IN THE IOWA DISTRICT COURT FOR BLACKHAWK COUNTY

STATE OF IOWA, ex rel., IOWA DEPARTMENT OF NATURAL RESOURCES, Plaintiff, vs. DEERE & COMPANY, Defendant.	)	NO. **EQCV137313** **PETITION IN EQUITY**

COMES NOW Plaintiff State of Iowa, ex rel., Iowa Department of Natural Resources ("DNR") and for its claims against Defendant Deere & Company ("Deere") states as follows:

INTRODUCTION

1. Carbon Monoxide ("CO"), Nitrogen Oxides ("NOx"), and Particulate Matter ("PM"), are heavily regulated air pollutants at the state and federal level, and can cause serious human health effects to sensitive populations such as asthmatics, children, and the elderly, and damage to animals, crops, vegetation, and buildings.

2. The State of Iowa seeks the assessment of civil penalties and the issuance of a permanent injunction against Deere for a multitude of air quality violations that occurred over a 12-13 year period, including: failing to comply with emission limits in 80 construction permit for CO, NO_x, PM, and PM_{10}; failing to comply with the Title V Operating Permits program and excess emission reporting requirements; avoiding the required review of increased NO_x emissions and the application of Best Available Control Technology for said emissions; and constructing and operating 46 emission points without the proper air quality permits.

PARTIES

3. The State of Iowa is a sovereign state of the United States of America and brings this action on behalf of the DNR, a duly constituted agency of the State of Iowa pursuant to Iowa Code section 455A.2.

4. Deere & Company is an Illinois corporation with a product engineering facility, entitled John Deere Product Engineering Center ("PEC"), located at 6725 Cedar Heights Drive, Cedar Falls, Iowa 50613.

JURISDICTION

5. The Court has jurisdiction of this matter pursuant to Iowa Code sections 455B.146.

AIR POLLUTION CONTROL REQUIRMENTS

6. The DNR is a state agency with the duty to prevent, abate, or control air pollution. Iowa Code § 455B.132. The specific administrative and enforcement duties of the DNR Director relating to air pollution control are contained, in part, in Iowa Code sections 455B.134(1)-(14).

7. The DNR director is authorized to grant construction or operation permits for new, modified, or existing air contaminant sources and for related control equipment. Iowa Code § 455B.134(3).

8. "Air contaminant" means "dust, fume, mist, smoke, other particulate matter, gas, vapor (except water vapor), odorous substance, radioactive substance, or any combination thereof." Iowa Code § 455B.131(1).

9. "Air contaminant source" means "any and all sources of emission of air contaminants whether privately or publicly owned or operated." Iowa Code § 455B.131(2).

10. The Iowa Environmental Protection Commission (EPC) is authorized to adopt rules for the abatement, control, and prevention of air pollution. Iowa Code § 455B.133(2). Air pollution control rules are contained in 567 Iowa Admin. Code chapters 20-29, 31, and 33-35.

11. "Air pollution" means "presence in the outdoor atmosphere of one or more air contaminants in sufficient quantities and of such characteristics and duration as is or may reasonably tend to be injurious to human, plant, or animal life, or to property, or which unreasonably interferes with the enjoyment of life and property." Iowa Code § 455B.131(3).

12. No person shall construct, install, reconstruct, or alter any equipment or control equipment without first obtaining a construction permit or permits required pursuant to 567 Iowa Admin. Code 22.4. 567 Iowa Admin. Code 22.1(1).

13. "Equipment" means "equipment capable of emitting air contaminants to produce air pollution such as fuel burning, combustion or process devices or apparatus including but not limited to fuel-burning equipment, refuse burning equipment used for the burning of fuel or other combustible material from which the products of combustion are emitted; and including but not limited to apparatus, equipment or process devices which generate heat and may emit products of combustion, and manufacturing, chemical, metallurgical or mechanical apparatus or process devices which may emit smoke, particulate matter or other air contaminants." 567 Iowa Admin. Code 20.2.

14. A permit may be issued subject to conditions which shall be specified in writing including but not limited to emission limits, operating conditions, fuel specifications, compliance testing, continuous monitoring, and excess emission reporting. 567 Iowa Admin. Code 22.3(3).

15. "Emission" means "release of one or more air contaminants into the outside atmosphere." Iowa Code § 455B.131(6).

16. "Emission limitation" and "emission standard" mean "a requirement established by a state, local government, or the [EPA] administrator which limits the quantity, rate or concentration of emissions of air pollutants on a continuous basis, including any requirements which limit the level of opacity, prescribe equipment, set fuel specifications or prescribe operation or maintenance procedures for a source to ensure continuous emission reduction." 567 Iowa Admin. Code 20.2.

