board examining priority date in the petition asserting prior art before August 2004 (e.g., IPR2025-00687). Paper 34 at 5. Yet it was PO that put priority date at issue in the -687 proceeding when it sought a prior-invention date by trying to swear behind prior art. IPR2025-00687, Paper 34 at 28, 32-33. The Board's approach here is consistent with a prior institution decision against the counterpart '114 Patent, where the Board held that PO was obligated to establish pre-AIA status when asserting a pre-filing invention date. *See* IPR2020-00834, Paper 18 at 36-38; *see also* IPR2020-00926, Paper 19 at 35 (similar reasoning for '147 Patent, a parent of the '370 Patent). Were the Board to reach a different conclusion now as to why it cannot address pre-AIA/post-AIA status in both petitions on the '370 Patent, it must provide a "more detailed explanation" as to "why a different outcome is warranted." *See* Stewart, "PTAB considerations of prior findings of fact and conclusions of law" (Memo Sept. 16, 2025).

C. The Board has coordinated the proceeding schedules

PO argues that "the various IPRs are set on different schedules which may lead to iterative claim construction proceedings and duplicative discovery" (Paper 34 at 3), but neither Petitioners nor PO have submitted that any terms need construction. Second, the Board filed the same Scheduling Order across these two proceedings plus four more (setting six proceedings across three patents on the same

schedule). *See, e.g.*, IPR2025-00688, Paper 30. Thus, there will be no iterative claim construction proceeding or duplicative discovery.⁴

The final patent, for which institution decisions have not yet been received (IPR2025-00717 and -718 are due Nov. 10), does not tip the balance of efficiency towards the MDL Court. Consolidation can align the schedules. *See* 35 U.S.C. § 315(d) (“Director may determine the manner in which the inter partes review or other proceeding or matter may proceed, including ... consolidation); 37 C.F.R. § 42.122(a) (similar). The Board can also schedule concurrent oral arguments under 37 C.F.R. § 42.70 because, as PO contends, “Each of the six patents are part of a single patent family, *see* Ex. 1004, and the claims of each patent cover similar subject matter.” Paper 34 at 2; *see, e.g., Halliburton Energy Servs. LLC v. U.S. Servs., LLC*, IPR2021-01033, Paper 33 (Sept. 26, 2022) and IPR2021-01032, Paper 48 (Nov. 1, 2022) (each setting concurrent oral argument for multiple patents).

The parties can also cooperate to align schedules. The Scheduling Order states that the “parties may stipulate different dates” for each of these deadlines, including

⁴ Petitioners took steps to increase the efficiency for the Panel, including asserting the same references across numerous challenged patents. For example, IPR2025-00274, -00280, -00422, -00424, and -00687 all use the same two primary references (Vosteen589 and Downs-Boiler) and the same two secondary references (Starns and Mass-EPA). Also, IPR2025-00278, -00281, -00423, -00425, and -00688 all use the same primary reference (Sjostrom) and the same two secondary references (Eckberg and Olson-646). *See* generally Paper 2 in each.

up to Due Date 7 (June 2, 2026) for the patent owner sur-reply. Paper 30 at 10. Thus, there is ample time for trials across the patent family to be aligned.

D. The Board is equipped to interpret USPTO regulations

A significant issue across the cases is whether the challenged claims are entitled to priority to a provisional application filed in August 2004, or whether priority is in 2018. *See* Paper 2. Determining priority dates for ME2C's patents may involve examining whether pre-AIA or post-AIA law applies, what kinds of materials can be incorporated by reference, and how that incorporation must be done. *See, e.g.*, IPR2025-00688, Paper 1 at 19-36. The Board is well-suited to handle such priority-date issues. *See* 35 U.S.C. § 6.

E. MDL will not address all the validity issues

The MDL Court will not address all validity issues, as there are non-overlapping claims between MDL and IPR. ME2C's infringement contentions identify 116 patent claims across six patents asserted in the MDL Court. EX1114. Every one of those claims is challenged in the petitions, but non-asserted claims are also challenged: IPR2025-00687 challenges claims 7 and 13-18, and IPR2025-

00688 challenges claims 7, 9, and 13-18. These claims of the '370 Patent are not asserted in the MDL case and will not be addressed by the MDL Court. *See* EX1114.

F. The MDL Case is stayed and will not try invalidity at all

As the Director recognized, “Because the litigation between the parties would proceed to several district court trials in different jurisdictions, resolving the dispute between the parties at the Office would be more efficient.” *See* IPR2025-00274, Paper 23 at 2; *see* IPR2025-00688, Paper 18 at 2 (“These cases present the same discretionary considerations as those presented in IPR2025-00274 ...”). The Director was correct, and there is no basis for PO’s assertion that “adjudication in the single MDL proceeding is more efficient” than IPRs before the Board. First, there is not a “single” MDL proceeding, as there are now *no defendants* in Iowa. PO stipulated to dismissal of MidAmerican on October 23, 2025 (4:24-md-03132, ECF 216-217). Thus, the only remaining MDL defendants are PacifiCorp and Union Electric, and they will be transferred out of Iowa for trial in Wyoming and E.D. Missouri, respectively. *See* EX1130; MDL Case No. 3132, ECF 38 (Dec. 12, 2024). Second, it is unclear when, or even if, there will even be an invalidity trial in district court, because the MDL case has been stayed at PO’s request. EX1141-EX1142.

