

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

MIDWEST ENERGY EMISSIONS CORP.
and MES INC.,

Plaintiffs,

v.

VISTRA ENERGY CORP., IPH, LLC,
DYNEGY INC., ILLINOIS POWER
RESOURCES GENERATING, LLC,
DYNEGY MIDWEST GENERATION LLC,
DYNEGY MIAMI FORT, LLC, AEP
GENERATION RESOURCES INC.,
SOUTHWESTERN ELECTRIC POWER CO.,
CARDINAL OPERATING COMPANY, LLC,
AEP TEXAS INC., NRG ENERGY, INC.,
NRG TEXAS POWER LLC, MIDWEST
GENERATION EME, LLC, MIDWEST
GENERATION, LLC, TALEN ENERGY
CORPORATION, TALEN ENERGY
HOLDINGS, INC., BRANDON SHORES
LLC, TALEN GENERATION LLC, AND H.
A. WAGNER LLC, ARTHUR J.
GALLAGHER & CO., GALLAGHER CLEAN
ENERGY, LLC, AND AJG COAL, LLC, DTE
REF HOLDINGS, LLC, DTE REF
HOLDINGS II LLC, CERT COAL
HOLDINGS LLC, CERT HOLDINGS LLC,
CERT HOLDINGS 2018, LLC, CERT
OPERATIONS LLC, CERT OPERATIONS II
LLC, CERT OPERATIONS III LLC, CERT
OPERATIONS IV LLC, CERT OPERATIONS
V LLC, CERT OPERATIONS RCB LLC,
CHEM-MOD LLC, AJG IOWA REFINED
COAL LLC, JOPPA REFINED COAL LLC,
THOMAS HILL REFINED COAL LLC,
WAGNER COALTECH LLC, WALTER
SCOTT REFINED COAL LLC, LOUISA
REFINED COAL, LLC, BELLE RIVER
FUELS COMPANY, LLC, ARBOR FUELS
COMPANY, LLC, PORTAGE FUELS
COMPANY, LLC, AND JOHN DOE LLCS

Defendants.

CIVIL ACTION NO. _____

**ORIGINAL COMPLAINT FOR
PATENT INFRINGEMENT**

JURY TRIAL DEMANDED

Plaintiffs Midwest Energy Emissions Corp. and MES Inc. (collectively, “ME2C”) files this Original Complaint against Defendants Vistra Energy Corp., IPH, LLC, Dynegy Inc., Illinois Power Resources Generating, LLC, Dynegy Midwest Generation LLC, and Dynegy Miami Fort, LLC (collectively, “Vistra”); AEP Generation Resources Inc., Southwestern Electric Power Co., Cardinal Operating Company, LLC, and AEP Texas Inc. (collectively, “AEP”); NRG Energy, Inc., NRG Texas Power LLC, Midwest Generation EME, LLC, Midwest Generation, LLC (collectively, “NRG”); Talen Energy Corporation, Talen Energy Holdings, Inc., Brandon Shores LLC, Talen Generation LLC, and H. A. Wagner LLC (collectively, “Talen”), (Vistra, AEP, NRG, and Talen, are referred to collectively as “Coal Plant Defendants”); Arthur J. Gallagher & Co., Gallagher Clean Energy, LLC, and AJG Coal, LLC (“AJG”); DTE REF Holdings, LLC, DTE REF Holdings II LLC (“DTE”); CERT Coal Holdings LLC, CERT Holdings LLC, CERT Holdings 2018, LLC, CERT Operations LLC, CERT Operations II LLC, CERT Operations III LLC, CERT Operations IV LLC, CERT Operations V LLC, CERT Operations RCB LLC (“CERT”); Chem-Mod LLC (“Chem-Mod”); and the additional named and unnamed entities referred to below as the “RC Defendants”: AJG Iowa Refined Coal LLC, Joppa Refined Coal LLC, Thomas Hill Refined Coal LLC, Wagner Coaltech LLC, Walter Scott Refined Coal LLC, Louisa Refined Coal, LLC, Belle River Fuels Company, LLC, Arbor Fuels Company, LLC, Portage Fuels Company, LLC, and John Doe LLCs (all of these entities are referred to collectively as “Defendants”) for patent infringement under 35 U.S.C. § 271. Plaintiff alleges, based on its own personal knowledge with respect to its own actions and based upon information and belief with respect to all others’ actions, as follows:

THE PARTIES

1. Midwest Energy Emissions Corp. is a Delaware corporation with its principal place of business at 670 D Enterprise Drive, Lewis Center, Ohio 43035.
2. MES Inc. is a North Dakota corporation with its principal place of business at 311 S. 4th St. STE 118, Grand Forks, ND 58201.
3. Defendant Vistra Energy Corp. is a Delaware corporation with its principal place

of business at 6555 Sierra Drive, Irving, TX 75039. Vistra Energy Corp. has designated Capitol Services, Inc., 1675 S. State St., Ste. B, Dover, DE 19901 as its agent for service of process.

4. Defendant IPH, LLC is a Delaware limited liability company with its principal place of business at 134 Cips Lane, Suite 1400, Coffeen, IL 62017. IPH, LLC has designated Capitol Services, Inc., 1675 S. State St., Ste. B, Dover, DE 19901 as its agent for service of process.

5. Defendant Dynegy Inc. is a Delaware corporation with its principal place of business at 601 Travis St., Suite 1400, Houston, TX 77002. Dynegy Inc. has designated Capitol Services, Inc., 1675 S. State St., Ste. B, Dover, DE 19901 as its agent for service of process.

6. Defendant Illinois Power Resources Generating, LLC is a Delaware limited liability company with its principal place of business at 601 Travis St., Suite 1400, Houston, TX 77002. Illinois Power Resources Generating, LLC has designated Capitol Services, Inc., 1675 S. State St., Ste. B, Dover, DE 19901 as its agent for service of process.

7. Defendant Dynegy Midwest Generation LLC is a Delaware limited liability company with its principal place of business at 2828 North Monroe St., Decatur, IL 62526. Dynegy Midwest Generation LLC has designated Capitol Services, Inc., 1675 S. State St., Ste. B, Dover, DE 19901 as its agent for service of process.

8. Defendant Dynegy Miami Fort, LLC is a Delaware limited liability company with its principal place of business at 601 Travis St., Suite 1400, Houston, TX 77002. Dynegy Miami Fort, LLC has designated Capitol Services, Inc., 1675 S. State St., Ste. B, Dover, DE 19901 as its agent for service of process.

9. Defendant AEP Generation Resources Inc. is a Delaware corporation with its principal place of business at 1 Riverside Plaza, Columbus, OH 43215. AEP Generation Resources has designated The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801 as its agent for service of process.