17. In no case shall a construction permit which results in an increase in emissions be issued to any facility which is in violation of Iowa's air quality laws, unless the facility is in compliance with a schedule for correcting the violation and that schedule is contained in an order or permit condition. A construction permit shall be issued when the director concludes that the preceding requirement has been met and: 1) the required plans and specifications represent equipment which reasonably can be expected to comply with all applicable emission standards; and 2) that the expected emissions from the proposed source or modification in conjunction with all other emissions will not prevent the attainment or maintenance of the ambient air quality standards specified in 567 Iowa Admin. Code chapter 28. 567 Iowa Admin. Code 22.3(1).

18. An incident of excess emission, other than during startup, shutdown or cleaning of control equipment, is a violation. 567 Iowa Admin. Code 24.1(4).

19. "Excess emission" means "any emission which exceeds either the applicable emission standard prescribed in . . . [567 Iowa Admin. Code 23 or 22.5], or any emission limit specified in a permit or order." 567 Iowa Admin. Code 20.2.

20. An incident of excess emission (other than an incident of excess emission during a period of startup, shutdown, or cleaning) shall be reported to the DNR within eight hours of, or

at the start of the first working day following the onset of the incident. 567 Iowa Admin. 24.1(2).

21. The owner or operator of any equipment or control equipment shall remedy any cause of excess emissions in an expeditious manner. 567 Iowa Admin. Code 24.2(1)"b".

22. If any order, permit or rule of the IDNR is being violated, the Attorney General shall, at the request of the DNR director, institute a civil action in any district court for injunctive relief to prevent any further violation of the order, permit, or rule, or for the assessment of a civil penalty as determined by the court, not to exceed Ten Thousand Dollars ($10,000.00) per day for each day such violation continues, or both such injunctive relief and civil penalty. Iowa Code § 455B.146.

Title V Operating Permit

23. Iowa Code section 455B.133(8)(a) authorizes the EPC to adopt rules consistent with Title V of the federal Clean Air Act Amendments of 1990, which require the owner or operator of an air contaminant source to obtain an operating permit prior to operation of the source. Rules implementing the Title V operation permit program are contained in 567 Iowa Admin. Code 22.100-116.

24. 567 Iowa Admin. Code 22.101(1)(b) requires any "major source" to obtain a Title V operation permit.

25. "Major source" includes "any stationary source . . . of air pollutants, as defined in Section 302 of the Act [42 U.S.C. 7602(g)], that directly emits or has the potential to emit 100 tons per year (tpy) or more of any air pollutant" or "any stationary source . . . that emits or has the potential to emit, in the aggregate, 10 tpy [tons per year] or more of any hazardous air pollutant which has been listed pursuant to Section 112(b) of the Act [42 U.S.C. 7602(g)] and

these rules or 25 tpy or more of any combination of such hazardous air pollutants." 567 Iowa Admin. Code 22.100.

26. "Major stationary source" means "a stationary air contaminant source which directly emits, or has the potential to emit, one hundred tons or more of an air pollutant per year including a major source of fugitive emissions of a pollutant as determined by rule by the department [DNR] or the administrator of the United States [E]nvironmental [P]rotection [A]gency [EPA]." Iowa Code § 455B.131(8).

27. "Stationary source" means "any building, structure, facility, or installation that emits or may emit any regulated air pollutant or any pollutant listed under Section 112(b) of the Act [42 U.S.C. § 7412(b)]." 567 Iowa Admin. Code 22.100.

28. 567 Iowa Admin. Code 22.107(4) requires "any application form, report, or compliance certification submitted" pursuant to a Title V operation permit "shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under these rules shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."

29. A permittee must comply with all conditions of a Title V permit. 567 Iowa Admin. Code 22.108(9)(a).

30. A permittee must submit an annual compliance certification sufficient to ensure compliance with the terms and conditions of the Title V permit. 567 Iowa Admin. Code 22.108(15)(a).

31. The Title V compliance certifications must disclose the compliance status and whether compliance was continuous or intermittent. 567 Iowa Admin. Code 22.108(15)(e).

32. The Title V compliance certifications must be certified by a responsible official consistent with subrule 22.107(4) and Section 114(a)(3) of the Clean Air Act. 567 Iowa Admin. Code 22.105(2)(i)(1).

Prevention of Significant Deterioration (PSD) Requirements

33. The federal Clean Air Act requires the EPA to establish National Ambient Air Quality Standards ("NAAQS"). 42 U.S.C. § 7409(a)(1). Primary and secondary NAAQS are prescribed to protect the public health and welfare, respectively. 42 U.S.C. §§ 7409(b)(1) and (2); 40 C.F.R. § 50.2(b). Primary and secondary NAAQS have been adopted for sulfur oxides (sulfur dioxide) ("SO_2"), particulate matter with an aerodynamic diameter less than or equal to 10 micrometers ("PM_{10}"), particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers ("$PM_{2.5}$"), nitrogen oxides ("NO_x"), carbon monoxide ("CO"), ozone, and lead ("Pb"). 40 C.F.R. §§ 50.4-50.13, and 50.15-50.17. All areas of the State of Iowa are currently designated as being in attainment or unclassifiable for each primary and secondary NAAQS for PM_{10}, $PM_{2.5}$, NO_x, and CO. 40 C.F.R. § 81.316.

