

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BERKSHIRE HATHAWAY ENERGY COMPANY,
INTERSTATE POWER & LIGHT COMPANY,
MIDAMERICAN ENERGY COMPANY,
PACIFICORP,
WEC ENERGY GROUP, INC., AND
WISCONSIN POWER & LIGHT COMPANY
Petitioners

v.

BIRCHTECH CORP.
Patent Owner

Case IPR2025-00423
Patent 10,668,430

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

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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)

2037	Refined Coal Supply Agreement by and between Portage Fuels Company, LLC and Wisconsin Power and Light Company, dated September 6, 2016 (ALLIANT-ME2C-004484)
2038	Contract for Purchase of Refined Coal between Louisa Refined Coal LLC and MidAmerican Energy Company, dated Oct. 4, 2011 (MEC001747-MEC001789)
2039	Contract for Purchase of Refined Coal between George Neal Refined Coal LLC and MidAmerican Energy Company, dated Aug. 29, 2012 (MEC001916-MEC001934)
2040	Contract for Purchase of Refined Coal between George Neal North Refined Coal LLC and MidAmerican Energy Company, dated Apr. 30, 2013 (MEC001954-MEC001984)
2041	Contract for Purchase of Refined Coal between Walter Scott Refined Coal LLC and MidAmerican Energy Company, dated Oct. 10, 2011 (MEC001832-MEC001873)
2042	License and Services Agreement by and between Arbor Fuels Company, LLC and Wisconsin Public Service Corp., dated July 8, 2016 (WEC000001-WEC000040)
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	File History of U.S. Patent App. No. 15/974,343, which ultimately issued as U.S. Patent No. 10,668,430

I. Introduction

The Board has authorized this Sur-Reply to address two issues: the real-party-in-interest/privity analysis and priority date.

First, Petitioners are real-parties-in-interest and/or privies of defendants in the earlier Delaware litigation (“Delaware Litigation”). Tailored indemnity agreements and complex business relationships are directly related to the infringement of the ’430 Patent. These agreements and business relationships show that Petitioners are in privity with defendants (“Delaware Defendants”) in the Delaware Litigation.

Second, the ’430 Patent is entitled to its earliest claimed priority date.

II. Petitioners Are Time-Barred as RPI/Privies of Delaware Defendants.

Petitioners misstate the inquiry to determine an RPI/privity relationship and the timing of that relationship for the purposes of the time bar under 35 U.S.C. § 315(b). The relevant inquiry is what relationship existed between the Petitioners and the Delaware Defendants at the time of service of the complaint in the Delaware Litigation.

When the Delaware Defendants were served with the complaint in the Delaware Litigation, Petitioners were in privity with them. As part of a complex business relationship that included tailored indemnity agreements, Petitioners are coal plant owners and/or operators with a close relationship to Delaware

Defendants. Consequently, the clock for time-barring this Petition ran from the time Delaware Defendants were served in the Delaware Litigation. Service occurred over one year before this Petition was filed. This Petition is time-barred.

A. Relevant Background

Patent Owner supplies products and services used to comply with mercury capture regulations applicable to coal-fired power plants. *See generally* <https://www.birchtech.com/mercury-emission-control>. In 2019, Patent Owner filed a patent infringement lawsuit (the “Delaware Litigation”) asserting direct infringement of U.S. Patent Nos. 10,343,114 and 8,168,147—which are related to the ’430 Patent—by power plant operators Vistra, NRG, Talen, and AEP, and asserting indirect infringement by refined coal suppliers to power plants. Ex. 2003. The refined coal suppliers included several entities affiliated with Chem-Mod LLC that supplied refined coal to at least some of the present petitioners. *Id.*; *see generally* Ex. 2019 at 4–7. In 2020, Patent Owner amended its complaint to assert the ’430 Patent as well. Ex. 2023.

In 2020, the power plant operator defendants in the Delaware Litigation (Vistra, NRG, AEP, and Talen) petitioned for *Inter Partes* Review of the ’114 and ’147 Patents (IPR2020-00832, IPR2020-00834, IPR2020-00926, IPR 2020-00928, IPR2020-01294, IPR2020-01295, IPR2020-01296, and IPR2020-01297, collectively “the 2020 IPRs”). Although the refined coal supplier defendants did

not join in those petitions, they were named as real parties in interest. *See, e.g.*, IPR2020-00832, Petition at 2, 4–6. The petitions also named as real parties in interest the co-owners of power plants accused of infringement in the Delaware Litigation, including current Petitioner PacifiCorp.¹ *See* IPR2020-00832, Pet. at 3. All of the 2020 IPR Petitioners settled with Patent Owner by 2021, and the Board dismissed the 2020 IPRs before Patent Owner filed its Patent Owner Responses.