IV. PO HAS NO SETTLED EXPECTATIONS

The Director held that for patents “issued in 2019 and 2020, ... PO has not developed strong settled expectations that favor discretionary denial.” IPR2025-

00274, Paper 23 at 3; *see Cambridge Indus. USA, Inc. v. Applied Optoelectronics, Inc.*, IPR2025-00434, Paper 11 at 2 (P.T.A.B. June 26, 2025) (Director finding that patents issued in 2019 and 2020 do not lead to “strong settled expectations”). The ’370 Patent in IPR2025-00687 and IPR2025-00688 issued even later, in March 2021. In contrast to the 2021 issue date of the ’370 Patent, Petitioners’ power plants have been in operation for decades. *See* EX1115 at 13 (accusing PacifiCorp of infringement dating back to 2013).

PO asserts that “nearly all of those patents were litigated in Patent Owner’s 2019 action (‘the Delaware Litigation’),” but PO omits several important details. *See* Paper 34 at 1. First, the ’370 Patent was not even asserted in the Delaware Litigation. *See* EX2023. Second, for the patents that were actually asserted, the defendant in that case (none of whom are Petitioners) “did not end up pursuing its invalidity defense at trial,” rather than some perceived strength of the patents’ validity. *See Midwest Energy Emissions Corp. v. A.J. Gallagher & Co.*, No. 1:19-cv-01334-CJG, ECF No. 791 at 42 (D. Del. Sept. 25, 2025). As PO stated, “You didn’t hear one word about it [invalidity] from the defense. Not one. ... Not a word.” EX2004 at 1194:11-1195:8; *see also* 117:2-4, 921:12-17, 1119:24-1120:8, 1135:13-16, 1139:11-1141:5. No weight should be given to this JMOL.

At the same time, PO utterly ignores the Board’s actual invalidity findings on the counterpart ’114 Patent and parent ’147 Patent. *See* EX1004. In 2020, the Board

instituted two IPRs on the '114 Patent, stating the 2020 petitioners had shown a “reasonable likelihood of prevailing with respect to at least one claim of the '114 patent.” *NRG Energy, Inc. v. Midwest Energy Emissions Corp.*, IPR2020-00832, Paper 17 at 2 (P.T.A.B. Oct. 17, 2022) & IPR2020-00834, Paper 18 at 2 (P.T.A.B. Oct. 26, 2022). Thus, the only “settled expectation” is that PO’s patent claims are likely invalid. “Petitioner’s arguments regarding settled expectations—namely that PO’s claims were ‘highly vulnerable to invalidation based on prior art’—tip the balance against discretionary denial.” *Posco v. Arcelormittal*, IPR2025-00370, Paper 10 at 2-3 (P.T.A.B. June 25, 2025) (when “Board previously determined related claims to be unpatentable”).

The Board also found a parent patent to be “lack[ing] written description support” and thus not “entitled to a priority date earlier than April 6, 2009.” IPR2020-00928, Paper 17 at 21 (Dec. 2, 2020). For these reasons PO cannot reasonably expect that the '370 Patent (child to the '147 Patent) or the '114 Patent (counterpart) can trace priority before 2009. *See* EX1004; *Mercedes-Benz Group AG v. Phelan Group LLC*, IPR2025-00413, Paper 13 at 2 (P.T.A.B. June 25, 2025) (“claims of a related patent were recently found unpatentable” in an *ex parte* reexam); *Tesla v. Intellectual Ventures*, IPR2025-00217, Paper 10 at 2 (P.T.A.B. June 13, 2025) (“Board previously determined there was a reasonable likelihood that similar claims of an ancestor patent were unpatentable”).

To avoid final written decisions, PO entered into settlement agreements with the 2020 petitioners, dismissing those parties with prejudice. PO then waited until July 2024 to sue the current Petitioners. EX2007. It would not be “fair to ... deny Petitioner[s] the opportunity to challenge the validity” of the patents on account of PO “choosing to stagger the filing of its infringement suits.” *Arista Networks, Inc. v. Orckit Corp.*, IPR2024-01239, Paper 7 at 3-4 (P.T.A.B. Mar. 12, 2025).

V. CONCLUSION

Petitioners respectfully request that the request for Director Review be denied.

Respectfully submitted,

Nov. 4, 2025

Date

/s/ David J. Tobin

David J. Tobin (Reg. No. 60,776)
McDermott Will & Schulte LLP
2801 North Harwood Street, Suite 2600
Dallas, TX 75201
Tel: (214) 210-2793
Email: dtobin@mwe.com

ATTORNEYS FOR PETITIONERS

CERTIFICATE OF SERVICE

Pursuant to 37 CFR § 42.6(e)(4), the undersigned certifies that on November 4, 2025, a complete copy of the foregoing Petitioners' Authorized Response to Patent Owner's Director Review Request was served on Lead and Back-up Counsel for Patent Owner at the service address provided in Patent Owner's Mandatory Notices:

hhamad@caldwellcc.com
jnemunaitis@caldwellcc.com
rcochrane@caldwellcc.com
midwest@caldwellcc.com

Nov. 4, 2025

Date

/s/ David J. Tobin

David J. Tobin (Reg. No. 60,776)
McDermott Will & Schulte LLP
2801 North Harwood Street, Suite 2600
Dallas, TX 75201
Tel: (214) 210-2793
Email: dtobin@mwe.com

ATTORNEYS FOR PETITIONERS