34. For areas which are designated in attainment with NAAQS or unclassifiable, the federal Clean Air Act includes a program to prevent significant deterioration ("PSD") of air quality. 42 U.S.C. §§ 7470-7479. Preconstruction requirements are imposed on any major emitting facility to prevent significant deterioration of the air quality. 42 U.S.C. § 7475.

35. EPA rules implementing the PSD program are contained, in part, in 40 C.F.R. section 52.21. The EPA has approved the State of Iowa's program to implement PSD permit requirements. 52 Fed.Reg. 23981 (1987).

36. For major stationary sources located in areas designated attainment or unclassified, as applicable, the owner or operator of a stationary source shall comply with the rules for PSD as set forth in 567 Iowa Admin. Code 33. 567 Iowa Admin. Code 22.4.

37. The requirements of 567 Iowa Admin. Code 33.3(10) through 33.3(18) apply to the construction of any new major stationary source or the major modification of any existing major stationary source, except as the PSD rules otherwise provide. 567 Iowa Admin. Code 33.3(2)“a”.

38. No new major stationary source or major modification shall begin construction without a permit that states that the major stationary source or major modification will meet the requirements of 567 Iowa Admin. Code 33.3(10) through 33.3(18)“e”. 567 Iowa Admin. Code 33.3(2)“b”.

39. A new major stationary source shall apply best available control technology (“BACT”) for each regulated new source review (“NSR”) pollutant that it would have the potential to emit in significant amounts. 40 C.F.R. § 52.21(j)(2), as incorporated by 567 Iowa Admin. Code 33.3(10).

40. A major modification shall apply “Best available control technology” (“BACT”) for each regulated NSR pollutant for which it would result in a significant net emissions increase at the source, as a result of a physical change or change in the method of operation of the emissions unit. 40 C.F.R. § 52.21(j)(3), as incorporated by 567 Iowa Admin. Code 33.3(10).

41. BACT means “an emissions limitation, including a visible emissions standard, based on the maximum degree of reduction for each regulated NSR pollutant which would be emitted from any proposed major stationary source or major modification which the reviewing authority, on a case-by-case basis, taking into account energy, environmental, and economic

impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combination techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 567—subrules 23.1(2) through 23.1(5) (standards for new stationary sources, federal standards for hazardous air pollutants, and federal emissions guidelines), or federal regulations as set forth in 40 CFR Parts 60, 61 and 63 but not yet adopted by the state. If the department determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment, work practice, operational standard or combination thereof may be prescribed instead to satisfy the requirement for the application of best available control technology. Such standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of such design, equipment, work practice or operation and shall provide for compliance by means which achieve equivalent results." 567 Iowa Admin. Code 33.3(1).

42. The owner or operator of a proposed source or modification shall demonstrate that allowable emission increases from the proposed source or modification, in conjunction with all other applicable emissions increases or reductions, would not cause or contribute to air pollution in violation of any NAAQS or any maximum allowable increase over the baseline concentration in any area. 40 C.F.R. §§ 52.21(k)(1)(i) and (ii), as incorporated by 567 Iowa Admin. Code 33.3(11).

43. Any PSD application shall contain an analysis of ambient air quality in the area that the major stationary source or major modification would affect for each pollutant as follows:

for the source, each pollutant that it would have the potential to omit in a significant amount, and for the modification, each pollutant for which it would result in a significant net emissions increase. 40 C.F.R. § 52.21(m)(1)(i)(a) and (b), as incorporated by 567 Iowa Admin. Code 33.3(13).

44. The owner or operator of a proposed source or modification shall submit a detailed description of what system of continuous emission reduction is planned for the modification, emission estimates, and any other information necessary to determine that BACT would be applied. 40 C.F.R. § 52.21(n)(1)(iii), as incorporated by 567 Iowa Admin. Code 33.3(14).

45. Any owner or operator who constructs or operates a source or modification not in accordance with the application pursuant to the provisions in rule 567 Iowa Admin. Code 33.3 or with the terms or any approval to construct, or any owner or operator of a source or modification subject to the provisions in rule 567 Iowa Admin. Code 33.3 who commences construction after April 15, 1987 (the effective date of Iowa's PSD program), without applying for and receiving department approval, shall be subject to appropriate enforcement action. 567 Iowa Admin. Code 33.3(18)(c).

PAST ENFORCEMENT ACTIONS

46. On February 8, 2001, the DNR issued a Notice of Violation ("NOV") to Deere for the construction of forty (40) test cells at the Product Engineering Center ("PEC") prior to obtaining construction permits, and avoiding PSD review of the test cells' potential emissions.

47. On October 14, 2009, the DNR issued a NOV to Deere for modifying certain equipment at the PEC prior to receiving a modified PSD construction permit.