10. Defendant Southwestern Electric Power Company is a Delaware corporation with its principal place of business at 1 Riverside Plaza, Columbus, OH 43215. Southwestern Electric

Power Co. has designated The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801 as its agent for service of process.

11. Defendant Cardinal Operating Company, LLC is a Delaware limited liability company with its principal place of business at 1 Riverside Plaza, Columbus, OH 43215. Cardinal Operating Company, LLC has designated The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801 as its agent for service of process.

12. Defendant AEP Texas Inc. is a Delaware corporation with its principal place of business at 1616 Woodall Rodgers Freeway, Dallas, TX 75202. AEP Texas Inc. has designated The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801 as its agent for service of process.

13. Defendant NRG Energy, Inc. is a Delaware corporation with its principal place of business at 804 Carnegie Center, Princeton, NJ 08540. NRG Energy, Inc. has designated The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801 as its agent for service of process.

14. Defendant NRG Texas Power LLC is a Delaware limited liability company with its principal place of business at 1301 McKinney St., Ste. 2300, Houston, TX 77010. NRG Texas Power LLC has designated The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801 as its agent for service of process.

15. Defendant Midwest Generation EME, LLC is a Delaware limited liability company with its principal place of business at 440 South La Salle St., One Financial Place, Suite 3500, Chicago, IL 60605. Midwest Generation EME, LLC has designated The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801 as its agent for service of process.

16. Defendant Midwest Generation, LLC is a Delaware limited liability company with its principal place of business at 440 South La Salle St., One Financial Place, Suite 3500, Chicago, IL 60605. Midwest Generation, LLC has designated The Corporation Trust Company,

Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801 as its agent for service of process.

17. Defendant Talen Energy Corporation is a Delaware corporation with its principal place of business at 835 Hamilton St., Allentown, PA 18101. Talen Energy Corporation has designated Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808 as its agent for service of process.

18. Defendant Talen Energy Holdings, Inc. is a Delaware corporation with its principal place of business at Two North Ninth St., Allentown, PA 18101. Talen Energy Holdings, Inc. has designated Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808 as its agent for service of process.

19. Defendant Brandon Shores LLC is a Delaware limited liability company with its principal place of business at 2030 Brandon Shores Rd., Curtis Bay, MD 21226. Brandon Shores LLC has designated Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808 as its agent for service of process.

20. Defendant Talen Generation LLC is a Delaware limited liability company with its principal place of business at Two North Ninth St., Allentown, PA 18101. Talen Generation LLC has designated Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808 as its agent for service of process.

21. Defendant H. A. Wagner LLC is a Delaware limited liability company with its principal place of business at 3000 Brandon Shores Rd., Baltimore. MD 21226. H. A. Wagner LLC has designated Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808 as its agent for service of process.

22. Defendant Arthur J. Gallagher & Co. is a Delaware corporation with its principal place of business at 2850 Gold Road, Rolling Meadows, IL 60008. Arthur J. Gallagher & Co. has designated Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808 as its agent for service of process.

23. Defendant Gallagher Clean Energy, LLC is a Delaware limited liability company

with its principal place of business at Two Pierce Place, Itasca, IL 60143. Gallagher Clean Energy, LLC has designated Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808 as its agent for service of process.

24. Defendant AJG Coal, LLC is a Delaware limited liability company with its principal place of business at Two Pierce Place, Itasca, IL 60143. AJG Coal, LLC has designated Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808 as its agent for service of process.

25. Defendant DTE REF Holdings, LLC is a Delaware limited liability company with its principal place of business at One Energy Plaza, Detroit, MI 48226. DTE REF Holdings, LLC has designated The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801 as its agent for service of process.

26. Defendant DTE REF Holdings II LLC is a Delaware limited liability company with its principal place of business at One Energy Plaza, Detroit, MI 48226. DTE REF Holdings II LLC has designated The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801 as its agent for service of process.

27. Defendant CERT Coal Holdings, LLC is a Delaware limited liability company with its principal place of business at 2100 Southbridge Parkway, Suite 585, Birmingham, AL 35209. CERT Coal Holdings, LLC has designated Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808 as its agent for service of process.

28. Defendant CERT Holdings, LLC is a Delaware limited liability company with its principal place of business at 2100 Southbridge Parkway, Suite 585, Birmingham, AL 35209. CERT Holdings, LLC has designated Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808 as its agent for service of process.

29. Defendant CERT Holdings 2018, LLC is a Delaware limited liability company with its principal place of business at 2100 Southbridge Parkway, Suite 585, Birmingham, AL 35209. CERT Holdings 2018, LLC has designated Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808 as its agent for service of process.

30. Defendant CERT Operations, LLC is a Delaware limited liability company with its principal place of business at 2100 Southbridge Parkway, Suite 585, Birmingham, AL 35209. CERT Operations LLC has designated Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808 as its agent for service of process.

31. Defendant CERT Operations II, LLC is a Delaware limited liability company with its principal place of business at 2100 Southbridge Parkway, Suite 585, Birmingham, AL 35209. CERT Operations II, LLC has designated Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808 as its agent for service of process.

32. Defendant CERT Operations III, LLC is a Delaware limited liability company with its principal place of business at 2100 Southbridge Parkway, Suite 585, Birmingham, AL 35209. CERT Operations III, LLC has designated Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808 as its agent for service of process.

33. Defendant CERT Operations IV, LLC is a Delaware limited liability company with its principal place of business at 2100 Southbridge Parkway, Suite 585, Birmingham, AL 35209. CERT Operations IV, LLC has designated Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808 as its agent for service of process.

34. Defendant CERT Operations V, LLC is a Delaware limited liability company with its principal place of business at 2100 Southbridge Parkway, Suite 585, Birmingham, AL 35209. CERT Operations V, LLC has designated Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808 as its agent for service of process.

35. Defendant CERT Operations RCB, LLC is a Delaware limited liability company with its principal place of business at 2100 Southbridge Parkway, Suite 585, Birmingham, AL 35209. CERT Operations RCB, LLC has designated Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808 as its agent for service of process.

36. Defendant Chem-Mod LLC is a Delaware limited liability company with its principal place of business at Two Pierce Place, Itasca, Illinois 60143. Chem-Mod LLC has designated Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808 as its

agent for service of process. On information and belief, Defendant A.J. Gallagher holds a controlling interest in Chem-Mod, and has controlled and directed the actions and infringement of Chem-Mod alleged herein.

37. Defendant AJG Iowa Refined Coal LLC is a Delaware limited liability company with its principal place of business at Two Pierce Place, Itasca, IL 60143. AJG Iowa Refined Coal LLC has designated Cogency Global Inc., 850 New Burton Road, Suite 201, Dover DE 19904 as its agent for service of process.

