IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF WEST VIRGINIA

UNITED STATES OF AMERICA
and
WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION,

Plaintiffs,

v.

Civil No.

ANTERO RESOURCES CORPORATION,

Defendant.

CONSENT DECREE

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WHEREAS, the United States of America, on behalf of the United States Environmental Protection Agency ("EPA"), and the West Virginia Department of Environmental Protection ("WVDEP"), have filed a Complaint concurrently with the lodging of this Consent Decree, pursuant to Section 113(b) of the Clean Air Act ("Act"), 42 U.S.C. § 7413(b). The Complaint alleges that Defendant, Antero Resources Corporation ("Antero"), violated the Act, its implementing regulations, and the West Virginia and Ohio State Implementation Plans ("SIPs"). As to Antero's West Virginia facilities, the Complaint alleges that Antero violated federally-enforceable provisions of the West Virginia SIP governing the control of air pollution from the construction, modification, relocation, and operation of stationary sources, 45 W. Va. C.S.R. § 13, including permitting requirements in Class II General Permits G70-D, G70-B, and G70-A (hereinafter referred to collectively as the "West Virginia G70 General Permit") issued by WVDEP. As to Antero's Ohio facilities, the Complaint alleges that Antero violated the New Source Performance Standards ("NSPS") for Crude Oil and Natural Gas Production, Transmission, and Distribution ("NSPS OOOO"), the NSPS for Crude Oil and Natural Gas Production ("NSPS OOOOa"), and the terms of its Ohio Permits to Install And Operate ("PTIOs") issued under the Ohio SIP. The Complaint alleges that these violations occurred at numerous Storage Vessels that are part of Antero's oil and natural gas production system located in Doddridge, Tyler, and Ritchie Counties in West Virginia and Belmont, Guernsey, Monroe, and Noble Counties in Ohio.

WHEREAS, Antero's oil and natural gas production system separates Produced Oil and Produced Water from natural gas at well pads. After separation, the Produced Oil and Produced Water, also known as "pressurized liquids," are emptied into Storage Vessels prior to being transported by pipelines or tanker trucks for sale, reuse, or disposal. As pressurized liquids are

transferred into Storage Vessels, the pressure on the fluids decreases, and vapors, which include volatile organic compounds ("VOC"), are released in a gaseous state within the Storage Vessel.

WHEREAS, VOC is a precursor to ground-level ozone, commonly known as smog. Ground-level ozone is one of six criteria pollutants for which EPA has promulgated a National Ambient Air Quality Standards ("NAAQS") due to its adverse effects on human health and the environment.

WHEREAS, ground-level ozone is formed by chemical reactions between VOCs and oxides of nitrogen in the presence of heat and sunlight.

WHEREAS, Antero has equipped certain Storage Vessels that are part of its oil and natural gas production system with Vapor Control Systems that include covers and closed vent systems to route vapors from the Storage Vessels to a control device or through a Vapor Recovery Unit to a process.

WHEREAS, to the extent applicable, NSPS OOOO, NSPS OOOOa, and WVDEP's G70 General Permit require owners and operators of certain oil and natural gas production systems to comply with design and operating requirements associated with the Vapor Control System so that it captures and routes all emissions from Storage Vessels back to the process stream or to a control device.

WHEREAS, the Complaint alleges that on September 18-21, 2017, EPA inspected 16 of Antero's oil and natural gas production well pads in West Virginia. The Complaint alleges that, at 12 of these well pads where production was occurring, EPA inspectors observed enclosed combustors emitting VOC emissions to the atmosphere. The Complaint further describes that, during inspection, none of the enclosed combustors emitting VOC emissions were operating within the manufacturer-specified temperature range nor was Antero able to ensure that the

enclosed combustors were operating within the manufacturer-specified inlet vapor flow and pressure ranges.

WHEREAS, the Complaint alleges that, on July 9 and August 14, 2019, WVDEP conducted inspections at six Antero well pads and observed venting emissions of uncontrolled VOC emissions from certain Storage Vessel covers and closed vent systems and unlit combustors during those inspections. During follow-up record reviews and correspondence with Antero regarding the company's operations at all its well pads in West Virginia between the period of September 24, 2018 and September 24, 2019, it was determined that certain combustor pilot lights were unlit and certain combustors were not operating on several occasions, without notification to Antero personnel.

WHEREAS, the Complaint alleges that, from February 25, 2020 through September 10, 2020, WVDEP conducted multiple inspections of 13 Antero's well pads and observed emissions from Storage Vessel covers and closed vent systems occurring at all 13 well pads.

WHEREAS, the Complaint alleges that at certain West Virginia facilities, Antero failed to operate and maintain the facilities in accordance with the information filed in the respective West Virginia G70 General Permit applications.

WHEREAS, the Complaint alleges that at certain West Virginia facilities, Antero failed to operate and maintain the enclosed combustion devices in accordance with the manufacturer's pressure specifications to achieve the expected destruction and removal efficiency.

WHEREAS, the Complaint alleges that at certain West Virginia facilities, Antero failed to operate and maintain the enclosed combustion devices in a manner consistent with good air pollution control practices for minimizing emissions.

WHEREAS, the Complaint alleges that at certain West Virginia facilities, Antero failed to maintain records of the occurrence and duration of certain malfunctions or operational shutdowns of air pollution control equipment and emission reduction devices during which excess emissions above the applicable permit limit occurred.

WHEREAS, the Complaint alleges that at certain West Virginia facilities, Antero failed to equip the combustor pilot such that it sounds an alarm, or initiates notification via remote alarm to the nearest field office, when the pilot light is out.

WHEREAS, the Complaint alleges that at certain West Virginia facilities, Antero failed to route controlled vapors to the enclosed combustion device at all times.

WHEREAS, the Complaint alleges that at certain West Virginia facilities, Antero failed to comply with the G70 General Permit requirements applicable to covers and all openings on the covers.

WHEREAS, the Complaint alleges that at certain West Virginia facilities, Antero failed to properly design its closed vent system to route all gases, vapors, and fumes emitted from the material in the storage vessel to a control device that meets certain G70 General Permit requirements or to a process.

WHEREAS, the Complaint alleges that on August 29, 2019 EPA inspected 6 of Antero's oil and natural gas production well pads in Ohio, that on March 14-16, 2017, EPA inspected 20 of Antero's oil and natural gas production well pads in Ohio, and that on August 29, 2019, EPA inspected 6 of Antero's oil and natural gas production well pads in Ohio (including one well pad that had also been inspected on March 14-16, 2017).