48. In 2011, Deere obtained permits that allowed it to avoid PSD review for the construction of the John Deere Foundry in Waterloo. After the permits were issued, an error was discovered showing that the facility should have undergone PSD review. The DNR and Deere entered into Consent Order 2012-AQ-23, which assessed a $10,000.00 administrative penalty.

FACTS

Deere & Company's Product Engineering Center

49. Deere's PEC is a large engineering center located in Cedar Falls, Iowa, dedicated to the testing and evaluation of engines and equipment. The facility utilizes numerous test bays to conduct a wide variety of diesel engine tests for compliance with federal and state regulatory requirements, including emissions limits, and for determining and evaluating both performance and endurance characteristics of the engines.

50. The PEC is located within the city limits of Cedar Falls, Iowa, and adjacent to the City of Waterloo, cities with a total combined population of nearly 170,000 citizens.

51. The PEC is located within an area currently designated as either in attainment with primary or secondary NAAQS or unclassified. 40 C.F.R. § 81.316.

52. The PEC is considered one source for purposes of PSD and Title V with John Deere Engine Works, a nearby Deere facility where unfinished engine blocks, heads and crankshafts are precision-machined and assembled into John Deere diesel engines.

53. The PEC is a "major stationary source" as defined in Iowa Code section 455B.131(8) and 567 Iowa Admin. Code 33.3(1).

54. The facility includes over one hundred (100) known emission points, which vent pieces of equipment which emit or have the potential to emit various air pollutants.

55. Emissions are regulated by Air Quality Construction Permits, authorizing the installation and construction of the equipment, and establishing emission limits, operating conditions, compliance testing and monitoring, and other requirements; and by PEC's Title V Operating Permit which incorporates many construction permit requirements and includes additional plant-wide and emission point ("EP") specific requirements.

PEC's Construction Permits 1999-2005

56. In 1999 and 2000, PEC initiated air quality construction permitting processes to address past non-compliance—identified in Paragraph 46 of this Petition—and obtain new permits for the adding of additional engine test cells to PEC's operations. PEC retained a consulting firm to assist in the development and preparation of the permits.

57. In completing the permit applications in 2000, PEC requested a NO_x emission limit of 3.73 lb/hr and a fuel use restriction to protect the NAAQS and to ensure PEC would not exceed the allowable PSD increment. The NO_x rate was based upon PEC's use of Tier II engines. PEC requested a fuel use restriction of 2,500,000 gallons for the facility and 1,450,000 gallons for forty-six (46) test cells subject to PSD. The NO_x and fuel use limits were used in modeling to demonstrate compliance with the NAAQS, for assessing PSD applicability, and any corresponding controls (BACT).

58. From 2000 through 2004, there was considerable "back and forth" between PEC, PEC's consulting firm, and the DNR concerning potential PSD applicability, BACT, and modeling.

59. In May 2004, the DNR provided a draft air quality construction permit for the engine test cells to PEC for review, which included the requested 3.73 lb/hr NO_x emission limit and fuel usage restrictions of 2,500,000 and 1,450,000, respectively. After PEC reviewed the

permit internally, PEC became concerned that the facility could not perform the required stack testing and demonstrate compliance with the proposed 3.73 lb/hr NO_x emission limit because the stack testing required PEC to operate the test engines at the maximum rated capacity for three (3) consecutive one (1) hour periods—including larger horsepower engines operating at maximum load--and would result in NO_x emissions in excess of 3.73 lb/hr.

60. During the remainder of 2004, PEC staff proposed a stack testing protocol to DNR to demonstrate compliance with the 3.73 lb/hr NO_x emission limit, wherein PEC would utilize the Environmental Protection Agency's ("EPA") "8-mode certification test" to test the engines. The 8-mode certification test is a collection of test cycles used for defining emission standards, where engines are operated at different speeds and loads during the test. Unbeknownst to the DNR, the EPA's 8-mode certification test was not representative of the full range of PEC's operations, which included testing larger engines, resulting in higher NO_x emissions.

61. In March 2005, the DNR issued air quality construction permits based upon the information that had been submitted by PEC in the permit applications, imposing a 3.73 lb/hr NO_x emission limit and a stack test requirement that allowed for use of the 8-mode certification test to demonstrate compliance with the limit. The permits also included a fuel usage limit of 2,500,000 gallons for the entire facility and 1,450,000 gallons for 46 test cells.

62. In May 2005, PEC determined that, based on expected fuel usage, it would exceed the fuel limits in the permits by the end of the year.

63. In August 2005, PEC conducted stack testing required by the March 2005 construction permits to demonstrate compliance with the 3.73 lb/hr NO_x emission limit, applying EPA's 8-mode certification test. Unbeknownst to the DNR, PEC's stack testing utilized lower

NO_x-emitting Tier III engines, rather than the higher NO_x-emitting Tier II engines permitted to be used in the test cells, to demonstrate compliance, which was not representative of the full range of PEC's operation. Consequently, the stack tests showed an (unrepresentative) average NO_x emission rate of 0.86 lb/hr.