38. Defendant Joppa Refined Coal LLC is a Delaware limited liability company with its principal place of business at or near the Joppa Power Station near Joppa, IL. Joppa Refined Coal LLC has designated Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808 as its agent for service of process.

39. Defendant Thomas Hill Refined Coal LLC is a Delaware limited liability company with its principal place of business at or near the Thomas Hill Energy Center near Clifton Hill, MO. Thomas Hill Refined Coal LLC has designated Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808 as its agent for service of process.

40. Defendant Wagner Coaltech LLC is a Delaware limited liability company with its principal place of business at or near the Herbert A. Wagner Generating Station in Anne Arundel County, MD. Wagner Coaltech LLC has designated Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808 as its agent for service of process.

41. Defendant Walter Scott Refined Coal LLC is a Delaware limited liability company with its principal place of business at or near the Council Bluffs Energy Center (also known as the Walter Scott Energy Center) near Council Bluffs, IA. Walter Scott Refined Coal LLC has designated Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808 as its agent for service of process.

42. Defendant Louisa Refined Coal, LLC is a Delaware limited liability company with its principal place of business at 6901 Dodge St., Suite 201, Omaha, NE 68132. Louisa Refined Coal, LLC has designated Corporation Service Company, 251 Little Falls Drive,

Wilmington, DE 19808 as its agent for service of process.

43. Defendant Belle River Fuels Company, LLC is a Delaware limited liability company with its principal place of business at or near the Belle River Power Plant in Saint Claire County, MI. Belle River Fuels Company, LLC has designated The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801 as its agent for service of process.

44. Defendant Arbor Fuels Company, LLC is a Delaware limited liability company with its principal place of business at 414 S. Main St, Suite 600, Ann Arbor, MI 48104. Arbor Fuels Company, LLC has designated The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801 as its agent for service of process.

45. Defendant Portage Fuels Company, LLC is a Delaware limited liability company with its principal place of business 414 S. Main St, Suite 600, Ann Arbor, MI 48104. Portage Fuels Company, LLC has designated The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801 as its agent for service of process.

46. On information and belief, AJG, DTE, CERT, and/or Chem-Mod have used additional Delaware John Doe LLCs to collect Section 45 Tax Credits and to provide refined coal to additional coal-fired power plants in a manner that induces and or contributes to infringement of the patents-in-suit.

JURISDICTION AND VENUE

47. This action includes a claim of patent infringement arising under the patent laws of the United States, 35 U.S.C. §§ 1 *et seq.* This Court has jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

48. This Court has personal jurisdiction over Defendants, because each is incorporated in and/or a limited liability company formed in Delaware. In addition, Defendants have conducted business in this district by taking advantage of the laws of this district and by forming and controlling affiliated entities involved in the acts of infringement described below.

49. Venue is proper in this district pursuant to 28 U.S.C. § 1400(b) with respect to

each Defendant that resides in this District.

ASSERTED PATENTS

50. On July 9, 2019, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 10,343,114 (the “‘114 patent”) entitled “Sorbents for the Oxidation and Removal of Mercury.” A copy of the ‘114 patent is attached as Exhibit A.

51. On May 1, 2012, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,168,147 (the “‘147 patent”) entitled “Sorbents for the Oxidation and Removal of Mercury.” A copy of the ‘147 patent is attached as Exhibit B.

FACTUAL ALLEGATIONS

The Federal Government Resolves to Regulate Mercury Emissions from Power Plants

52. In 1990, Congress passed the Clean Air Act Amendments of 1990.

53. That law required the U.S. Environmental Protection Agency (EPA) to study the impact of various air pollutants, including mercury.

54. To assist in the research, in 1992, the EPA established a National Center for Excellence at the Energy & Environmental Research Center (EERC) referred to as the Center for Air Toxic Metals (CATM).

55. In 1997 and 1998, the EPA issued two reports to Congress: Mercury Study Report to Congress (issued December 1997) and Study of Hazardous Air Pollutant Emissions from Electric Utility Steam (issued February 1998). As an outcome of these studies, the EPA found a pressing need for regulation of mercury pollution from coal-fired power plants. Unfortunately, it also found that no existing technologies were up to the task of significantly reducing the mercury pollution from those plants.

56. In the wake of these reports, various governmental and industry organizations injected millions of dollars into basic scientific research and experimental studies in the search for new mercury capture technologies.

The Inventors of the Patents-in-Suit Develop Mercury Capture Solutions

57. Researchers at the EERC were instrumental in developing new techniques for

studying this problem and ultimately solving it.

58. In 2002, the EPA surveyed the state of research in this field and produced a follow-up report: Control of Mercury Emissions from Coal-Fired Electric Utility Boilers: Interim Report. This report identified some promising areas of research, and it noted that some technologies were available for reducing mercury emissions. However, the EPA recognized that there was no universal solution to this problem and that more work remained to be done.

59. During this time, the inventors of the patents-in-suit were researching the issue of mercury capture at the EERC. Through their work, they uncovered some of the complex chemistry that occurs in a coal-fired boiler.

60. They further discovered a number of methods for improving mercury capture. In particular, they found that applying a halogen additive such as bromine and bromide compounds onto coal or into a combustion chamber, when combined with sorbent injection, could dramatically reduce the mercury content of coal-fired power plant emissions.

61. By 2004, the inventors filed a provisional application that would lead to the patents in suit. This application, and the subsequently issued patents, cover some of their discoveries and various applications of their discoveries. In particular, the inventors discovered, and ultimately proved, the benefits of combining halogen treatments (e.g., bromine containing materials) in-flight with backend sorbents (e.g., activated carbon).

62. In 2011, the EPA finalized the first national standards to reduce mercury and other toxic air pollution from coal-fired plants (the Mercury and Air Toxics Standards or “MATS”). Most coal-fired power plants were required to comply with this rule by 2016.

Congress Creates the Section 45 Refined Coal Tax Credit

63. While the EPA was working on addressing the issue of mercury emissions, Congress also took action. In 2004, Congress passed the American Jobs Act, which created a new tax credit related to the production of refined coal (referred to as “Section 45 tax credits”).

64. Under this law, a refined coal producer can receive an inflation-adjusted tax credit for each ton of refined coal sold to a power plant that results in a 40% reduction in mercury

emissions and a 20% reduction in NOx emissions. This law has resulted in companies receiving hundreds of millions of dollars in tax credits each year.

65. Because of this highly lucrative law, financial services companies such as AJG jumped at the chance to collect the tax credits.

