

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PACIFICORP,
MIDAMERICAN ENERGY COMPANY, AND
WEC ENERGY GROUP, INC.,
Petitioners

v.

BIRCHTECH CORP.
Patent Owner

Case IPR2025-00718
Patent 10,926,218

**PATENT OWNER'S SUR-REPLY TO PETITIONERS' REPLY TO
PATENT OWNER'S PRELIMINARY RESPONSE**

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2001	Declaration of Justin T. Nemunaitis
2002	Declaration of Richard Cochrane
2003	Original Complaint for Patent Infringement, <i>Midwest Energy Emissions Corp., et al. v. Vistra Energy Corp., et al.</i> , C.A. 1:19-cv-01334, ECF No. 1 (D. Del. July 17, 2019)
2004	Transcript of Jury Trial, <i>Midwest Energy Emissions Corp., et al. v. Arthur J. Gallagher & Co., et al.</i> , C.A. 1:19-cv-01334 (D. Del.) (Feb. 26, 2024–March 1, 2024)
2005	Non-Final Judgment Following Jury Verdict, <i>Midwest Energy Emissions Corp., et al. v. Arthur J. Gallagher & Co., et al.</i> , C.A. 1:19-cv-01334, ECF No. 697 (D. Del. March 8, 2024)
2006	Case Management Order, <i>In re: Midwest Energy Emissions Corp. Pat. Litig.</i> , No. 4:24-md-03132-SHL-WPK, ECF No. 60 (S.D. Iowa March 7, 2025)
2007	Complaint for Patent Infringement, <i>Midwest Energy Emissions Corp. v. Berkshire Hathaway Energy Company, et al.</i> , 4:24-cv-00243-SHL-WPK, ECF No. 1 (S.D. Iowa July 18, 2024)
2008	PacifiCorp’s First Amended Answer, Affirmative Defenses, and Counterclaims in Response to Plaintiff’s First Amended Complaint for Patent Infringement, <i>In re: Midwest Energy Emissions Corp. Pat. Litig.</i> , No. 4:24-md-03132-SHL-WPK, ECF No. 82 (S.D. Iowa March 21, 2025) (Redacted)
2009	Defendant MidAmerican Energy Company’s First Amended Answer, Affirmative Defenses, and Counterclaims to Plaintiff’s First Amended Complaint, <i>In re: Midwest Energy Emissions Corp. Pat. Litig.</i> , No. 4:24-md-03132-SHL-WPK, ECF No. 83 (S.D. Iowa March 21, 2025) (Redacted)
2010	Defendant Wisconsin Power and Light Company’s First Amended Answer, Affirmative Defenses, and Counterclaims to First Amended Complaint, <i>In re: Midwest Energy Emissions Corp. Pat. Litig.</i> , No. 4:24-md-03132-SHL-WPK, ECF No. 87 (S.D. Iowa March 21, 2025) (Redacted)

2011	Opening Expert Report of Dr. Stephen Niksa, <i>Midwest Energy Emissions Corp., et al. v. Arthur J. Gallagher & Co., et al.</i> , C.A. 1:19-cv-01334 (D. Del.)
2012	Pilot- and Full-Scale Demonstration of Advanced Mercury Control Technologies for Lignite-Fired Power Plants, Quarterly Report (for the Period October 1, 2003 – December 31, 2003), dated February 2004
2013	Pilot- and Full-Scale Demonstration of Advanced Mercury Control Technologies for Lignite-Fired Power Plants, Final Report, dated February 2005
2014	Mercury Control Technologies for Electric Utilities Burning Subbituminous Coals, Final Report (For the period January 1, 2004 through June 30, 2005), dated October 2005
2015	Center for Air Toxic Metals (CATM), 2003 Research Ideas, dated August 30, 2002
2016	Document Metadata for Center for Air Toxic Metals (CATM), 2003 Research Ideas
2017	Declaration of Thomas Erickson including PTC logbook entries
2018	Declaration of Inventor John Pavlish, dated July 27, 2020
2019	Plaintiff ME2C's Brief in Support of Its Motion for Preliminary Injunction, <i>Midwest Energy Emissions Corp. v. Berkshire Hathaway Energy Company, et al.</i> , 4:24-cv-00243-SHL-WPK, ECF No. 58-1 (S.D. Iowa Oct. 11, 2024)
2020	Defendants' Brief in Support of Their Resistance to Plaintiff's Motion for Preliminary Injunction, <i>Midwest Energy Emissions Corp. v. Berkshire Hathaway Energy Company, et al.</i> , 4:24-cv-00243-SHL-WPK, ECF No. 125 (S.D. Iowa Dec. 16, 2024) (Redacted)
2021	Plaintiff ME2C's Reply Brief in Support of Its Motion for Preliminary Injunction, <i>Midwest Energy Emissions Corp. v. Berkshire Hathaway Energy Company, et al.</i> , 4:24-cv-00243-SHL-WPK, ECF No. 139 (S.D. Iowa Dec. 23, 2024) (Redacted)
2022	DTE Electric Company Affiliates Report, dated December 31, 2023