64. In late 2005, based upon the August 2005 stack test results and modeling of the 0.86 lb/hr NO_x emission rate, PEC sought—and DNR granted—permit modifications reducing the NO_x emission limit to 0.86 lb/hr and increasing the annual fuel usage limit to 5,000,000 gallons for the entire facility and 3,000,000 gallons for the 46 PSD test cells, allowing PEC to conduct more engine testing in the test cells than they would have previously been allowed. The permit amendments did not undergo PSD review or a BACT analysis because—based upon PEC's unrepresentative stack testing protocol that did not reflect "worst-case" operations and use of lower NO_x-emitting Tier III engines—the modeling established the increased fuel usage would not result in an increase in annual NO_x emissions.

65. The modified permits, and their corresponding emission limits, are detailed in the three (3) tables below:

Table 1. List of Sources and Current Emission Limits

Permit #	Emission Point (EP)	Emission Unit (EU)	PM	PM-10	NOx	CO
See Table 2 PSD Sources			0.082 lb/hr	0.082 lb/hr	0.86 lb/hr	0.23 lb/hr
See Table 3 Non-PSD Sources			0.082 lb/hr	0.082 lb/hr	0.86 lb/hr	0.23 lb/hr
04-A-720-P3	1AX	1AX02	0.164 lb/hr	0.164 lb/hr	1.72 lb/hr	0.46 lb/hr
		1AX02 (N)				
04-A-748-P1	2EW03	2EW03	0.082 lb/hr	0.082 lb/hr	0.23 lb/hr	0.89 lb/hr
04-A-761-P3	2NX-01	2NX-01	0.164 lb/hr	0.164 lb/hr	1.72 lb/hr	0.46 lb/hr
04-A-785-S1	2BX04	2BX04	0.16 lb/hr	0.16 lb/hr	3.73 lb/hr	0.89 lb/hr
07-A-485	2EW17	2EW17	0.11 lb/hr	0.11 lb/hr	1.2 lb/hr	0.28 lb/hr
07A-486	2EW18	2EW18				

08-A-522	2EW19	2EW19				
07-A-487-S1	2N05	2N05				
11-A-403	2N6	2N6		0.082 lb/hr	0.86 lb/hr	
10-A-358	1AD-20	1AD-20	0.082 lb/hr	0.082 lb/hr	0.86 lb/hr	
10-A-359	5X6	5X6	0.082 lb/hr	0.082 lb/hr	0.86 lb/hr	
12-A-521	5NB1	5NB1		0.082 lb/hr	0.86 lb/hr	
16-A-057	1A06	1A06	0.082 lb/hr	0.082 lb/hr	0.86 lb/hr	
06-A-179	2W4C	2W4C	0.19 lb/hr	0.19 lb/hr	6.5 lb/hr	

Table 2. PSD Engine Test Cells and Current Emission Limits
(PM/PM-10 = 0.082 lb/hr, NOx = 0.86 lb/hr, CO = 0.23 lb/hr)

Permit #	EP	EU
05-A-806-P1[(1)]	1AX01	1AX01
04-A-721-P1	2A01	2A01
04-A-722-P1	2A02	2A02
04-A-725-P2	2AN-01	2AN-01
04-A-728-P2	2AN-03	2AN-03
04-A-729-P1	2AN-08	2AN-08
04-A-731-P2	2AN-10a	2AN-10
04-A-732-P1	2AN-10b	
04-A-733-P2	2AN-10c	
04-A-734-P1	2AN-11	2AN-11
04-A-735-P2	2AN-13a	2AN-13
04-A-736-P1	2AN-13b	
04-A-738-P1	2B-01	2B-01
04-A-742-P2	2CX-01	2CX-01
04-A-739-P2	2CX-02	2CX-02
04-A-744-P2	2CX-03	2CX-03
04-A-740-P2	2CX-04	2CX-04
04-A-741-P3	2CX-05	2CX-05
04-A-746-P1	2EW01	2EW01
04-A-747-P1	2EW02	2EW02
04-A-749-P1	2EW04	2EW04
04-A-750-P1	2EW05	2EW05
04-A-751-P1	2EW06	2EW06
04-A-752-P1	2EW07	2EW07
04-A-753-P1	2EW08	2EW08
04-A-754-P1	2EW10	2EW10

04-A-755-P1	2EW11	2EW11
04-A-756-P1	2EW12	2EW12
04-A-757-P1	2EW13	2EW13
04-A-758-P1	2EW14	2EW14
04-A-759-P1	2EW15	2EW15
04-A-760-P1	2EW16	2EW16
04-A-764-P3	2NX10a	2NX10
04-A-765-P2	2NX10b	
04-A-766-P1	2NX13	2NX13
04-A-767-P1	2NX15	2NX15
04-A-768-P2	5NB3	5NB3
04-A-769-P1	5NB4	5NB4
04-A-770-P1	5NB6	5NB6
04-A-771-P1	5W1	5W1
04-A-793-P2	5XC	5XC
04-A-773-P2	5XN	5XN
04-A-772-P2	5XS	5XS