WHEREAS, the Complaint alleges that at 5 of the well pads inspected in August 2019, the inspectors observed VOC emissions from covers and closed vent systems on Antero's

Storage Vessels, and that at 4 of the well pads inspected in August 2019, the inspectors observed enclosed combustors improperly emitting VOC emissions to the atmosphere. The Complaint further alleges that, at the March 2017 and August 2019 inspections, the EPA inspectors were informed by Antero personnel that Antero did not inspect the ancillary equipment on the top of each Storage Vessel located at its well pads as part of its leak detection and repair monitoring program rather inspections were conducted from the ground.

WHEREAS, the Complaint alleges that at certain Ohio facilities, Antero failed to ensure that the covers on the storage vessels meet certain requirements, including that the covers and all openings shall form a continuous impermeable barrier over the entire surface area of the liquid in the vessel, and that each cover opening shall be secured in a closed, sealed position except when certain activities are ongoing.

WHEREAS, the Complaint alleges that at certain Ohio facilities, Antero failed to design the closed vent systems at the numerous well pads to route all gases, vapors and fumes emitted from the material in the storage vessels to a control device, and to design and operate closed vent systems with no detectable emissions, as determined using olfactory, visual, and auditory inspections.

WHEREAS, the Complaint alleges that at certain Ohio facilities, Antero failed to operate its facilities in a manner consistent with good air pollution control practice for minimizing emissions.

WHEREAS, the Complaint alleges that at certain Ohio facilities, based on Antero's failure to inspect the ancillary equipment on the top of each storage vessel located at each of its well pads, Antero failed to conduct leak detection and repair monitoring of each piece of ancillary equipment as required.

WHEREAS, the Complaint further alleges that many of the Storage Vessels at Antero's well pads were equipped with Vapor Control Systems that failed to route all vapors from the Storage Vessel to control devices or to a process, resulting in vapors being emitted directly to the atmosphere.

WHEREAS, during the course of negotiations to resolve this matter, Antero requested that, rather than mandating comprehensive engineering design analyses and modifications to Storage Vessel Vapor Control Systems, the Consent Decree would instead provide for Antero to avoid emissions releases under the normal range of operating scenarios by implementing design and operations specifications that allow it to automatically and temporarily cease (or "shut-in") certain production operations in response to deviations indicated by tank pressure and combustion control device monitoring because implementing these design and operation specifications were feasible for the specific assets subject to this Consent Decree.

WHEREAS, Antero does not admit any liability to the United States or WVDEP arising out of the occurrences alleged in the Complaint and Notices and Findings of Violation.

WHEREAS, the United States, WVDEP, and Antero (the "Parties") recognize, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith and will avoid litigation among the Parties and that this Consent Decree is fair, reasonable, and in the public interest;

NOW, THEREFORE, before the taking of any testimony, without the adjudication or admission of any issue of fact or law except as provided in Section I (Jurisdiction and Venue), and with the consent of the Parties, IT IS HEREBY ADJUDGED, ORDERED, AND DECREED as follows:

I. JURISDICTION AND VENUE

1. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331, 1345, and 1355, 1367; and CAA Section 113(b), 42 U.S.C. § 7413(b), and over the Parties. Venue lies in this District pursuant to Section 113(b) of the Act, 42 U.S.C. § 7413(b), and 28 U.S.C §§ 1391(b) and 1395(a), because Antero conducts business in this judicial district. For purposes of this Consent Decree, or any action to enforce this Consent Decree, Antero consents to: the Court's jurisdiction over this Consent Decree and any such action; the Court's jurisdiction over Antero; and venue in this judicial district.

2. For purposes of this Consent Decree, Antero agrees that the Complaint states claims upon which relief may be granted pursuant to Section 113(b) of the Act, 42 U.S.C. § 7413(b).

II. APPLICABILITY

3. The obligations of this Consent Decree apply to and are binding upon the United States, WVDEP, and upon Antero and any successors, assigns, or other entities or persons otherwise bound by law. Unless otherwise noted, the obligations of this Consent Decree shall become enforceable on the Effective Date as provided in Section XV (Effective Date).

4. No transfer of ownership or operation of any Facility or Facilities, whether in compliance with the procedures of this Paragraph or otherwise, shall relieve Antero of its obligation to ensure that the terms of the Consent Decree are implemented, unless (1) the transferee agrees to be substituted for Antero as a Party under the Decree with respect to the Facility or Facilities that are the subject of the transfer and thus be bound by the terms

thereof and to undertake the obligations required by Section V (Compliance Requirements) of this Consent Decree as to the transferred Facility or Facilities (for the avoidance of doubt, these obligations do not include Subsection V.K (Environmental Mitigation Projects) which shall remain Antero's sole responsibility until termination of the Consent Decree), (2) the United States consents to relieve Antero of its obligations; and (3) the Court approves a modification of the Consent Decree substituting the transferee for Antero as to the transferred Facility or Facilities and providing that the transferee will implement the terms of the Consent Decree with respect to the transferred Facility or Facilities. The United States may refuse to approve such a modification to the Consent Decree if it determines that the proposed transferee does not possess the requisite technical abilities or financial means to implement the Consent Decree. If the United States opposes the substitution, the issue shall first be subject to dispute resolution pursuant to Section X (Dispute Resolution). If the United States agrees to the substitution, or upon approval of the substitution following dispute resolution, the Parties will file a joint motion with the Court seeking such substitution making the transferee the "Substitution Party."

5. Antero may transfer its interest in any Facility without relieving Antero of its Consent Decree obligations, without consent of other Parties, and without modification of the Consent Decree, provided that, at least 30 Days prior to such transfer, Antero shall provide a copy of this Consent Decree to the proposed transferee and shall simultaneously provide written notice of the prospective transfer, together with a copy of the proposed or final written agreement, to EPA, DOJ, and WVDEP (as to the West Virginia Facilities) in accordance with Section XIV (Notices).

6. Antero shall provide a copy of this Consent Decree to all officers, employees, and agents whose duties might reasonably include compliance with any provision of this Consent Decree, as well as to any contractor retained to perform work required under this Consent Decree. Antero shall condition any such contract upon performance of the work in conformity with the terms of this Consent Decree.

7. In any action to enforce this Consent Decree, Antero shall not raise as a defense the failure by any of its officers, directors, employees, agents, or contractors to take any actions necessary to comply with the provisions of this Consent Decree. This Paragraph does not preclude Antero from holding liable any employee, agent, or contractor of any tier who is alleged to have not complied with this Consent Decree.