**AJG, DTE, CERT, Chem-Mod, and the RC Defendants Reap Staggering Profits from
Section 45 Tax Credits**

66. AJG is an insurance brokerage and risk management services firm.

67. AJG Chief Financial Officer Douglas Howell has claimed credit for designing a business model to maximize profits based on Section 45 tax credits.

68. “Our return on investment is staggering,” Mr. Howell told analysts in a March 14, 2018 call. “Oh, 200 percent, 300 percent, 400 percent, 500 percent. I mean, just because it costs so little to develop” facilities.

69. As a result, Mr. Howell has explained that AJG will not be paying much, if any, U.S. federal income tax for many years to come.

70. According to the AJG business model, AJG does not build standalone facilities to refine coal that is then shipped around the country for use at coal plants.

71. Instead, AJG uses shell companies that are designed to lose money each year, but that ultimately result in AJG profiting from Section 45 tax credits.

72. Specifically, AJG forms a limited liability company (“LLC”) to be associated with a particular coal-fired power plant (the “Refined Coal LLC”). The paragraphs below refer to actions taken by a Refined Coal LLC, but AJG maintains control throughout this process. For example, AJG maintains majority control, or, if it lacks majority control, AJG requires that all major decisions obtain approval from AJG.

73. Through its controlling interests in Refined Coal LLCs and Chem-Mod, AJG causes Chem-Mod to contract with the Refined Coal LLC to provide Chem-Mod chemicals, and technical, regulatory, and/or operational support to the Refined Coal LLC.

74. The Refined Coal LLC rents space on-site at a power plant where it can briefly take

possession of coal from the power plant. It purchases coal from the plant, treats it with Chem-Mod chemicals, and then sells the coal—now considered “refined coal”—back to the coal-fired power plant at the same price or for a loss.

75. For example, the Refined Coal LLC can take possession of coal as it moves along a conveyor belt toward a combustion chamber. It can then add chemicals to the coal and return it to a conveyor belt leading to the combustion chamber.

76. The Chem-Mod chemicals applied to the coal include Br_2 , HBr , a bromide compound such as CaBr_2 , or a combination thereof.

77. One important aspect of this plan is that an LLC is a pass-through entity for tax purposes. That is, the benefits of the Section 45 tax credits pass through to AJG and other owners of the Refined Coal LLC.

78. AJG sells ownership in the LLC based at least in part on the value of those tax credits.

79. By using the Refined Coal LLCs as shell companies, AJG is able to operate companies that are designed to lose money, but that ultimately benefit AJG because they allow it to obtain hundreds of millions of dollars in federal tax credits.

80. This model has been emulated by others, such as DTE and CERT.

81. DTE and CERT both use Chem-Mod supplied chemicals and provide refined coal through Refined Coal LLCs in order to obtain Section 45 Tax Credits.

ME2C Attempts to Compete in the Market for Mercury Capture Technologies

82. ME2C is the commercial extension of the patented technology. As the exclusive licensee, and later assignee, of the patents-in-suit, ME2C developed, marketed, and sold products and services that practice the patented technology.

83. ME2C’s product development efforts have been led by named inventor and Chief Technology Officer John Pavlish. ME2C has developed both sorbent enhancement additives and activated carbon sorbents for practicing the technology described in the patents-in-suit and for practicing other patented methods owned by ME2C.

84. ME2C has also publicized its patent portfolio and explained the scope of the patented technology through its website, its interactions with customers and potential customers, and through presentations at industry events such as the MEGA Symposium, the Energy, Utility & Environment Conference, Lignite Energy Conference, and the Air Quality Conference. Representatives of Defendants have attended these conferences and received materials from such conferences.

85. ME2C has attempted to compete in the market for mercury capture technologies. In particular it attempted to negotiate supply contracts with coal-fired power plants in anticipation of MATS regulations that became effective in 2015 and 2016, and also periodically afterwards as plants re-evaluate their MATS compliance strategies.

86. However, ME2C it is at an unfair disadvantage with respect to the RC Defendants that encourage power plants to use ME2C's patented technology instead of developing new technologies for refined coal. These RC Defendants induce power plants to infringe the patents-in-suit by offering the technology at no or artificially low costs to the plant.

87. AJG CFO Douglas Howell has explained, "the reason why [coal-fired power plants] participate in these [Section 45 Tax Credit] projects is that they've got a financial incentive to participate in it, but they also receive the improved environmental results basically for free and they get a better ash and favorable operating results."

88. In addition, because the Coal Plant Defendants have decided to infringe ME2C's patents, they now purchase various materials from different suppliers at artificially deflated prices and employ them in a manner that infringes ME2C's patents.

89. Despite these difficulties, ME2C has sold its products and services to various power plants throughout the country.

ME2C's Interactions with Defendant Vistra

90. In 2012, ME2C contracted with Luminant Generation Company LLC ("Luminant") to perform testing of the patented methods at various Luminant power plants.

91. At least as early as 2012, ME2C informed Luminant of its patent portfolio,

including the '147 patent and parent applications to the '114 patent.

92. By 2012, ME2C had also explained that its patents cover the use of halogen-based sorbent enhancement additives and backend carbon-based sorbents.

93. After successfully testing its patented technology at Luminant plants, Luminant signed a Master Supply Agreement with ME2C.

94. Luminant is now a subsidiary of Vistra.

95. Through Luminant, ME2C has informed Vistra of the patents-in-suit and also explained that its patents cover the use of halogen-based sorbent enhancement additives and backend carbon-based sorbents.

96. ME2C also attempted to develop business with other affiliates of Vistra. For example, ME2C has had various interactions with Vistra subsidiary Dynegey Inc. and its subsidiaries ("Dynegey").

97. Beginning in 2011, ME2C and Dynegey evaluated the ME2C process for use at the Joppa Steam Plant in Massac county Illinois.

98. As part of that process, ME2C informed Dynegey of its patent portfolio, including the '147 patent and parent applications to the '114 patent.

99. ME2C has informed Dynegey that its patents cover the use of halogen-based sorbent enhancement additives and backend carbon-based sorbents.

100. Although the test results were favorable, Dynegey ultimately determined not to sign a supply agreement with ME2C.

101. Throughout 2014 and 2015, ME2C had further interactions with Dynegey and conducted a further demonstration at the Edwards Power Station in Peoria county Illinois.

102. Again, Dynegey declined to sign a supply agreement with ME2C.

103. In 2018, Vistra acquired Dynegey.

104. That same year, Vistra requested that ME2C again perform a demonstration at the Joppa Steam Plant.

105. ME2C informed Vistra of its patent portfolio and also explained that its patents

cover the use of halogen-based sorbent enhancement additives and backend carbon-based sorbents.