Table 3. Non-PSD Test Cells and Current Emission Limits
PM/PM-10 = 0.082 lb/hr, Nox = 0.86 lb/hr, CO = 0.23 lb/hr

Permit #	EP	EU
06-A-712	2A-03a	2A-03
05-A-595-S1	2A-03b	
06-A-713	2A-04a	2A-04
05-A-596-S1	2A-04b	
06-A-714	2A-08a	2A-08
06-A-715	2A-08b	
04-A-775-S1	2AX01	2AX01
04-A-776-S1	2AX02	2AX02
04-A-777-S1	2AX03	2AX03
04-A-778-S1	2AX04	2AX04
04-A-779-S1	2AX05	2AX05
04-A-780-S1	2AX06	2AX06
04-A-781-S1	2AX07	2AX07
04-A-782-S1	2AX08	2AX08
04-A-783-S1	2BX	2BX

04-A-784-S1	2BX02	2BX02
04-A-786-S1	2BX06	2BX06
04-A-787-S1	2BX08	2BX08
04-A-788-S1	2Ea	2Ea
04-A-789-S1	2Eb	2Eb
04-A-790-S1	2Ec	2Ec
04-A-791-S1	2Ed	2Ed
04-A-795-S1	2EW09	2EW09

PEC's Construction Permits 2005-Present

66. The engine test cell emission limits in the air quality construction permits identified in Paragraph 65, Tables 1-3, are included in PEC's Title V Operating Permits issued since 2004, including: Permit No. 05-TV-004, issued May 17, 2005; Permit No. 05-TV-004M1, issued April 16, 2009; Permit No. 05-TV-004R1, issued March 8, 2011; and Permit No. 05-TV-004R2, issued March 11, 2016.

67. Deere has asserted that from 2005-2016, PEC's Title V Annual Compliance Certifications ("Certification") with the 0.86 lb/hr NO_x emission limit were based solely on the 2005 stack test and a review of the facility's fuel records for the prior year for each Certification. The DNR is unaware of any additional monitoring or data demonstrating PEC's compliance with the NO_x emission limit during that time period.

68. In approximately September 2016, PEC and DNR staff met to discuss the development of new air quality construction permit applications that would allow PEC to use several of test cells identified in Paragraph 65, Tables 1-3, to test much larger engines. During this discussion, it became apparent to the DNR that PEC was not in compliance with the current NO_x emission limits for the test cells.

69. On January 27, 2017, PEC provided an oral summary of its internal investigation into the NO_x emission limit permitting issues to the DNR. On February 24, 2017, Deere

submitted a Summary of Internal Investigation ("Summary") to the DNR, wherein Deere notified the DNR that PEC had submitted inaccurate information to the DNR in 2005 to establish the NO_x emission limit of 0.86 lb/hr for the test cells. PEC's summary stated, in part, the following: 1) PEC used Tier III, rather than Tier II, engines in performing the 2005 stack tests, which artificially lowered PEC's actual NO_x emissions to establish the 0.86 lb/hr NO_x limit, and allowed PEC to obtain increased fuel usage limits; 2) not all engine tests at PEC are performed using EPA's 8-mode certification test; and 3) the test protocol used by PEC in the August 2005 stack test did not reflect PEC's normal operations or "worst-case" operations.

70. On March 30, 2017, PEC submitted its 2016 Title V Annual Compliance Certification Report ("2016 Report"), which stated that engine evaluations and performance tests occurred in tests cells that did not conform to the assumptions used in 2005 to develop the NO_x emission limits for the cells, and the deviations from those assumptions had likely been reoccurring since issuance of the permits. The 2016 Report also indicated that the test cells were in violation of the NO_x emission limit but did not indicate the frequency of exceedance or actual emission levels.

71. On April 13, 2017, the DNR issued a Letter of Inquiry to PEC notifying the company that the 2016 Report was incomplete because it did not clearly reflect the deviations that had taken place during the reporting period and contained a number of discrepancies, which the DNR specifically identified, that needed to be clarified.

72. On April 25, 2017, Deere provided a supplement to its February 24, 2017 Summary to DNR, again acknowledging that the 2005 NO_x and fuel limits imposed by the 2005 permits were based upon the erroneous assumption that a majority of the engines evaluated in PEC's test cells would Tier III, lower-NOx-emitting engines. The supplement further stated that,

given the complex and varying testing scenarios employed by PEC when testing engines from 2005 to the present, it would be difficult to reconstruct the actual NO_x emissions that occurred during that time period.

73. On May 8, 2017, PEC responded to DNR's April 13, 2017 Letter of Inquiry, submitting an updated 2016 Title V Report. In the updated 2016 Report, PEC notified the DNR that, in addition to the previously disclosed violation of the NOx emission limits, PEC's engine test cells were also in violation of the air quality construction permit emission limits for PM, PM_{10}, and CO. The updated Report further provided that, although the frequency of exceedance or actual emission levels of the NO_x, PM, PM_{10}, and CO were unknown, the deviations from the permit requirements for each limit were likely recurring since permit issuance in 2005.