III. DEFINITIONS

8. Terms used in this Consent Decree that are defined in the Act, 42 U.S.C. § 7401 *et seq*., 45 W. Va. C.S.R. § 13, or in the regulations promulgated pursuant to the Act, shall have the meanings assigned to them in the Act, 45 W. Va. C.S.R. § 13, or such regulations, unless otherwise provided in this Consent Decree. Whenever the terms set forth below are used in this Consent Decree, the following definitions shall apply.

a. "Abnormal Low Point" shall mean one ounce per square inch gauge as measured at the Storage Vessel System.

b. "Affected Facility" shall mean the definition of "affected facility" as set forth in 40 C.F.R. § 60.2.

c. "Antero Control Room" shall mean the central monitoring location at 635 White Oaks Blvd, Bridgeport, WV 26330.

d. "Appendix A" shall mean the combined lists of Well Pads on Appendix A-1 and A-2.

e. "AVO" shall mean audio, visual, and olfactory.

f. "Business Day" shall mean Monday through Friday, with the exception of federal holidays.

g. "Bypass Device" shall mean any device on the Vapor Control System, such as a blowdown valve, that could divert all or a portion of gases, vapors, or fumes from entering the control device or VRU to the atmosphere. A PRD is not a Bypass Device.

h. "Calendar Day" shall mean any of the seven days of the week. In computing any period of time under this Consent Decree expressed in Calendar Days, where the last Calendar Day would fall on a Saturday, Sunday, or federal holiday, the period shall not be extended to the next Business Day.

i. "Complaint" shall mean the Complaint filed by the United States and WVDEP in this action.

j. "Compromised Equipment" shall mean equipment associated with a Vapor Control System that shows signs of wear beyond normal wear and tear (*i.e.*, that cannot be addressed by routine maintenance such as tightening, cleaning, or lubricating the equipment). Examples include, but are not limited to, indications of inefficient connection of the thief hatch to the Storage Vessel such as cracks or grooves in gaskets, abnormally or heavily corroded equipment, and beveling of sealing surfaces.

k. "Consent Decree" or "Decree" shall mean this Consent Decree and all appendices attached hereto.

l. "Control Point" shall mean 12 ounces per square inch gauge as measured at the Subject Vapor Control System.

m. "Control Valve" shall mean a valve, which communicates with either the PLC or the local equipment controller, that automatically controls the flow of fluid based on one or more monitored parameters, such as pressure, or presence of a pilot flame.

n. "Date of Lodging" shall mean the date this Consent Decree is filed for lodging with the Clerk of the Court for the United States District Court for the Northern District of West Virginia.

o. "Day" or "day" shall mean a Calendar Day unless expressly stated to be a Business Day.

p. "Defendant" or "Antero" shall mean Antero Resources Corporation.

q. "Design Analysis Methodology" shall mean the methodology or methodologies, prepared pursuant to Paragraph 54 of this Consent Decree and Appendix D that Antero shall use in developing the Engineering Evaluations.

r. "DOJ" means the United States Department of Justice and any of its successor departments or agencies.

s. "Effective Date" shall have the definition provided in Section XV (Effective Date).

t. "Engineering Evaluation" shall mean the evaluations performed by Antero in accordance with Paragraph 55 of this Consent Decree to determine whether the Subject Vapor Control System is adequately designed and sized for Potential Minimum Instantaneous Vapor Flow Rate ("PMIVFR"), Potential Peak Instantaneous Vapor Flow Rate ("PPIVFR"), and Peak Modeled Pressure.

u. "Environmental Mitigation Project" shall mean the requirements specified in Section V, Subsection K and Appendix F of this Consent Decree to remedy, reduce, or offset past excess ozone precursor emissions resulting from Antero's alleged violations of the Act in this matter.

v. "EPA" shall mean the United States Environmental Protection Agency and any of its successor departments or agencies.

w. "Facility" shall mean each Well Pad identified in Appendix A and any Well Pad that has a Newly Identified Subject Vapor Control System pursuant to Paragraph 64.

x. "Flame Arrestor" shall mean a device in a Subject Vapor Control System which allows gas to pass through it but stops a flame from returning to an ignition source in order to prevent a larger, uncontrolled fire or explosion.

y. "IR Camera Inspection" shall mean an inspection of a Subject Vapor Control System using an optical gas imaging infrared camera designed for and capable of detecting hydrocarbon and VOC emissions, conducted by trained personnel who maintain proficiency through regular use of the optical gas imaging infrared camera, or an inspection of each emissions

component at a Subject Vapor Control System via aerial, fixed monitor or drone technology.

z. "Leak Point" shall mean the pressure at which a pressure relief device first opens to release detectable vapors.

aa. "Malfunction" shall mean any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, instrumentation, monitoring system, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not Malfunctions.

bb. "Maximum Design Pressure" shall mean the highest pressure that the Subject Vapor Control System is designed to accommodate without uncontrolled emissions to the atmosphere due to over-pressurization.

cc. "Normal Operations" shall mean all periods of Production Operations, excluding Malfunctions, periods of well maintenance (*e.g.*, swabbing, liquids unloading), or periods of Shut-In. For Storage Vessel Systems, Normal Operations include, but are not limited to, receipt or transfer of liquids from a Separator.

dd. "Normal Operation Pressures" shall mean Storage Vessel System pressures greater than the Abnormal Low Point and less than the Control Point.

ee. "Notices and Findings of Violation" shall mean the notice of violation issued by EPA Region 3 on June 12, 2018; the notices of violation issued by WVDEP on September 24, 2019 and September 29, 2020; and the

notice and finding of violation issued by EPA Region 5 on November 4, 2020.

ff. "NSPS OOOO" shall mean the Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution for which Construction, Modification or Reconstruction Commenced after August 23, 2011 and on or before September 15, 2015, set forth at 40 C.F.R. Part 60, Subpart OOOO.

gg. "NSPS OOOOa" shall mean the Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015, set forth at 40 C.F.R. Part 60, Subpart OOOOa.

hh. "Ohio Facilities" shall mean the Well Pads located in Ohio and listed in Appendix A-2 and those Well Pads in Ohio that have Newly Identified Subject Vapor Control Systems pursuant to Paragraph 64.

ii. "Paragraph" shall mean a portion of this Consent Decree identified by an Arabic numeral.

jj. "Parties" shall mean the United States, WVDEP, and Antero.

kk. "Peak Modeled Pressure" shall mean the highest pressure predicted to occur in the Subject Vapor Control System during Normal Operations, as determined according to an Engineering Evaluation.

ll. "Pilot Monitor" shall mean a thermocouple or equivalent device as specified in Paragraph 33.

mm. "Plaintiffs" shall mean the United States and WVDEP.

nn. "Potential Minimum Instantaneous Vapor Flow Rate" or "PMIVFR" shall mean the minimum instantaneous rate of vapors predicted to be routed to a control device or Routed to Process during Normal Operations, including flashing, working, breathing, and standing losses, as determined according to an Engineering Evaluation.