106. ME2C also attempted to negotiate a supply agreement with Vistra for the Joppa Steam Plant.

107. However, the Joppa Steam Plant was receiving refined coal treated with halogen from a refined coal producer.

108. Joppa Refined Coal LLC, has and continues to provide refined coal to the Joppa Steam Plant. AJG, Chem-Mod and Joppa Refined Coal LLC provide financial, technical, and contractual incentives to Vistra to burn refined coal as part of their scheme to collect Section 45 Tax Credits.

109. The Joppa Steam Plant is owned and/or operated by Vistra in the United States.

110. Vistra negotiates and/or procures products and/or services related to mercury control for use at the Joppa Steam Plant.

111. The Joppa Steam Plant has burned and/or burns coal that has added bromine and/or bromide.

112. The Joppa Steam Plant combusts coal along with added bromine and/or bromide.

113. The Joppa Steam Plant injects sorbent material comprising activated carbon downstream of the combustion chamber.

114. The Joppa Steam Plant contracts with Joppa Refined Coal LLC to obtain coal with added bromine and/or bromide.

115. The Joppa Steam Plant uses added bromine and/or bromide and activated carbon to ensure compliance with federal and state MATS regulations.

116. Despite being aware of ME2C's patents, and recognizing the benefits of the technology through its subsidiary Luminant, Vistra has elected to infringe the patents-in-suit at its coal-fired power plants, including at the Joppa Steam Plant.

ME2C's Interactions with Defendant AEP

117. In 2011, ME2C met with officials at AEP to discuss ME2C's mercury capture products and services.

118. In or around that meeting, ME2C informed AEP of its patent portfolio.

119. The parties did not enter into a commercial agreement at that time.

120. In 2013, representatives of AEP attended the Air Quality 9 conference and received a presentation on the patented technology which identified the '147 patent and parent applications to the '114 patent.

121. In 2016, ME2C and AEP discussed potential work related to AEP's H.W. Pirkey Power Plant.

122. ME2C and AEP, including its subsidiary Southwestern Electric Power Co. contracted for ME2C to provide demonstration testing at the H.W. Pirkey Power Plant.

123. Through those interactions, ME2C again reminded AEP of its patent portfolio and explained that its patents covered the use of halogen-based sorbent enhancement additives and backend carbon-based sorbents.

124. ME2C specifically identified the '147 patent and parent applications to the '114 patent to AEP.

125. Between 2016 and 2018, ME2C explained its technology to AEP, provided technical and economic presentations, and performed demonstration testing at AEP's H.W. Pirkey Power Plant in Harrison county, Texas.

126. The H.W. Pirkey Power Plant is owned and/or operated by AEP in the United States.

127. AEP negotiates for and/or procures products and/or services related to mercury control for use at the H.W. Pirkey Power Plant.

128. The H.W. Pirkey Power Plant combusts coal along with added bromine and/or bromide.

129. The H.W. Pirkey Power Plant injects sorbent material comprising activated carbon downstream of the combustion chamber.

130. The H.W. Pirkey Power Plant employs halogenated PAC (Powdered Activated Carbon) sorbent injection as a form of mercury control.

131. The H.W. Pirkey Power Plant uses added bromine and/or bromide and activated carbon to ensure compliance with federal MATS regulations.

132. Despite knowledge of ME2C's patents, AEP has elected to infringe ME2C's patents at its coal-fired power plants including at the H.W. Pirkey Power Plant.

ME2C's Interactions with NRG

133. In 2012, ME2C had various interactions with NRG to discuss ME2C's patented technology.

134. Over the next few years, NRG evaluated its options for coming into compliance with upcoming MATS regulations.

135. During that time, ME2C identified its patents to NRG and explained the operation of its patented technology.

136. The parties also considered having ME2C perform various demonstrations of the technology at NRG power plants.

137. Nonetheless, NRG elected to infringe ME2C's patents.

ME2C's Interactions with Defendant Talen

138. Talen owns and/or operates the Brunner Island, Colstrip, and Montour power plants.

139. Prior to 2015 those plants were owned and/or operated by PPL.

140. In 2013, representatives of PPL attended the Air Quality 9 conference and received a presentation on the patented technology which identified the '147 patent and parent applications to the '114 patent.

141. In 2013, ME2C met with PPL to discuss the use of ME2C's patented technology at power plants in the PPL fleet, including Brunner Island, Colstrip, and Montour.

142. ME2C specifically identified the '147 patent and the parent patent to the '114 patent, and explained that these patents covered the use of halogen-based sorbent enhancement additives and backend carbon-based sorbents.

143. In 2015, PPL spun off a portion of its business to form Talen.

144. Despite being aware of ME2C's patents, Talen has elected to infringe those patents.

ME2C's Interactions with Defendant AJG, DTE, CERT, Chem-Mod, and RC Defendants

145. AJG, DTE, CERT, Chem-Mod, and RC Defendants have worked with the EERC to conduct testing related to their coal treatment processes. For example, they have relied on the EERC to demonstrate that the processes employed by refined coal facilities qualify for Section 45 Tax Credits. Through those interactions, it is likely that they became aware of the patents-in-suit and/or related applications as they were initially developed by the inventors while they were at the EERC.

146. In addition, at least Chem-Mod participates in conferences where ME2C describes its patented technology. For example, Chem-Mod president Murray F. Abbott attended the 2018 MEGA conference where ME2C described the technology at issue in this case and explained that it was covered by its patents. ME2C also referred attendees to its website which has additional information regarding its patents.

147. Given the close relationship between Chem-Mod, AJG, DTE, CERT, and the RC Defendants, those Defendants know of ME2C's patented technology and patent portfolio and/or are willfully blind to ME2C's patents.

Defendants' Acts of Infringement

148. The Coal Plant Defendants each operate at least one coal-fired power plant where they combust coal in a combustion chamber with bromine and/or bromide that has been added to the coal and/or that has been provided to the combustion chamber, and where they inject a sorbent material comprising activated carbon downstream of the combustion chamber (the "Accused Coal Plants"). The Accused Coal Plants are not limited to the specifically named, exemplary coal plants named above.

149. In doing so, the Coal Plant Defendants perform the methods claimed by the patents-in-suit, and thus directly infringe the patents-in-suit.

150. To the extent an Accused Coal Plant is owned by a subsidiary company, its parent (one or more of the named Coal Plant Defendants) also indirectly infringe(s) by inducing the subsidiary to perform the steps of the patented methods.

151. The parent companies do so by exercising control over subsidiaries, providing technical, administrative, logistical and financial services to subsidiaries, and/or negotiating standard form or bulk agreements for products and services related to mercury control.