74. On May 26, 2017, PEC submitted applications to the DNR seeking permit amendments to DNR that requested higher NO_x, CO, and PM_{10} emission limits for the permits identified in Paragraph 65, Tables 1-3, and a lower fuel usage limit for the facility.

75. On July 6, 2017, the DNR issued a NOV to PEC for a number of violations occurring over the prior twelve (12) years, including: 1) exceeding the permitted emission limits for NOx, PM, PM_{10}, and CO for the permits identified in Paragraph 65, Tables 1-3; 2) failing to report those excess emissions as required by 567 Iowa Admin. 24.1; 3) failing to take steps to remedy the excess emissions in a timely manner as required by 567 Iowa Admin. Code 24.2(1)"b"; and 4) failing to disclose in its Title V Annual Compliance Certification Forms the exceedance of emission limits as a deviation as required by 567 Iowa Admin. 22.108(15)"e." The NOV required PEC to, among other things, submit a compliance plan within 30 days that would set forth a schedule that would resolve the ongoing emission violations.

76. On August 3, 2017, PEC responded to DNR's July 6, 2017 NOV, providing a compliance plan to address the violations identified in DNR's NOV, including the ongoing emission violations. The compliance plan indicated that the issuance of new permits for PEC would address the compliance issues listed in the NOV, and PEC proposed the installation of additional NO_x and flow measuring devices to further enhance the ability to evaluate emissions from engine test cells.

77. On August 11, 2017, PEC submitted revised applications seeking permit amendments to DNR to address the compliance issues listed in the July 6, 2017 NOV, and, similar to the May 26, 2017 amendment requests, continued to request higher NO_x, CO, and PM_{10} emission limits and a lower fuel usage limit.

78. On or about January 9, 2018, PEC informed DNR that PEC had a large number of unpermitted, secondary exhaust stacks that vented the emissions from the crankcases associated with each engine that is tested in the engine test cells.

79. On January 17, 2018, PEC submitted the following list to the DNR, identifying approximately 46 unpermitted crankcase ventilation stacks, some of which should have been evaluated and had BACT limits since they existed in 2005 and were associated with test cells covered by PSD permits identified in Paragraph 65, Table 1 (Permit Nos. 04-A-720-P3, 04-A-748-P1, and 04-A-761-P3) and Table 2:

EP ID Crankcase Ventilation Stacks	
1A06-BB	2AX07-BB
2A01-BB	2AX08-BB
2A02-BB	2B01-BB
2A03-BB	2B03-BB
2A04-BB	2B04-BB
2A05-BB	2BX02-BB
2A06-BB	2BX04-BB
2A07-BB	2BX06-BB
2A08-BB	2BX08-BB

2A09-BB	2EW17-BB
2A10-BB	2EW18-BB
2AN01-BB	2EW19-BB
2AN03-BB	2N02-BB
2AN10 (2AX11)-BB	2N03-BB
2AN08 (2AX12)-BB	2N04-BB
2AN11 (2AX10)-BB	2N05-BB
2AN13B (2AX09)-BB	2N06-BB
2AX01-BB	2N07-BB
2AX02-BB	2NX15-BB
2AX03-BB	5NB1-BB
2AX04-BB	5NB3-BB
2AX05-BB	5NB4-BB
2AX06-BB	5NB6-BB

80. Between February and March 2018, the DNR and PEC engaged in a back-and-forth analysis of PEC's compliance with the existing BACT limit of 1.52 lb NO_x/MMBtu, imposed in the 2005 construction permits identified in Paragraph 65, Table 1 (Permit Nos. 04-A-720-P3, 04-A-748-P1, and 04-A-761-P3) and Table 2. Based upon the NO_x emission data for consecutive three-hour segments PEC submitted for four (4) test cells over a one-month period, DNR concluded that all four (4) test cells had three-hour segments where the BACT limit was exceeded, including one segment where the emission rate was four (4) times the limit and stayed that high for eight (8) consecutive three-hour periods.

81. On March 28, 2018, PEC submitted its 2017 Title V Annual Compliance Certification Report ("2017 Report"), which, similar to the 2016 Report, stated that engine evaluations and performance tests occurred in tests cells that did not conform to the assumptions used in 2005 to develop the NO_x, PM, PM_{10}, and CO emission limits for the cells, and, although the frequency of exceedance or actual emission levels of the NO_x, PM, PM_{10}, and CO were unknown, the deviations from the permit requirements for each limit were likely recurring since permit issuance in 2005. The 2017 Report stated that although emissions from the unpermitted

crankcase ventilation stacks were not evaluated as part of the 2005 permit applications, those emissions were already incorporated in PEC's August 2017 applications for permit amendments.