2023	First Amended Complaint for Patent Infringement, <i>Midwest Energy Emissions Corp., et al. v. Vistra Energy Corp., et al.</i> , C.A. 1:19-cv-01334, ECF No. 130 (D. Del. July 15, 2020)
2024	EPA, “Study of Hazardous Air Pollutant Emissions from Electric Utility Steam Generating Units—Final Report to Congress”
2025	EPA Clean Air Act Overview, https://www.epa.gov/clean-air-act-overview/1990-clean-air-act-amendment-summary-title-iii
2026	EPA, Mercury Study Report to Congress Vol. I (1997)
2027	EERC internal presentation, “Description of Test Facilities Particulate Test Combustor”
2028	EERC internal presentation, “Mercury Control Technologies for Electric Utilities Burning Lignite Coals, Introduction to Project” (12/4/2001)
2029	EERC internal presentation, “Mercury Control Technologies for Electric Utilities Burning Lignite Coals Project Kickoff Meeting” part 1 (2/28/2002)
2030	EERC internal presentation, “Mercury Control Technologies for Electric Utilities Burning Lignite Coals Project Kickoff Meeting” part 2 (2/28/2002)
2031	EERC internal presentation, “Mercury Control Technologies for Electric Utilities Burning Lignite Coals, Project Review Meeting” (2/25/2003)
2032	“JV TASK 45 – MERCURY CONTROL TECHNOLOGIES FOR ELECTRIC UTILITIES BURNING LIGNITE COAL, PHASE I BENCH- AND PILOT-SCALE TESTING Final Report” (Oct. 2003) (the “Oct. 2003 Report”)
2033	Metadata for Notes on Center for Air Toxic Metals (CATM) 2003 Research Ideas
2034	DOE, Success Story for Sorbent Enhancement Additives
2035	EPA, Mercury and Air Toxics Standards, https://www.epa.gov/mats/cleaner-power-plants
2036	Order Denying Motions to Stay and Motion to Compel, <i>In re: Midwest Energy Emissions Corp. Pat. Litig.</i> , No. 4:24-md-03132-SHL-WPK, ECF No. 131 (S.D. Iowa May 22, 2025)

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2038	RESERVED
2039	RESERVED
2040	RESERVED
2041	RESERVED
2042	RESERVED
2043	J. D. Kilgroe, C. B. Sedman, R. K. Srivastava, J. V. Ryan, C. W. Lee, S. A. Thorneloe, <i>Control of Mercury Emissions from Coal-Fired Electric Utility Boilers: Interim Report</i> , U.S. Environmental Protection Agency, Office of Research and Development, EPA-600/R-01-109, April 2002.
2044	RESERVED

I. Introduction

The Board has authorized this Sur-Reply to address two issues: priority date and qualification of prior art. The '218 Patent is entitled to its earliest claimed priority date, and Petitioners have not met their burden to show that Sjostrom was publicly available.

II. The '218 Patent Is Entitled to Its Earliest Claimed Priority Date.

Petitioners' priority date theory and the Board's prior institution decision on a related patent depend on the assertion that a provisional application cannot be incorporated by reference to sustain a priority date. This is incorrect. *See, e.g.*, MPEP 608.01(p) ("The limitations on the material which may be incorporated by reference in U.S. patent applications which are to issue as U.S. patents do not apply to applications relied on only to establish an earlier effective filing date under 35 U.S.C. 119 or 35 U.S.C. 120."); *see also Maquet Cardiovascular LLC v. Abiomed, Inc.*, 627 F. Supp. 3d 72, 78–84 (D. Mass. Sept. 12, 2022) (explaining that a provisional application can be incorporated by reference to preserve a priority date). The '218 Patent is entitled to its earliest claimed priority date.

A. The Incorporation Statement Is Effective.

According to Petitioners, the inclusion of the phrase "to the extent appropriate" renders this incorporation statement ineffective. As an initial matter, the intervening continuation applications following the '595 Application (Ex.

1022) claim priority to the provisional application “to the extent appropriate.” But the ’595 Application incorporates the provisional application by reference “in [its] entirety for all purposes.” Ex. 1022 at 256. So, Petitioners are wrong that the incorporation is ineffective. Even if “to the extent appropriate” is taken as part of the incorporation statement, it does not exclude any portion of the provisional application from the incorporation. Indeed, it is merely a correct statement of the law. For example, it is not appropriate to incorporate essential material from a provisional application for responding to a § 112 invalidity challenge. However, as explained herein, it is appropriate to incorporate essential material from a provisional application to preserve a priority date. MPEP 608.01(p).