The remaining defendants in the Delaware Litigation included refined coal suppliers affiliated with Chem-Mod LLC. Those suppliers shut down their operations at the end of 2021, and most agreed to collectively pay Patent Owner \$27.5M. Ex. 2004, Trial Tr. at 466:19–467:2. Patent Owner proceeded to trial against the remaining refined coal suppliers in 2024, which ME2C won. Ex. 2005.

In 2024, Patent Owner filed several additional lawsuits asserting many of the same patents against an additional group of power plant operators (the “2024 Defendants”). These power plant operators are not incorporated in Delaware and thus could not have been included in the Delaware Litigation. Petitioners are a

¹ Petitioners identified PacifiCorp as a “potential” real party in interest. Patent Owner objected to this designation and requested that the petitions be denied for failure to clearly identify all real parties in interest as required by 35 U.S.C. § 312(a)(2). IPR2020-00832, POPR at 8–9. The Board overruled that objection. IPR2020-00832, Paper 17 at 9–10 (PTAB Oct. 26, 2020). Nonetheless, the Board specifically ruled that Chem-Mod was a real party in interest, and this background indicates that PacifiCorp is a real party in interest with respect to Talen, a defendant named in the Delaware Litigation.

subset of the 2024 Defendants. They own or operate coal-fired power plants, and they each have an important connection to the Delaware Litigation. *See* Ex. 2007.

For example, PacifiCorp co-owns a power plant that was at issue in the Delaware Litigation, and it contends that its co-owner Talen defended against Patent Owner’s infringement assertions and obtained a license on its behalf. Ex. 2008 at 94–100. MidAmerican and WPL own power plants that were at issue in the Delaware Litigation, and they contend that the Chem-Mod-affiliated Defendants defended against Patent Owner’s infringement claims and obtained a license on their behalf, at least for some periods of time. Ex. 2009 at 91; Ex. 2010 at 107.

B. RPI/Privity Is Determined at the Time Defendants Were Served with the Complaint in the Delaware Litigation.

“An inter partes review may not be instituted if the petition requesting the proceeding is filed more than 1 year after the date on which the petitioner, real party in interest, or privy of the petitioner is served with a complaint alleging infringement of the patent.” 35 U.S.C. § 315(b). “Determining whether a non-party is a ‘real party in interest’ demands a flexible approach that takes into account both equitable and practical considerations, with an eye toward determining whether the non-party is a clear beneficiary that has a preexisting, established relationship with the petitioner.” *Applications in Internet Time, LLC v. RPX Corp.*, 897 F.3d 1336, 1351 (Fed. Cir. 2018) (emphasis added); *see Ventex Co., Ltd. v. Columbia Sportswear N. Am., Inc.*, IPR2017-00651, Paper 152 (PTAB Jan. 24, 2019)

(precedential) (following *AIT*). “[T]hat relationship must be related to [an earlier] lawsuit....” *Google LLC v. DDC Tech., LLC*, IPR2023-00707, Paper 27 at 37 (PTAB Oct. 25, 2023). Thus, the relationship of the parties is evaluated as it existed at the time of earlier litigation.

Petitioners allege that Talen, Chem-Mod, and Chem-Mod’s affiliates “have no interest in these IPR proceedings.” Reply at 5. Whether or not that is true is not relevant here. What is relevant is Petitioners’ interest in the *earlier Delaware Litigation* that results in time-barring this Petition.

C. Petitioners Were in Privity with Delaware Defendants at the Time of Service of the Delaware Complaint.

Each Petitioner is in privity with one or more Delaware Defendants based on the nature of their business relationship and associated indemnity agreements.

“Determining whether a non-party is a ‘real party in interest’ demands a flexible approach that takes into account both equitable and practical considerations, with an eye toward determining whether the non-party is a clear beneficiary that has a preexisting, established relationship with the petitioner.” *Applications in Internet Time, LLC v. RPX Corp.*, 897 F.3d 1336, 1351 (Fed. Cir. 2018) (emphasis added); *see Ventex Co., Ltd. v. Columbia Sportswear N. Am., Inc.*, IPR2017-00651, Paper 152 (PTAB Jan. 24, 2019) (precedential) (following *AIT*). The Board has previously found privity when two parties “had a specially structured, preexisting, and well-established business relationship with one another, including

indemnification and exclusivity arrangements.” *Ventex Co. v. Columbia*

Sportswear N. Am., Inc., IPR2017-00651, Paper 148, at 10, 12 (PTAB Jan. 24, 2019) (precedential). Petitioners and the Delaware Defendants have such a relationship as described in the Relevant Background above and discussion below.