152. AJG, DTE, CERT, Chem-Mod, and the RC Defendants operate RC facilities that receive coal, add bromine and/or bromide such as CaBr_2 to the coal, and then provide that “refined” coal to a coal-fired power plant that injects a sorbent material comprising activated carbon downstream of the combustion chamber (the “Accused RC Facilities”).

153. Chem-Mod provides chemicals and/or refined coal to at least some of the Accused Coal Plants and Accused RC Facilities.

154. Chem-Mod also assists in operating the Accused Coal Plants and Accused RC Facilities in connection with administering the chemicals supplied by Chem-Mod.

155. Given the location and operation of the Accused RC Facilities and the contractual relationships between Accused RC Facilities and associated coal-fired power plants, the refined coal provided by each Accused RC Facility has no substantial non-infringing use.

156. In addition, AJG, DTE, CERT, Chem-Mod, and the RC Defendants provide financial incentives to operators of coal-fired power plants to participate in a Section 45 Tax Credit scheme.

157. AJG, DTE, CERT, Chem-Mod, and the RC Defendants condition participation in an activity or receipt of a benefit, i.e., the financial benefits of participating in the Section 45 Tax Credit scheme and the technical and environmental benefits of using refined coal, upon performance of a step or steps of a patented method, i.e., the combusting of coal with added bromine and/or bromide, and they establish the manner or timing of that performance by requiring the power plant to use the refined coal and by providing the refined coal directly onto conveyances leading to the combustor.

158. AJG, DTE, and CERT, directly and in concert with their subsidiaries including Chem-Mod and the RC Defendants, have engaged in a pattern of conduct intended to induce and/or contribute to the infringement of others, including the Coal Plant Defendants and the

operators of coal-fired power plants connected to an Accused RC Facility. These actions have included:

- a. forming several of the RC Defendants specifically for the purpose of using Chem-Mod products in the manner described below as infringing;
- b. providing several of the RC Defendants and operators of coal-fired power plants with chemicals used to directly infringe the patents-in-suit;
- c. Building the core components of the RC facilities to use Chem-Mod chemicals;
- d. Connecting the RC facilities to coal-fired power plants;
- e. Placing the RC Facilities into service;
- f. Providing the RC Defendants with operational support, regulatory, and technical support necessary to use Chem-Mod chemicals at the Accused RC Facilities and Accused Coal Plants;
- g. Testing the performance of the RC Facilities for regulatory reasons and to obtain Section 45 Tax Credits;
- h. Conditioning participation in the Section 45 Tax Credits program on use of Chem-Mod chemicals at the Accused RC Facilities;
- i. Limiting the amount of capital and/or supplies of the RC Defendants;
- j. Using the RC Defendants to claim Section 45 Tax Credits;
- k. Tailoring the treatments applied to coal for each individual power plant; and
- l. Modifying the amount of bromine and/or bromide added to coal sold to Coal Plant Defendants and/or operators of coal-fired power plants connected to an RC Facility in connection with plants' MATS obligations.

159. AJG, Chem-Mod, their associated RC Defendants, and the operators of coal-fired power plants connected to an RC Facility that is owned by AJG and/or its subsidiaries are involved in a joint enterprise to infringe the patents-in-suit.

160. AJG, Chem-Mod, their associated RC Defendants, and the operators of coal-fired power plants connected to an RC Facility that is owned by AJG and/or its subsidiaries share a common purpose, namely, obtaining Section 45 Tax Credits and compliance with mercury capture regulations by performing the patented methods.

161. DTE, Chem-Mod, their associated RC Defendants, and the operators of coal-fired power plants connected to an RC Facility that is owned by DTE and/or its subsidiaries are involved in a joint enterprise to infringe the patents-in-suit.

162. DTE, Chem-Mod, their associated RC Defendants, and the operators of coal-fired power plants connected to an RC Facility that is owned by DTE and/or its subsidiaries share a common purpose, namely, obtaining Section 45 Tax Credits and compliance with mercury capture regulations by performing the patented methods.

163. CERT, Chem-Mod, their associated RC Defendants, and the operators of coal-fired power plants connected to an RC Facility that is owned by DTE and/or its subsidiaries are involved in a joint enterprise to infringe the patents-in-suit.

164. CERT, Chem-Mod, their associated RC Defendants, and the operators of coal-fired power plants connected to an RC Facility that is owned by DTE and/or its subsidiaries share a common purpose, namely, obtaining Section 45 Tax Credits and compliance with mercury capture regulations by performing the patented methods.

165. Thus, AJG, DTE, CERT, Chem-Mod, and the RC Defendants induce and/or contribute to direct infringement of the patents-in-suit by coal-fired power plant operators, and thus indirectly infringe the patents-in-suit.

166. Defendants' infringement of the Patents-in-Suit is willful. Defendants continue to commit acts of infringement despite a high likelihood that its actions constitute infringement, and Defendants knew or should have known that their actions constituted an unjustifiably high risk of infringement.

167. In accordance with 35 U.S.C. § 287, Defendants have actual notice and knowledge of all of the Patents-in-Suit as described above and no later than the filing of this

Complaint and/or the date this Complaint was served upon each Defendant. In any event, Defendants may not avail themselves of 35 U.S.C. § 287 as a defense because ME2C is under no obligation to mark performance of the patented methods.

168. Defendants acts of infringement have been willful as of the date they became aware of the patented technology and the patents-in-suit, and in any event no later than the filing of this Complaint and/or the date this Complaint was served upon each Defendant.

Defendants' Interactions With Each Other Related to Infringement

169. Each Coal Plant Defendant consists of a parent company and various subsidiaries. These various entities work together to procure materials and manage Accused Power Plants.

170. Each of AJG, DTE, and CERT own and operate Refined Coal LLCs (including the other named RC Defendants) that use Chem-Mod materials at the Accused Coal Plants and coal plants with associated Accused RC Facilities.

171. Vistra's Joppa Coal plant, and Talen's Brandon Shores, Herbert Wagner, and Montour coal plants obtain refined coal from AJG, Chem-Mod, and their associated Refined Coal LLCs.

172. Vistra's Duck Creek and Newton coal plants obtain refined coal from DTE, Chem-Mod, and their associated Refined Coal LLCs.

173. The Conesville power plant in Ohio has been/is owned and/or operated by Vistra and AEP.

174. At least Defendants Vistra, NRG, and Talen have owned and/or operated Accused Coal Plants using Chem-Mod products to directly infringe the patents-in-suit and thus they are jointly, severally, and/or in the alternative liable with Chem-Mod with respect to those plants.

175. At least Defendants AJG, DTE, Chem-Mod and their associated Refined Coal LLCs have induced and/or contributed to infringement at Vistra and Talen Accused Coal Plants and coal plants associated with Accused RC Facilities, and thus those parties are jointly, severally, and/or in the alternative liable with respect to those plants.