Petitioners and the Board in IPR2020-00928 rely on *Zenon* to argue the incorporation statement is ineffective. But that reliance was misplaced as the facts of *Zenon* show. In *Zenon*, the incorporation statement at issue read:

The vertical skein is not the subject matter of this invention and any prior art vertical skein may be used. Further ***details relating to the construction and deployment of a most preferred skein*** are found in the parent U.S. Pat. No. 5,639,373, and in Ser. No. 08/690,045, ***the relevant disclosures of each of which are included by reference*** thereto as if fully set forth herein.

Zenon Env’t, Inc. v. U.S. Filter Corp., 506 F.3d 1370, 1379 (Fed. Cir. 2007) (emphasis in original). The context included with the incorporation statement

makes it clear that a reference to “relevant disclosures” refers to “construction and deployment of a most preferred skein.” The Federal Circuit thought so, too. *Id.* In contrast, the incorporation statement at issue in the parents of the ’218 Patent appears in the section titled “CROSS-REFERENCE TO RELATED APPLICATIONS.” *See, e.g.,* Ex.1033 at 1:7–16. The context of that incorporation statement is, like most patents, a listing of the related applications to which a patent claims priority. It reflects a correct statement of law.

Regardless, the provisional application is incorporated by reference in all applications leading to the ’218 Patent, but the phrase “to the extent appropriate” only appears in a subset of those applications. And all of those applications independently provide written description support for the ’218 claims. *See* POPR at 10–18.

B. Essential Material in the Provisional Application Can Be Incorporated for Priority Date Purposes.

Petitioners argue that this incorporation statement is ineffective for determining priority date because a provisional application cannot be incorporated by reference to provide essential material. This is incorrect. *See* MPEP 608.01(p) (further explaining the policy reasons why § 1.57(d) limitations on the types of documents that can be incorporated into a patent do not apply in the context of a priority date challenge); *see also Maquet Cardiovascular LLC v. Abiomed, Inc.*, No. CV 17-12311, 2022 WL 4138711, at *5 (D. Mass. Sept. 12, 2022) (explaining

the difference between incorporation by reference under § 120 versus § 112 and further explaining that an application can incorporate a provisional application by reference for purposes of maintaining a priority date).

This makes sense. The reason for limiting incorporation by reference practice is to provide the public with a patent disclosure which minimizes the public's burden to search for and obtain copies of documents incorporated by reference. That same policy concern does not apply where the sole purpose for which an applicant relies on an earlier U.S. application is to establish an earlier filing date. The MPEP makes this explicit:

The limitations on the material which may be incorporated by reference in U.S. patent applications which are to issue as U.S. patents do not apply to applications relied on only to establish an earlier effective filing date under 35 U.S.C. 119 or 35 U.S.C. 120. Neither 35 U.S.C. 119(a) nor 35 U.S.C. 120 places any restrictions or limitations as to how the claimed invention must be disclosed in the earlier application to comply with 35 U.S.C. 112(a). ***Accordingly, an application is entitled to rely upon the filing date of an earlier application, even if the earlier application itself incorporates essential material by reference to another document.*** See *Ex parte Maziere*, 27 USPQ2d 1705, 1706-07 (Bd. Pat. App. & Inter. 1993).

M.P.E.P. 608.01(p)(I)(B) (emphasis added). Petitioners' discussion of a different portion of the MPEP simply repeats the same confusion between incorporation for priority date purposes and incorporation for written description purposes.

Petitioners cite a portion of the MPEP explaining how an applicant can avoid a new matter rejection using incorporation statements. Reply at 3–4. But new matter is a § 112 issue, not a priority issue.

Finally, Petitioners argue that the Board’s earlier decision in IPR2020-00832 and IPR2020-00928 is consistent with *Macquet*, but they fail to explain the basis for that assertion. Instead, Petitioners go into an extended discussion of examples in the specification of the ’147 Patent to show that material from the provisional application is essential material. But this does not rebut Patent Owner’s explanation above that essential material in the provisional application can be incorporated for priority date purposes.

The Board’s earlier decision should not govern this proceeding. The Board’s previous decision did not consider MPEP 608.01(p), and it could not have considered *Macquet*.