oo. "Pressure Relief Device" or "PRD" shall mean a thief hatch, pressure relief valve ("PRV") or a pressure vacuum relief valve ("PVRV") attached to a Storage Vessel System or a Vapor Control System.

pp. "Potential Peak Instantaneous Vapor Flow Rate" or "PPIVFR" shall mean the maximum instantaneous rate of vapors predicted to be routed to a Subject Vapor Control System during Normal Operations, including flashing, working, breathing, and standing losses, as determined according to an Engineering Evaluation.

qq. "Pressurized Liquid(s)" shall mean pressurized Produced Oil upstream of the Storage Vessel(s) that has not been exposed to the atmosphere or pressurized Produced Water upstream of the Storage Vessel(s) that has not been exposed to the atmosphere.

rr. "Process Flow Model" shall mean the model prepared pursuant to Paragraph 22 of this Consent Decree to determine whether a Subject Vapor Control System is adequately designed and sized for Normal Operation Pressures.

ss. "Process Flow Modeling Methodology" shall mean the methodology prepared pursuant to Paragraph 21 of this Consent Decree that Antero shall use in developing the Process Flow Model.

tt. "Produced Oil" shall mean oil or condensate that is separated from extracted reservoir fluids during Production Operations.

uu. "Produced Water" shall mean water that is separated from extracted reservoir fluids during Production Operations.

vv. "Production Operations" shall mean the extraction, separation using Separators, and temporary storage of reservoir fluids from an oil or natural gas well at a Well Pad.

ww. "Programable Logic Controller or "PLC" shall mean a computer programmed to automate processes and systems associated with Production Operations as required by this Consent Decree.

xx. "PSI" or "psi" shall mean pounds per square inch.

yy. "QA/QC" shall mean quality assurance and quality control.

zz. "Reliable Information" shall mean any observance or detection of VOC emissions from a Subject Vapor Control System (including but not limited to any observance or detection of VOC emissions from a Bypass Device, PRD, open-ended line, or Visible Smoke Emissions from a combustion control device) by EPA inspectors, state agency inspectors, local government inspectors acting as duly designated representatives of the relevant state agencies, government contractors, Antero employees, or Antero contractors' personnel. Reliable Information shall also include any

deviations indicated by a Storage Vessel Pressure Monitor, Pilot Monitor, or Valve Position Monitor under the circumstances described in Paragraph 40.a(ii), 40.b(ii) (if the control valve to the combustor is also open), 40.c(ii), 40.c(iii), and 40.d(ii), or by Bypass Device Monitoring required by Paragraph 43, or by VRU Capture Monitoring required by Paragraph 44, associated with a Subject Vapor Control System. The following shall not be considered Reliable Information:

(1) For purposes of this Consent Decree only, evidence of surface staining alone that has been identified during the Field Survey or previously identified as Reliable Information;

(2) Emissions observations while pressure relief devices (*e.g.*, thief hatches) and open-ended lines (*e.g.*, blowdown valves) are open for active maintenance during well unloading, during Storage Vessel truck loadout conducted without a requirement to control emissions, or during gauging activities;

(3) Emissions observations while an Antero representative or contractor is onsite performing active well maintenance (*e.g.*, swabbing, liquids unloading) at any well associated with the Storage Vessel System; or

(4) Observations or detections made from satellites, or a continuous methane or VOC emissions monitoring system, so long as an on-the-ground inspection pursuant to Appendix E is performed within 5 days of notice of the observation (or—if the observation is made

by EPA inspectors, state agency inspectors, or local government inspectors acting as duly designated representatives of the relevant state agencies—within 5 days of notification to Antero), and any observation of Reliable Information during the on-the-ground inspection is addressed pursuant to Paragraphs 48 through 52.

aaa. "Root Cause Analysis" shall mean an assessment conducted through a process of investigation to determine the primary cause and contributing cause(s), if any, of Reliable Information, including but not limited to an analysis of relevant historical trends.

bbb. "Routed to Process" or "Route to Process" shall have the meaning set forth in 40 C.F.R. § 60.5430 or § 60.5430a (as applicable).

ccc. "Section" shall mean a portion of this Consent Decree identified by a Roman numeral.

ddd. "Separator" shall mean a pressurized vessel designed to separate reservoir fluids into their constituent components of oil, natural gas, and water.

eee. "Set Point" shall mean the rated pressure at which the Storage Vessel pressure relief device (*e.g.*, pressure relief valve or thief hatch) is designed to be fully lifted. The Set Point shall be not greater than the manufacturer's rated pressure of the associated Storage Vessel(s).

fff. "Shut-In" shall mean the flow of all liquids and vapor into the Storage Vessel System, Storage Vessel, or piece of equipment has ceased and cannot be resumed without Antero representatives or contractors opening valves, activating equipment, or supplying a power source.

ggg. "Storage Vessel" shall mean the definition of "storage vessel" as set forth in 40 C.F.R. § 60.5430a.

hhh. "Storage Vessel Pressure Monitor" shall mean an electronic pressure monitor as specified in Paragraph 26.

iii. "Storage Vessel System" shall mean one or more Storage Vessels that share a common Vapor Control System.

jjj. "Subject Vapor Control Systems" shall mean the Vapor Control Systems at the Facilities listed in Appendices C-1 and C-2 and those Newly Identified Subject Vapor Control Systems pursuant to Paragraph 64;

kkk. "Subsection" shall mean a portion of this Consent Decree within a Section that is identified with a capitalized alphabetical letter.

lll. "TPY" or "tpy" shall mean tons per year.

mmm. "Trigger Point" shall mean the pressure measurement, as identified in accordance with Paragraph 38, that is less than the lowest Leak Point of any of the Subject Vapor Control System's PRDs and at least ten percent below the lowest Set Point of any of the Subject Vapor Control System's PRDs.

nnn. "United States" shall mean the United States of America, acting on behalf of EPA.

ooo. "Vapor Inlet Monitor" shall mean an electronic pressure monitor as specified in Paragraph 34.

ppp. "Valve Position Monitor" shall mean a recorded PLC signal demonstrating that an associated Control Valve is closed based on a

monitored parameter, such as pressure or presence of a pilot flame, as required by the Consent Decree.

qqq. "Vapor Control System" or "VCS" shall mean the system used to contain, convey, or control vapors from one or more Storage Vessel(s) (including flashing, working, breathing, and standing losses as well as any emissions routed to the Storage Vessel(s) or the Vapor Control System(s)). The Vapor Control System includes the Storage Vessel System, piping to convey vapors from a Storage Vessel System to a combustion device and/or Vapor Recovery Unit (if any), fittings, connectors, liquid knockout vessels, openings on Storage Vessels (such as PRDs), the Vapor Recovery Unit (if any), and emission control devices. The VCS does not include any equipment upstream of the Storage Vessels.