176. Each of the RC Defendants is owned and/or operated by AJG, DTE, and/or CERT,

and each uses Chem-Mod to induce and/or contribute to infringement. Thus, each RC Defendant is jointly, severally, and/or in the alternative liable with respect to Chem-Mod and the Defendant that is its associated owner/operator.

177. Defendants AEP and Vistra have owned and/or operated some of the same Accused Coal Plants, and thus are jointly, severally, and/or in the alternative liable with respect to those plants.

COUNT ONE: INFRINGEMENT OF THE '114 PATENT

178. ME2C incorporates by reference the preceding paragraphs as if fully set forth herein.

179. U.S. Patent No. 10,343,114 (the "'114 patent"), entitled "Sorbents for the Oxidation and Removal of Mercury", was issued on July 9, 2019, naming Edwin S. Olson, Michael J. Holmes and John H. Pavlish as the inventors. Exhibit A ('114 Patent).

180. ME2C owns all rights, title, and interest in the '114 Patent, and holds all substantial rights pertinent to this suit, including the right to sue and recover for all past, current, and future infringement.

181. The '114 Patent is valid and enforceable and directed to patentable subject matter.

182. Defendants infringe claims 1-30 of the '114 patent.

183. ME2C provides the following explanation of infringement with regard to an exemplary claim.

184. Claim 25 of the '114 patent recites: A method of separating mercury from a mercury-containing gas.

185. The Coal Plant Defendants and power plants connected to an Accused RC Facility perform this method in order to comply with federal and/or state mercury regulations.

186. Claim 25 of the '114 patent recites: combusting coal in a combustion chamber to provide the mercury-containing gas, wherein the coal comprises added Br₂, HBr, a bromide compound, or a combination thereof, added to the coal upstream of the combustion chamber, or the combustion chamber comprises added Br₂, HBr, a bromide compound, or a combination

thereof, or a combination thereof.

187. The Coal Plant Defendants and power plants connected to an Accused RC Facility perform this step by burning coal with an added Br₂, HBr, a bromide compound, or a combination thereof and/or by adding Br₂, HBr, a bromide compound, or a combination thereof to the combustion chamber.

188. Claim 25 of the '114 patent recites: injecting a sorbent material comprising activated carbon into the mercury containing gas downstream of the combustion chamber.

189. The Coal Plant Defendants and power plants connected to an Accused RC Facility perform this step by injecting activated carbon sorbent downstream of the combustion chamber.

190. Claim 25 of the '114 patent recites: contacting mercury in the mercury-containing gas with the sorbent, to form a mercury/sorbent composition.

191. The Coal Plant Defendants and power plants connected to an Accused RC Facility perform this step because mercury contained in the gas exiting the combustion chamber contacts the sorbent as all of this material is contained in the same gas.

192. Claim 25 of the '114 patent recites: separating the mercury/sorbent composition from the mercury-containing gas, to form a cleaned gas.

193. The Coal Plant Defendants and power plants connected to an Accused RC Facility perform this step using equipment to collect the mercury captured by the sorbent in order to comply with mercury regulations.

194. The Coal Plant Defendants have and continue to directly infringe, literally and/or under the doctrine of equivalents, the '114 patent under 35 U.S.C. § 271(a).

195. AJG, DTE, CERT, Chem-Mod and the RC Defendants provide coal with added Br₂, HBr, a bromide compound, or a combination thereof to coal-fired power plants connected to an Accused RC Facility.

196. The coal with added Br₂, HBr, a bromide compound, or a combination thereof provided by AJG, DTE, CERT, Chem-Mod and the RC Defendants is not a staple article or

commodity of commerce suitable for substantial non-infringing use. This coal is supplied to a conveyance that moves the coal toward the combustion chamber of a power plant that directly infringes the '114 patent. In addition, AJG, DTE, CERT, Chem-Mod and the RC Defendants tailor the amount of Br₂, HBr, a bromide compound, or a combination thereof added to the coal for the specific needs of the power plant.

197. AJG, DTE, CERT, Chem-Mod and the RC Defendants took the above-described actions intending to cause infringing acts by others.

198. AJG, DTE, CERT, Chem-Mod and the RC Defendants have actual knowledge of the '114 patent and know that actions described above, if taken, would constitute infringement of that patent. Alternatively, AJG, DTE, CERT, Chem-Mod and the RC Defendants believe there is a high probability that others would infringe the '114 patent but have remained willfully blind to the infringing nature of those actions. AJG, DTE, CERT, Chem-Mod and the RC Defendants therefore infringe the '114 patent under 35 U.S.C. § 271(b) with respect to each coal-fired power plant connected to an Accused RC Facility.

199. AJG, DTE, CERT, Chem-Mod and the RC Defendants indirectly infringes the '114 patent by contributing to infringement by others, such as its customers and end-users by offering to sell and/or selling within the United States coal with added Br₂, HBr, a bromide compound, or a combination thereof used to practice one or more processes/methods covered by the claims of the '114 patent and that constitute a material part of the inventions claimed in the '114 patent. AJG, DTE, CERT, Chem-Mod and the RC Defendants therefore infringe the '114 patent under 35 U.S.C. § 271(c) with respect to each coal-fired power plant connected to an Accused RC Facility.

200. Defendants' acts of infringement have caused damage to ME2C. ME2C is entitled to recover from Defendants the damages sustained by ME2C as a result of Defendants' wrongful acts in an amount subject to proof at trial. In addition, the infringing acts and practices of Defendants have caused, are causing, and, unless such acts and practices are enjoined by the Court, will continue to cause immediate and irreparable harm to ME2C for which there is no

adequate remedy at law, and for which ME2C is entitled to injunctive relief under 35 U.S.C. § 283.

COUNT TWO: INFRINGEMENT OF THE '147 PATENT

201. ME2C incorporates by reference the preceding paragraphs as if fully set forth herein.

202. U.S. Patent No. 8,168,147 (the "'147 patent"), entitled "Sorbents for the Oxidation and Removal of Mercury", was issued on May 1, 2012, naming Edwin S. Olson, Michael J. Holmes and John H. Pavlish as the inventors. Exhibit B ('147 Patent).

203. Midwest Energy Emissions Corp. owns by assignment all rights, title, and interest in the '147 Patent, and holds all substantial rights pertinent to this suit, including the right to sue and recover for all past, current, and future infringement.