PacifiCorp alleges that it co-owns a power plant that was at issue in the Delaware Litigation, and that it enlisted Defendant Talen as its operating agent for that power plant. Ex. 2008 at 98 (citing <https://www.colstripfacts.com/faqs>).

PacifiCorp further contends that Talen defended against Patent Owner’s infringement assertions and obtained a license on its behalf. Ex. 2008 at 94–100.

As explained in Patent Owner’s Preliminary Response, Brief Regarding Discretionary Denial, and supplemental briefing, because Petitioner PacifiCorp failed to identify Talen as a real party in interest in contravention of § 312(a)(2), and because Talen is time-barred under § 315, the present petition is time-barred. The imagined distinctions between “real parties-in-interest” and “potential real-parties-in-interest” cannot overcome PacifiCorp’s representation that Talen acted on its behalf.

As to remaining Petitioners Berkshire Hathaway Energy Company, Interstate Power & Light Company (“IPL”), MidAmerican Energy Company (“MidAmerican”), WEC Energy Group, Inc. (“WEC”), and Wisconsin Power & Light Company (“WPL”), they and their real parties-in-interest own power plants

that used something called “the Chem-Mod Solution” to burn coal. This process involved the sale of refined coal (coal treated with bromine) to Petitioners under sales agreements that included indemnity provisions. This type of supply relationship can create privity. *See Semiconductor Components Indus., LLC v. Greenthread, LLC*, IPR2023-01242, Paper 94 at 3 (PTAB Apr. 24, 2025).

In the Delaware Litigation, Patent Owner asserted that the Chem-Mod Solution caused direct infringement at certain of Petitioners’ power plants. Ex. 2003 at 12–13. Chem-Mod LLC and its various sublicensees were named as Defendants in the Delaware Action. Ex. 2003.

Petitioner WPL purchased refined coal from Chem-Mod sub-licensee Portage Fuels Company, LLC for combustion at the Columbia power plant. That agreement provided indemnity to WPL as the Buyer of refined coal for infringement of intellectual property rights:

[REDACTED]

Ex. 2037 § 13.1. The indemnification provision is tailored specifically targeted to

[REDACTED] that are

heart of the alleged infringement in both the earlier Delaware Litigation and the present proceedings. In contrast to Petitioners' characterization that this agreement is generic, the agreement includes tailored language targeting activity at the heart of the infringement dispute. MidAmerican purchased refined coal from Chem-Mod LLC sublicensees Louisa Refined Coal LLC, George Neal Refined Coal LLC, George Neal North Refined Coal LLC, and Walter Scott Refined Coal LLC for combustion of refined coal at its Louisa, George Neal, and Walter Scott plants. The agreements related to these sales also contain indemnity provisions. Exs. 2038–41. Petitioner Berkshire Hathaway Energy Company owns and controls MidAmerican, and Petitioner IPL co-owns the Louisa and George Neal plants.

Wisconsin Public Service Corporation, the parent of Petitioner WEC, purchased refined coal from Chem-Mod sublicensee Arbor Fuels Company, LLC for combustion at its Weston power plant. The agreements memorializing this relationship also contain indemnity provisions. *See, e.g.*, Ex. 2042.

By July 15, 2020, Patent owner had sued and named as defendants Chem-Mod LLC and its sublicensees for infringement of the Challenged Patents in the United States District Court for the District of Delaware. Exs. 2003, 2023. While a single privity/real-party-in-interest relationship is sufficient to time-bar a petition, this proceeding involves multiple overlapping relationships: co-ownership and agency with respect to Defendant Talen and PacifiCorp; a supply relationship,

indemnification and duty of defense with respect to the Chem-Mod Defendants and Berkshire Hathaway, MidAmerican, WPL, IPL, and WEC; co-ownership with respect to Berkshire Hathaway, PacifiCorp, MidAmerican and IPL, and with respect to WPL and WEC. Consequently, there is nothing generic about the relationship between the Petitioners and Delaware Defendants. In light of the above and associated arguments in Patent Owner's Preliminary Response, Brief Regarding Discretionary Denial, and supplemental briefing, the present petition is time-barred.

D. Later-Taken Licenses by Delaware Defendants Have No Bearing on Their RPI/Privity Relationship with Petitioners.

Petitioners identify current licenses obtained by Talen, Chem-Mod, and Chem-Mod's affiliates to the '430 Patent as a reason they are not in privity with Petitioners. Again, that focuses on the wrong time frame. Talen's, Chem-Mod's, and Chem-Mod's affiliates' licenses arose after service of the complaint in the Delaware Litigation. Before those licenses were taken the Delaware Defendants were in privity with Petitioners.