rrr. "Vapor Recovery Unit" or "VRU" shall mean a device that captures and compresses all vapors from a Storage Vessel System and Routes to Process such vapors (*e.g.*, for recovery to a sales line). For purposes of this Consent Decree, VRU does not include a device that captures and compresses all vapors from a source located upstream of a Storage Vessel (*e.g.*, a low pressure tower or stabilization equipment).

sss. "Verifier" shall mean the independent third party verifier designated pursuant to Paragraph 77.

ttt. "Visible Smoke Emissions" shall mean observations of smoke from a Subject Vapor Control System for any period or periods of duration

greater than or equal to one minute in any fifteen-minute period, pursuant to EPA Method 22 of 40 C.F.R. Part 60, Appendix A.

uuu. "VOC" shall mean volatile organic compounds as defined in 40 C.F.R. § 60.2.

vvv. "Well Pad" shall mean a property with one or more Storage Vessel(s) capable of receiving Produced Oil from Production Operations and is located upstream of a natural gas compressor station or natural gas processing plant. The Wells Pads subject to this Consent Decree are listed in Appendix A or are those Well Pads that have Newly Identified Subject Vapor Control Systems pursuant to Paragraph 64.

www. "West Virginia G70 General Permit" shall mean the permits issued by WVDEP in accordance with the West Virginia Air Pollution Control Act (W. Va. Code §§ 22-5-1 et seq.) and 45 W. Va. C.S.R. § 13 "Permits for Construction, Modification, Relocation, and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation." "West Virginia G70 General Permit" refers to General Permit G70-A (issued on October 18, 2013), General Permit G70-B (issued on November 2, 2015), General Permit G70-D (issued on September 30, 2016), and General Permit G70-E (issued on September 6, 2024) collectively.

xxx. "West Virginia Facilities" shall mean the Well Pads located in West Virginia and listed in Appendix A-1 and those Well Pads in West Virginia

that have Newly Identified Subject Vapor Control Systems pursuant to Paragraph 64.

yyy. "WVDEP" shall mean West Virginia Department of Environmental Protection.

IV. CIVIL PENALTY

9. Within 30 Days after the Effective Date, Antero shall pay the sum of $3,800,000 as a civil penalty, together with interest accruing from the date on which the Consent Decree is lodged with the Court, at the rate specified in 28 U.S.C. § 1961 as of the Date of Lodging. The civil penalty payment shall be paid in two payments, one payment each to the United States and the State of West Virginia as specified below.

10. Antero shall pay a civil penalty of $1,900,000, together with interest, to the United States by FedWire Electronic Funds Transfer ("EFT") to the DOJ account, in accordance with instructions provided to Antero by the Financial Litigation Unit ("FLU") of the United States Attorney's Office for the Northern District of West Virginia after the Effective Date. The payment instructions provided by the FLU will include a Consolidated Debt Collection System ("CDCS") number, which Antero shall use to identify all payments required to be made in accordance with this Consent Decree. The FLU will provide the payment instructions to Antero via:

Sheri Pearce
Chief Accounting Officer
1615 Wynkoop Street
Denver, Colorado 80202
303-357-6795
spearce@anteroresources.com

Antero may change the individual to receive payment instructions on its behalf by providing written notice of such change to DOJ and EPA in accordance with Section XIV (Notices).

11. Antero shall pay a civil penalty of $1,900,000, together with interest, to the State of West Virginia by certified or corporate check made out as follows:

Air Pollution Education and Environment Fund

The check should be sent to the following address:

Division of Air Quality
Attention: Laura M. Crowder, Director
601 57th Street, SE
Charleston, West Virginia 25304

12. At the time of payment, Antero shall send notice that payment has been made: (i) to EPA via email at cinwd_acctsreceivable@epa.gov or via regular mail at EPA Cincinnati Finance Office, 26 W. Martin Luther King Drive, Cincinnati, Ohio 45268; (ii) to the U.S. EPA Regional Hearing Clerk at R3_Hearing_Clerk@epa.gov; (iii) to DOJ via email or regular mail in accordance with Section XIV; (iv) to EPA in accordance with Section XIV; and (v) to WVDEP via email or regular mail in accordance with Section XIV. Such notice shall state that the payment is for the civil penalty owed pursuant to the Consent Decree in *United States and WVDEP v. Antero Resources Corporation* and shall reference the civil action number, CDCS Number and DOJ case number 90-5-2-1-12292.

13. Antero shall not deduct any penalties paid under this Consent Decree pursuant to this Section or Section VIII (Stipulated Penalties) in calculating its federal, state or local income tax.

V. COMPLIANCE REQUIREMENTS

A. FIELD SURVEYS

14. Field Survey. By no later than 45 Days after the Effective Date, Antero shall conduct a field survey for all Well Pads listed in Appendix A ("Field Survey").

15. During the Field Survey, Antero shall, with respect to on-site equipment:

a. inventory all Storage Vessels, the Vapor Control System (including piping configuration and low spots where liquids can accumulate), PRDs, thief hatches, thief hatch mountings, thief hatch gaskets, VRUs, combustion control devices, flow-regulating valves associated with a VRU or control device, and Bypass Device(s);

b. record whether all components surveyed in Paragraph 15.a are operating;

c. record the manufacturer designed minimum inlet pressure and temperature range for each control device and manufacturer designed minimum inlet pressure for each VRU, or, if such information is not available for a control device, provide the results of an engineering assessment that determines the minimum and maximum flow rates or pressures necessary to achieve the expected destruction efficiency;

d. evaluate and record the physical condition of all PRDs, thief hatches, thief hatch mountings, gaskets, flow regulating valves associated with a control device, and Bypass Device;

e. confirm that every thief hatch is either welded to or mounted on the Storage Vessel with a suitable gasket, in accordance with good installation practices and manufacturer specifications.

f. confirm that every Bypass Device (including open ended lines) in the Vapor Control System complies with the requirements of Paragraph 43;

g. evaluate and record the physical condition of all VRUs and control devices, associated VRU components, associated control device components, and associated monitoring systems;

h. record, using field testing, the PLC readings, or other parametric data, the set point pressure(s) of any backpressure regulating devices, e.g., Control Valve on a Vapor Control System for the inlet of any control device or VRU recycle system; and

i. identify Compromised Equipment, evidence of significant staining emanating from PRDs associated with a Vapor Control System, or any equipment in need of repair or replacement, to reduce the likelihood of excess VOC emissions.