204. The '147 Patent is valid and enforceable and directed to patentable subject matter.

205. Defendants infringe claims 17-20 of the '147 patent.

206. ME2C provides the following explanation of infringement with regard to an exemplary claim.

207. Claim 17 of the '147 patent recites: "A method for separating mercury from a mercury containing gas."

208. The Coal Plant Defendants and power plants connected to an Accused RC Facility perform this method in order to comply with federal and/or state mercury regulations.

209. Claim 17 of the '147 patent recites: "promoting at least a portion of a particulate sorbent material comprising activated carbon by chemically reacting the sorbent material with a bromine containing promoter to form a promoted brominated sorbent, wherein the bromine containing promoter is in gaseous form, vapor form, or non-aqueous liquid form, and wherein the activated carbon contains graphene sheets having carbene species edge sites which react with the bromine containing promoter to form a carbocation paired with a bromide anion in the promoted brominated sorbent for oxidation of the mercury."

210. The Coal Plant Defendants and power plants connected to an Accused RC Facility

perform this step because they burn coal with added Br₂, HBr, a bromide compound, or a combination thereof and/or they provide Br₂, HBr, a bromide compound, or a combination thereof into the combustion zone with the coal. The bromine containing promoter is in gaseous form when it comes into contact with activated carbon added by the Coal Plant Defendants and/or power plants connected to an Accused RC Facility. This contact causes the recited chemical reaction to occur.

211. Claim 17 of the '147 patent recites: "chemically reacting elemental mercury in the mercury containing gas with the promoted brominated sorbent to form a mercury/sorbent chemical composition."

212. As noted above, the Coal Plant Defendants and power plants connected to an Accused RC Facility perform this step such that the recited chemical reaction occurs.

213. Claim 17 of the '147 patent recites: "separating particulates from the mercury containing gas, the particulates including ash and the mercury/sorbent chemical composition."

214. The Coal Plant Defendants and power plants connected to an Accused RC Facility perform this method in order to comply with federal and/or state mercury regulations.

215. Claim 17 of the '147 patent recites: "A method according to claim 1, further comprising injecting the particulate sorbent material at a sorbent material injection rate and injecting separately the bromine containing promoter into a gas stream whereby in-flight reaction produces the promoted brominated sorbent, wherein the promoter is reacted in the gas phase or as a vapor, wherein the promoter is added at from about 1 to about 30 grams per 100 grams of the sorbent material."

216. The Coal Plant Defendants and power plants connected to an Accused RC Facility perform this step because they burn coal with added Br₂, HBr, a bromide compound, or a combination thereof and/or they provide BR₂, HBr, a bromide compound, or a combination thereof into the combustion zone with the coal. In either case, the bromine containing promoter is injected into a gas stream, and it later comes into contact with activated carbon sorbent added by the Coal Plant Defendants and/or power plants connected to an Accused RC Facility. This

contact causes in-flight promotion of the sorbent.

217. The bromine containing promoter is added at from about 1 to 30 grams per 100 grams of the sorbent material.

218. The Coal Plant Defendants have and continue to directly infringe, literally and/or under the doctrine of equivalents, the '147 patent under 35 U.S.C. § 271(a).

219. AJG, DTE, CERT, Chem-Mod and the RC Defendants provide coal with added Br₂, HBr, a bromide compound, or a combination thereof to coal-fired power plants connected to an Accused RC Facility.

220. The coal with added Br₂, HBr, a bromide compound, or a combination thereof provided by AJG, DTE, CERT, Chem-Mod and the RC Defendants is not a staple article or commodity of commerce suitable for substantial non-infringing use. This coal is supplied to a conveyance that moves the coal toward the combustion chamber of a power plant that directly infringes the '147 patent. In addition, AJG, DTE, CERT, Chem-Mod and the RC Defendants tailor the amount of Br₂, HBr, a bromide compound, or a combination thereof added to the coal for the specific needs of the power plant.

221. AJG, DTE, CERT, Chem-Mod and the RC Defendants took the above-described actions intending to cause infringing acts by others.

222. AJG, DTE, CERT, Chem-Mod and the RC Defendants have actual knowledge of the '147 patent and know that actions described above, if taken, would constitute infringement of that patent. Alternatively, AJG, DTE, CERT, Chem-Mod and the RC Defendants believe there is a high probability that others would infringe the '147 patent but have remained willfully blind to the infringing nature of those actions. AJG, DTE, CERT, Chem-Mod and the RC Defendants therefore infringe the '147 patent under 35 U.S.C. § 271(b) with respect to each coal-fired power plant connected to an Accused RC Facility.

223. AJG, DTE, CERT, Chem-Mod and the RC Defendants indirectly infringes the '147 patent by contributing to infringement by others, such as its customers and end-users by offering to sell and/or selling within the United coal with added BR₂, HBR, a bromide

compound, or a combination thereof used to practice one or more processes/methods covered by the claims of the '114 patent and that constitute a material part of the inventions claimed in the '114 patent. AJG, DTE, CERT, Chem-Mod and the RC Defendants therefore infringe the '147 patent under 35 U.S.C. § 271(c) with respect to each coal-fired power plant connected to an Accused RC Facility.

224. Defendants' acts of infringement have caused damage to ME2C. ME2C is entitled to recover from Defendants the damages sustained by ME2C as a result of Defendants' wrongful acts in an amount subject to proof at trial. In addition, the infringing acts and practices of Defendants have caused, are causing, and, unless such acts and practices are enjoined by the Court, will continue to cause immediate and irreparable harm to ME2C for which there is no adequate remedy at law, and for which ME2C is entitled to injunctive relief under 35 U.S.C. § 283.

JURY DEMAND

Plaintiff hereby demands a trial by jury on all issues so triable.

PRAAYER FOR RELIEF

WHEREFORE Plaintiff Midwest Energy Emissions Corp. asks this Court for an order granting the following relief:

- a. A judgment in favor of Plaintiff that Defendants have infringed, either literally and/or under the doctrine of equivalents, the '114 and '147 patents;
- b. A judgment and order finding that Defendants' infringement has been willful;
- c. A permanent injunction prohibiting Defendants from further acts of infringement;
- d. A judgment and order requiring Defendants to pay Plaintiff its damages, costs, expenses, and any enhanced damages to which Plaintiff is entitled for Defendants' infringement;
- e. A judgment and order requiring Defendants to provide an accounting and to pay supplemental damages to Plaintiff, including without limitation, pre-judgment and post-judgment interest;
- f. A judgment and order finding that this is an exceptional case within the meaning

of 35 U.S.C. § 285 and awarding Plaintiff its reasonable attorneys' fees against Defendants; and

g. Any and all other relief as the Court may deem appropriate and just under the circumstances.

Dated: July 17, 2019

Respectfully submitted,

DEVLIN LAW FIRM LLC

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