Ultimately, the agreements reached between Patent Owner and Talen and between Patent Owner and the Chem-Mod Defendants only provided a license covering the power plants operated by Talen (including the one that PacifiCorp alleges was operated on its behalf), and the period of time when Chem-Mod's indemnity obligations were in force. Thus, those agreements do not preclude Patent

Owner from asserting that Petitioners' actions at other power plants or later-in-time, infringe. Nonetheless, at the time the Delaware complaint was filed, privity relationships existed that time-bar the present petition.

III. The '430 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 '430 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) claims 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’ reference to *Zenon* is inapposite. 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 ’430 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 ’430 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 ’430 claims. *See* POPR at 13–17.

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 M.P.E.P. 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 12. But new matter is a §112 issue, not 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. Petitioners argue that two of the intervening application (the '219 and '558 Applications) fail to support the '430 Patent claims independently from the provisional application, but this does not explain why it would have been improper for that application to incorporate the provisional application by reference, and as explained above, Petitioners are factually wrong about the disclosures in that application.

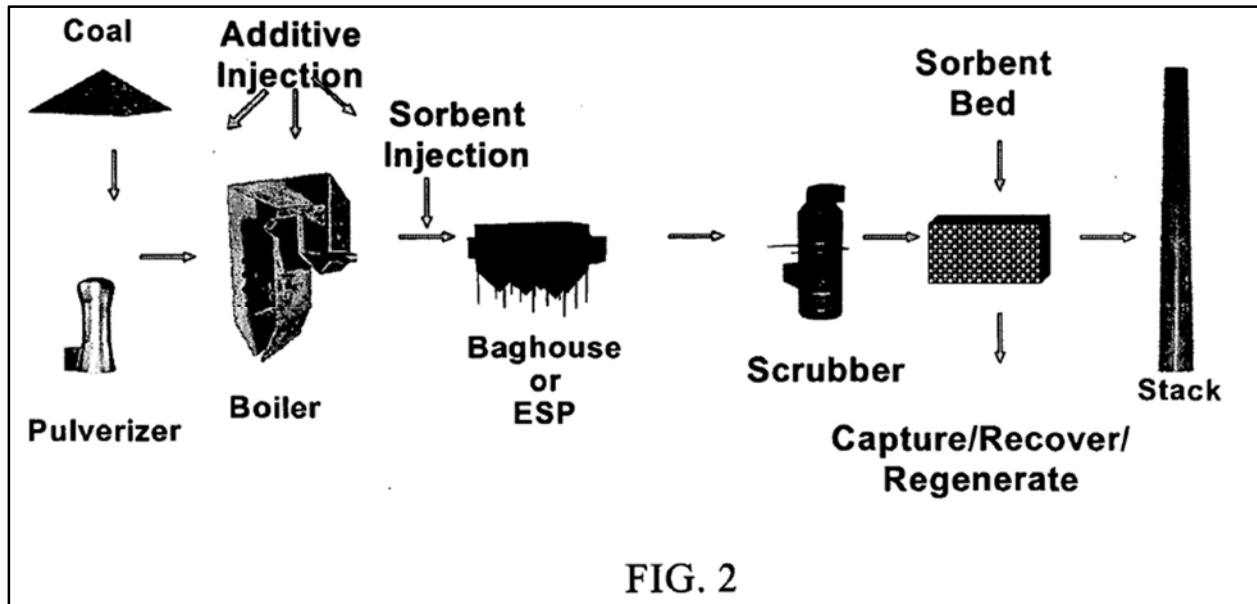
The Board's earlier decision should not govern this proceeding. The Board's previous decision did not consider MPEP 608.01(p) and it could not have considered *Macquet*.

C. The Provisional Application Supports the '430 Patent Claims.

Petitioners alleged that there is (i) no support for adding bromine-containing materials to coal, upstream of combustion chamber and (ii) no support for adding Br₂, HBr, or bromine compounds to coal, upstream of the combustion chamber. Neither proposition is true.

First, the POPR identifies how the provisional application describes bromine-containing materials added to coal upstream of the combustion chamber. POPR at 9–13. For example, a bromine-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 and bromine, and thus example claim 1E discloses the use of various bromine-containing compounds.

Ex. 1002 ¶ 61. Furthermore, the provisional states: “Bromide is especially reactive, owing to the highly polarizable electrons in the outer 4p orbitals of the ion. Thus, adding HBr or Br_2 to the carbon forms a similar carbon bromide, in which the positive carbon oxidizes the mercury with the assistance of the bromide ion.” Ex. 1020 at 8. Thus, the provisional provides support for each of the bromine compounds being added to coal upstream of the combustion chamber.

Dated: August 5, 2025

Respectfully submitted,

Birchtech Corp.

/Hamad M. Hamad/

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

It is hereby certified that on this 5th day of August, 2025, a copy of the foregoing document was served via electronic mail, as consented to by Petitioner upon the following counsel of record:

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