16. If, during the Field Survey, Antero observes Compromised Equipment, evidence of significant staining emanating from PRDs associated with a Vapor Control System, or any equipment in need of repair or replacement to reduce the likelihood of excess VOC emissions, Antero shall take appropriate corrective action, including the repair, replacement, or upgrade of such equipment, as soon as practicable and, if required by Paragraph 17, within five Days.

17. Where Compromised Equipment or any equipment in need of repair or replacement is the cause of emissions in excess of the quantity, rate, opacity, or concentration specified by an applicable air quality regulation, permit condition, or permit application representation ("excess emissions"), Antero shall take appropriate

corrective action within five Days of each such observation. If Antero fails to complete appropriate corrective action to address any such observations within five Days of each such observation, Antero shall until such time that appropriate corrective action can be completed either (a) temporarily remove from service as much equipment as is necessary to address any such observation, or (b) Shut-In all Production Operations at the Facility.

18. Nothing herein shall require Antero to repair, replace, or upgrade such equipment on Shut-In Storage Vessel System(s) and their associated Vapor Control System (if any) except that Antero must take appropriate corrective action to address any such observation identified in Paragraph 16, prior to resuming Normal Operations at the Facility.

19. Antero shall maintain records of the following information collected during the Field Survey:

a. the date each Vapor Control System underwent the Field Survey;

b. the full name of the person who performed the Field Survey;

c. all information required to be recorded pursuant to Paragraph 15;

d. any Reliable Information identified during the Field Survey; and

e. any equipment repaired, replaced, or upgraded under Paragraph 16, or other corrective action performed, including the date of the corrective action and a description of how that equipment was repaired or with what it was replaced or upgraded.

B. SAMPLING

20. Pressurized Liquid Sampling. By no later than 45 Days after the Effective Date, Antero shall collect and analyze Pressurized Liquids samples from separation equipment

upstream of Storage Vessel Systems at Well Pads listed in Appendix C, in accordance with the Sampling and Analysis Plan ("SAP") under Appendix B. Antero shall provide at least 15 Business Days' written Notice (pursuant to Section XIV) to EPA and WVDEP (as to the West Virginia Facilities) of the date when field sampling events are scheduled to occur. For purposes of this Paragraph, Antero may utilize any Pressurized Liquids analysis previously provided to EPA or WVDEP during EPA's or WVDEP's investigation of Antero's facilities and operations or from a sampling event completed within two years prior to the Effective Date, provided the samples meet the criteria of the SAP, including the bubble-point pressure.

C. PROCESS FLOW MODELING AT SUBJECT VAPOR CONTROL SYSTEMS

21. Process Flow Modeling Methodology. Antero developed for review and approval by EPA in consultation with WVDEP, a written Process Flow Modeling Methodology, which uses industry-standard process simulators to evaluate a Subject Vapor Control System to determine whether the flow rates associated with Normal Operations result in Storage Vessel System pressures greater than the Abnormal Low Point and less than the Control Point ("Normal Operation Pressures"). Prior to the Effective Date, EPA reviewed and approved, after consultation with WVDEP, the Vapor Emission Control Technology and Operational Response ("VECTOR") Design Program and Implementation Specifications, including the written Process Flow Modeling Methodology.

22. Process Flow Model. Antero shall prepare a Process Flow Model for each Subject Vapor Control System in accordance with the Process Flow Modeling Methodology. Each Process Flow Model shall incorporate the results of the Field Survey pursuant to Paragraphs 14 through 19 (Field Surveys) and the results of the pressurized liquid

sampling performed pursuant to Paragraph 20 (Pressurized Liquid Sampling). Each Process Flow Model shall include a determination as to whether the Subject Vapor Control System achieves the following objective: the Subject Vapor Control System is adequately designed and sized for Normal Operation Pressures consistent with the Process Flow Modeling Methodology. For each Subject Vapor Control System that is not adequately designed and sized for Normal Operation Pressures, Antero shall determine what design, equipment, operational, or other modifications are necessary to achieve this objective and revise the Process Flow Model accordingly. Antero shall complete all of the requirements of this Paragraph no later than 60 Days after the Effective Date.

23. Modifications. With respect to each Subject Vapor Control System for which Antero has determined, pursuant to Paragraph 22, that modifications are necessary to ensure that the Subject Vapor Control System is adequately designed and sized for Normal Operation Pressures consistent with the Process Flow Modeling Methodology, Antero shall implement the modifications referenced in the revised Process Flow Model no later than 60 Days after the deadline specified in Paragraph 22.

D. EQUIPMENT INSTALLATION AND CALIBRATION AT WELL PADS WITH SUBJECT VAPOR CONTROL SYSTEMS

24. No later than 120 Days after the Effective Date, Antero shall, in accordance with manufacturer's recommendations, install, calibrate, maintain and operate the equipment identified in the VECTOR Design Program and Implementation Specifications at each Well Pad with a Subject Vapor Control System, including the equipment required by Paragraphs 25 through 36. All equipment installed pursuant to Paragraphs 24 through 36

shall have backup power to prevent loss of equipment power or communication in the event of a power outage at the Well Pad. Such backup power may include: (i) solar power, (ii) backup battery power, or (iii) backup pneumatic power. Antero may request a modification of the Consent Decree pursuant to Section XVII after the Effective Date, if it wishes to pursue an alternative to the VECTOR Design Program and Implementation Specifications, including ESD Control Valves requirements.

25. Programmable Logic Controllers. Antero shall, in accordance with manufacturer's recommendations, install, calibrate, maintain, and operate a Programmable Logic Controller ("PLC") at each Well Pad with a Subject Vapor Control System that automates processes and systems associated with the Well Pad operation. Each such PLC must be accessible via a human machine interface (e.g., a screen and input device) at the Well Pad. Antero shall ensure that the PLC is electronically connected to the equipment required by Paragraphs 26 through 37 and automatically operates each Control Valve in accordance with those requirements.

26. Storage Vessel Pressure Monitors. Antero shall, in accordance with manufacturer's recommendations, install, calibrate, maintain and operate one or more electronic pressure monitors that measures the pressure of the Storage Vessel System at each Subject Vapor Control System (collectively, "Storage Vessel Pressure Monitor").

27. Well Pad Emergency Shut Down ("ESD") Control Valves. Antero shall at each Well Pad, in accordance with manufacturer's recommendations, install, calibrate, maintain, and operate a Control Valve that prevents the production of fluids from each well to a Subject Vapor Control System ("ESD Control Valve"). Each ESD Control Valve shall be equipped with a Valve Position Monitor.