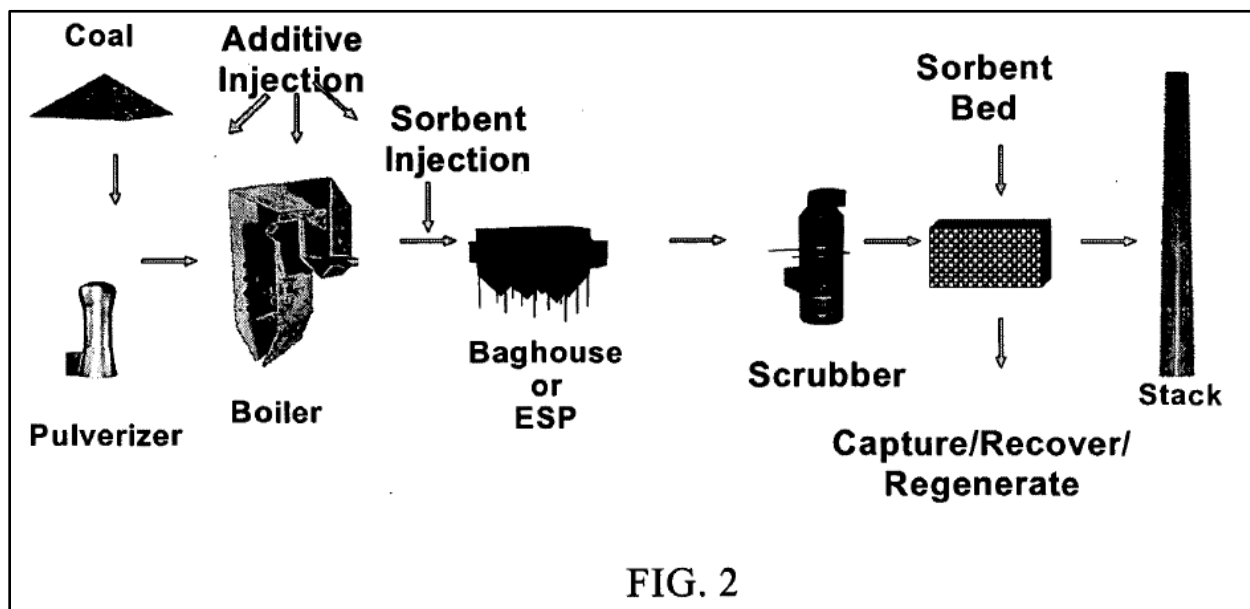
C. The Parent Applications Support the ’218 Patent Claims

First, Petitioners claim that PO is applying an “obviousness-type analysis for priority, rather than the required written-description analysis. Reply at 6. That appears to be a mischaracterization of the analysis provided in the POPR for written description support of a genus in light of disclosed species. POPR at 20–22.

Second, Petitioners assert there is no support in the ’595 Application for separate injection of promoter and sorbent material based on the Board’s earlier

discussion of ¶107 of the '595 Application. Even if the earlier decision is correct as to a single paragraph of the '595 Application, support is found in Figure 2 of the provisional and associated description as explained in the POPR. POPR at 11–13.

Petitioners' final arguments concern the disclosure of iodine salts and the addition of HI added to coal. The POPR identifies how the provisional application describes halogen-containing materials combusted with coal. POPR at 18–25. For example, a halogen-containing additive is shown being added to the coal, to the boiler, or after the boiler, and the activated carbon sorbent is shown being added after the boiler in Fig. 2 of the provisional:



Ex.1020, fig. 2.

Second, claim 1E of the provisional states: “additional substance is a compound comprised of a Group V or VI element or combination of Group V or VI with Group VII element, such as SCl_2 , 1-10 wt% of bromine.” As Petitioners’

expert explained, a group VII element includes chlorine, bromine, and iodine and how salts are halide compounds (Petitioners' expert providing table salt NaCl as an example), and thus example claim 1E discloses the use of various halogen-containing compounds, including salts. Ex. 1002 ¶¶ 61–64. Thus, the provisional provides support for halogens/halides, salts thereof, and combinations.

III. Petitioners Have Not Shown That Sjostrom Was Publicly Accessible.

Petitioners maintain that their evidence is sufficient to show the public accessibility of Sjostrom. As explained in the POPR, Petitioners must show that “persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence, can locate [the reference].” POPR at 26–28; *Kyocera Wireless Corp. v. Int’l Trade Comm’n*, 545 F.3d 1340, 1350 (Fed. Cir. 2008).

Evidence that there happened to be attendees that qualify as POSITAs at the 2005 Electric Utilities Environmental Conference is not the same as evidence that POSITAs exercising reasonable diligence could have located the reference.

IV. Conclusion

For the reasons explained above and in its POPR, Patent Owner respectfully requests that the Board deny the Petition.

Dated: September 3, 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 3rd day of September, 2025, a copy of the foregoing document was served via electronic mail, as consented to by Petitioners upon the following counsel of record:

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