82. The 2017 Report further stated that PEC had historically interpreted the 2005 BACT emission limits for NO_x imposed by the permits (identified in Paragraph 65, Table 1 (Permit Nos. 04-A-720-P3, 04-A-748-P1, and 04-A-761-P3) and Table 2) to be an annual average of all PSD test cells, and that the "BACT limit and its applicability to emission units and averaging period is currently under evaluation by IDNR and Deere."

83. On April 3, 2018, DNR issued a NOV to PEC for the ongoing BACT emission limit violations in the engine test cells (identified in Paragraph 65, Table 1 (Permit Nos. 04-A-720-P3, 04-A-748-P1, and 04-A-761-P3) and Table 2) and the potential BACT emission limit violations in the drivetrain test cells. The NOV further stated that PEC's statement that the BACT limit—and its applicability to emissions units and averaging period—is "under evaluation by IDNR" was erroneous, and notified PEC that the applicability of the BACT limits and averaging period were established when the permits were originally issued (in 2005).

84. On December 13, 2018, the DNR and Deere entered into Administrative Consent Order 2018-AQ-26, wherein the DNR identified similar facts and violations as set forth in this Petition, and Deere agreed to undertake several measures to promote compliance with Iowa's air quality requirements at PEC. Specifically, PEC agreed to, among other things, implement a new Environmental Management System (EMS) to improve environmental compliance and conduct annual environmental compliance training for all PEC personnel.

85. Since PEC submitted its applications for permit amendments in August 2017, there has been considerable "back and forth" between PEC and the DNR concerning proposed emission limits, PSD applicability, BACT, and dispersion modeling. The DNR issued revised

construction permits to PEC on April 10, 2019, to address the compliance issues listed in the July 6, 2017 NOV.

VIOLATIONS

86. From December 2005 to the present, Deere's PEC has exceeded emission limitations for NO_x, PM, PM_{10}, and CO for eighty (80) engine test cells in violation of air quality construction permits listed in Paragraph 65, Tables 1-3, Title V Operating Permit Nos. 05-TV-004, 05-TV-004M1, 05-TV-004R1, and 05-TV-004R2, and 567 Iowa Admin. Code 22.108(9)(a) and 24.1(4).

87. From December 2005 to the present, Deere's PEC has failed to take steps to remedy the excess emissions for NO_x, PM, PM_{10}, and CO in a timely manner as required by 567 Iowa Admin. Code 24.2(1)"b."

88. From December 2005 to March 30, 2017, Deere's PEC failed to make reasonable inquiry into the accuracy of the statements and information contained in both its Title V Operating Permit applications and Title V Annual Compliance Certifications concerning its ability to meet the emission limits for eighty (80) engine test cells in violation of Title V Operating Permit Nos. 05-TV-004, 05-TV-004M1, 05-TV-004R1, and 05-TV-004R2, and 567 Iowa Admin. Code 22.107(4).

89. From December 2005 to March 30, 2017, Deere's PEC submitted Title V Annual Compliance Certifications without disclosing its non-compliant status with its emission limits, deviations from the emission limits, and the frequency of such deviations, in violation of Title V Operating Permit Nos. 05-TV-004, 05-TV-004M1, and 05-TV-004R1, and 567 Iowa Admin. 22.108(15)"e."

90. From December 2005 to the present—based upon the information presented by PEC—Deere's PEC has exceeded the BACT emission limits for NO_x on the 46 engine test cells subject to PSD and covered by the construction permits identified in Paragraph 65, Tables 1-2, in violation of those permits and 567 Iowa Admin. Code 33.3(18)(c).

91. Deere's PEC failed to notify the DNR and obtain the proper air quality construction permits prior to the initiation of construction of forty-six (46) crankcase ventilation stacks in violation of 567 Iowa Admin. Code 22.1(1).

PRAYER FOR RELIEF

WHEREFORE, Plaintiff State of Iowa ex rel. Iowa Department of Natural Resources requests that the Court:

a. assess a civil penalty against Defendant Deere & Company pursuant to Iowa Code section 455B.146 for each day of violation of the air quality construction permits listed in Paragraphs 65, Tables 1-3, and 79, Title V Operating Permit Nos. 05-TV-004, 05-TV-004M1, 05-TV-004R1, and 05-TV-004R2, 567 Iowa Admin. Code 22.1(1), 22.107(4), 22.108(9)(a), 22.108(15)"e", 24.1(4) and 33.3(18)(c), not to exceed Ten Thousand Dollars ($10,000.00) for each day of each such violation; and

b. permanently enjoin Defendant Deere & Company from further violations of the air quality construction permits listed in Paragraphs 65, Tables 1-3, and 79, Title V Operating Permit Nos. 05-TV-004, 05-TV-004M1, 05-TV-004R1, and 05-TV-004R2, 567 Iowa Admin. Code 22.1(1), 22.107(4), 22.108(9)(a), 22.108(15)"e", 24.1(4) and 33.3(18)(c), and Administrative Consent Order No. 2018-AQ-26.

Plaintiff further requests that the Court tax the costs of this action to the Defendant and provide such other relief as the Court may deem just and proper.

Respectfully submitted,

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