28. Whenever the Storage Vessel Pressure Monitor indicates the pressure of the Storage Vessel System is equal to or greater than the Trigger Point, Antero shall ensure the PLC required by Paragraph 25:

a. initiates actuation of the ESD Control Valves and Shuts-In all Production Operations associated with the Subject Vapor Control System; and

b. records Valve Position Monitor data indicating the ESD Control Valve is closed.

29. Antero shall use fuel gas from the natural gas sales pipeline to ensure continual supply to each control device pilot and VRU compressor during Shut-In of all Production Operations. Antero shall report any disruption in the fuel gas supply during Shut-In of all Production Operations, including all disruptions caused by Force Majeure, in the next Semi-Annual Report.

30. Whenever pneumatic pressure is lost, power to Production Operations is lost, or the PLC is inoperable, Antero shall ensure each ESD Control Valve automatically closes and Shuts-In all Production Operations associated with the Subject Vapor Control System.

31. Pipeline Knock-Out Liquid Control Valves. Antero shall, in accordance with manufacturer's recommendations, install, calibrate, maintain, and operate a Control Valve equipped with a Valve Position Monitor for each pipeline knock-out at a Well Pad with a Subject Vapor Control System that routes pipeline knock-out liquids to a Storage Vessel System ("Pipeline Knock-Out Liquid Control Valve").

32. Whenever the Storage Vessel Pressure Monitor indicates the pressure of the Storage Vessel System is equal to or above the Control Point, Antero shall, using the PLC required by Paragraph 25, ensure each Pipeline Knock-Out Liquid Control Valve:

a. automatically closes and prevents the flow of liquids from the pipeline knock-out to the Storage Vessel System; and

b. records data indicating that the Pipeline Knock-Out Liquid Control Valve is closed.

33. Pilot Monitoring and Auto Pilot Re-Lighter for Combustion Control Devices at Subject Vapor Control Systems. Antero shall, in accordance with manufacturer's recommendations, install, calibrate, maintain, and operate for each combustion control device at a Subject Vapor Control System, an automatic ignition system ("Auto Pilot Re-lighter") and one or more thermocouples or equivalent devices that detects the presence of a pilot flame at the combustion control device ("Pilot Monitors"). Antero shall ensure that, in accordance with Paragraph 36, the Auto Pilot Re-lighters attempt to re-light the pilot whenever the Pilot Monitor indicates that the pilot is unlit.

34. VRU and Control Device Vapor Inlet Monitors. Antero shall, in accordance with manufacturer's recommendations, install, calibrate, maintain, and operate an electronic pressure monitor for each vapor inlet to the VRU, to the control device, or to the bank of control devices ("Vapor Inlet Monitor") at each Subject Vapor Control System. Each Vapor Inlet Monitor shall be located and designed to demonstrate that the vapor pressures at the inlet to the VRU, to the control device, or to the bank of control devices (such as a combustor or combustors) are consistent with the VRU and control device manufacturer specifications.

35. Vapor Inlet Control Valves for Control Devices and VRUs. For each VRU, control device, or bank of control devices, Antero shall, in accordance with manufacturer's recommendations, install, calibrate, maintain, and operate one or more: (i) Control Valves equipped with a Valve Position Monitor that prevent the flow of vapor to the control device, or to the bank of control devices, and (ii) Control Valves equipped with a Valve Position Monitor that recycle the vapor from the VRU outlet to the Storage Vessel System or a device that automatically shuts down the VRU.

36. Whenever the Vapor Inlet Monitor for a control device or bank of control devices indicates the pressure to the control device, or to the bank of control devices, is inconsistent with manufacturer specifications; or whenever the Pilot Monitors fail to detect the presence of a flame after three consecutive attempts to automatically re-light the pilot, Antero shall, using the PLC required by Paragraph 25, ensure each such Control Valve for the control device, or the bank of control devices:

a. automatically closes and prevents the flow of vapor to the control device, or to the bank of control devices; and

b. records data indicating that the Vapor Inlet Control Valve is closed

37. Whenever a Vapor Inlet Monitor indicates the pressure to the VRU is below the manufacturer specifications for pressure, Antero shall ensure:

a. each Control Valve automatically opens, recycles vapor from the outlet of the VRU to the inlet of the VRU, and the PLC records data sufficient to demonstrate the Control Valve is open, or

b. the VRU automatically shuts down.

38. Trigger Point Demonstration. Prior to the Effective Date, EPA approved, in consultation with West Virginia, a PRD Trigger Point Demonstration Test Procedure to demonstrate that the Trigger Point is below the Leak Point. By no later than the Effective Date, Antero shall, at Subject Vapor Control Systems, only use PRDs that are the same make, model, and Set Point as those represented by a Trigger Point demonstration test. The Trigger Point of any Subject Vapor Control System shall be no greater than the lowest validated zero-flow pressure for any set and type of PRDs used on the Vapor Control System.

E. MONITORING, RECORDING AND DATA TRANSMISSION AT SUBJECT VAPOR CONTROL SYSTEMS

39. No later than 150 Days after the Effective Date, as to each monitor required by Paragraphs 26 through 37, including Storage Vessel Pressure Monitors, Pilot Monitors, Vapor Inlet Monitors and Valve Position Monitors, Antero shall:

a. ensure each such monitor measures data at least once every one minute and, every 15 minutes, transmits records to the Well Pad's PLC. Antero shall ensure that the Well Pad's PLC records the transmitted data. In the case of a telecommunications failure due to a Malfunction or Force Majeure event, it shall not be a violation of the data transmission requirement in this Paragraph if the data recorded during such failure is transmitted to a central monitoring station within a reasonable time after the recommencement of telecommunication services.

b. ensure each such monitor operates and functions continuously except during instances of Malfunction, maintenance, calibration, or repair of the monitors.

c. if at any time any such monitor is identified as Malfunctioning, complete the repair within five Days of discovering the Malfunction.

d. record all dates, durations of Malfunctions and other failures, maintenance, calibration, and repair, and report this information as required by Section VI (Periodic Reporting).

40. Notification Requirements for Deviations of the Storage Vessel Pressure Monitors, Pilot Monitors, and Valve Position Monitors. No later than the deadline in Paragraph 39, Antero shall, using the PLC required by Paragraph 25, ensure that representatives at the Antero Control Room receive automatic notifications of alarms within fifteen minutes, so that Antero can take appropriate corrective action, whenever any of the following deviations occur at a Subject Vapor Control System:

a. the Storage Vessel Pressure Monitor (i) fails to transmit data, (ii) measures data equal to or above the Trigger Point, (iii) measures data equal to or above the Control Point, or (iv) measures data equal to or less than the Abnormal Low Point;

b. the Pilot Monitor (i) fails to transmit data, or (ii) fails to detect the presence of a flame after three consecutive attempts to automatically re-light the pilot;

c. the Vapor Inlet Monitor (i) fails to transmit data, (ii) measures pressure at the inlet to the control device, or to the bank of control devices that is

inconsistent with manufacturer specifications while the Control Valve is open, or (iii) measures pressure to the VRU that is inconsistent with manufacturers specifications while the VRU continues to operate;

d. the Valve Position Monitor (i) fails to transmit data required by Paragraphs 26 through 37, or (ii) transmits data indicating the associated Control Valve operation is inconsistent with those requirements;

e. the Well Pad PLC fails to record data from the Storage Vessel Pressure Monitors, Pilot Monitors, Vapor Inlet Monitors or Valve Position Monitors in accordance with Paragraph 39.

41. After the 60 Day deadline in Paragraph 42 for the verification and optimization period, each record of notification required by Paragraph 40 shall constitute Reliable Information and Antero shall comply with the requirements set forth in Paragraphs 48 through 52 (as applicable), except the following notifications listed in Paragraph 40 do not constitute, on their own, Reliable Information: Paragraphs 40.a(1), 40.a(iii), 40.a(iv), 40.b(i),(ii)(if the combustor valve is also closed)), 40.c(i), 40.d(i), and 40(e).

42. Verification Activities and Optimization Period. For the first 60 Days after the deadline for installation of equipment pursuant to Paragraph 24 at each Well Pad with a Subject Vapor Control System, or 60 Days after the deadline for installation of equipment for a Newly Identified Subject Vapor Control System, Antero shall:

a. verify the equipment required by Paragraph 24 has been installed;

b. verify each Control Valve is operating consistent with the requirements of Paragraphs 26 through 37;

c. verify the calibration and optimization of equipment at the Well Pad to ensure that the data produced by each Storage Vessel Pressure Monitor, Pilot Monitor, Vapor Inlet Monitor, and Valve Position Monitor are accurate and reliable;

d. verify automatic and immediate notifications are provided to the Antero Control Room as required by Paragraph 40.

43. Bypass Monitoring for Subject Vapor Control Systems. Antero shall comply with the bypass monitoring requirements of 40 C.F.R. §§ 60.5411a(c)(3), 60.5416a(c)(3), and 60.5420a(c)(8) where Antero utilizes such Bypass Devices. Whenever bypass monitoring indicates a bypass has occurred, such record shall constitute Reliable Information and Antero shall comply with the requirements set forth in Paragraphs 48 through 52 (as applicable).

44. VRU Capture Monitoring. Starting no later than the Effective Date, Antero shall review VRU capture activity for VRUs at Subject Vapor Control Systems for which written representations have been made by Antero to a state permitting authority related to VRU capture activity. During the review of capture activity, periods where the VRU is shutdown in accordance with Paragraph 37.b shall not be deemed inconsistent with written representations. Whenever VRU capture activity on a rolling 12-month basis is less than what has been represented, such information shall constitute Reliable Information and Antero shall comply with the requirements set forth in Paragraphs 48 through 52 (as applicable). Antero may remove a VRU in accordance with applicable legal requirements, as long as Antero complies with Paragraph 46 (Operational or

Equipment Changes after the Certification of Completion Report) and Paragraph 61 (Operational or Equipment Changes after the Engineering Evaluation), as applicable.

45. Certification of Completion Report. No later than 240 Days after the Effective Date, Antero shall submit to the Plaintiffs a Certification of Completion Report. The report shall contain, in spreadsheet or database format, the following for each Subject Vapor Control System:

a. the results of the Process Flow Model (including any revised Process Flow Model);

b. the range of liquid and vapor flow rates that result in Normal Operation Pressures;

c. a description of each modification required by Paragraph 23, if any, made to equipment or to operations as a result of the Process Flow Model;

d. a description of the site-specific or system-wide operational parameters or practices relied upon in the Process Flow Model (including, but not limited to, the maximum operating pressure for final stage of separation, the minimum available headspace in Storage Vessels, and whether the flow to the Storage Vessels is intermittent (i.e., transient) or steady state);

e. the Trigger Point, and each Storage Vessel System PRD make, model, and Set Point;

f. the date of installation for each piece of equipment required by Paragraph 24; and

g. the date the verification and optimization activities were completed pursuant to Paragraph 42 (Verification Activities and Optimization Period)

and the results of such verification and optimization activities, along with any corrective actions performed.

46. Operational or Equipment Changes after the Certification of Completion Report. After Antero has submitted a Certification of Completion Report for a Subject Vapor Control System in compliance with Paragraph 45, if an operational or equipment change is made such that: (i) the flow rate for the Well Pad increases beyond what was evaluated in the Process Flow Model or (ii) the Subject Vapor Control System capacity changes to the extent that Well Pad flow rates associated with Normal Operations no longer result in Normal Operation Pressures, Antero shall:

a. revise the Process Flow Model required by Paragraph 22 within 30 Days of the operational or equipment change;

b. implement all modifications necessary to ensure that liquid and vapor flow rates at the Well Pad result in Normal Operation Pressures and that the Subject Vapor Control System is adequately designed and sized for Normal Operation Pressures consistent with the Process Flow Modeling Methodology within 90 Days of the operational or equipment change;

c. immediately Shut-In and cease all Production Operations associated with that Subject Vapor Control System if Antero fails to implement the modifications required by Subparagraph 46.b. In such case, Antero may resume Normal Operation upon completion of modifications required by Paragraph 46.b; and

d. submit an updated Certification of Completion Report with the next Semi-Annual Report or the Semi-Annual Report due at least 30 Days after completion of the activities required by Subparagraphs 46.a through 46.c.

F. DIRECTED INSPECTION / PREVENTATIVE MAINTENANCE

47. Directed Inspection/Preventative Maintenance Program. Prior to the Effective Date, Antero submitted for review and approval by EPA in consultation with WVDEP a directed inspection and preventative maintenance ("DI/PM") Plan in accordance with the requirements under Appendix E (DI/PM Program). Antero shall commence implementation of the DI/PM Plan, as approved, at all Subject Vapor Control Systems no later than 30 Days after the Effective Date.

G. RELIABLE INFORMATION, ROOT CAUSE ANALYIS, AND CORRECTIVE ACTION

48. If at any time Antero observes any improperly open Bypass Device, improperly open PRD, or open-ended line, Antero shall address such observation with corrective action as soon as practicable and no later than eight hours after the observation.

49. If at any time a Storage Vessel Pressure Monitor measures a pressure equal to or below the Abnormal Low Point at a Subject Vapor Control System, Antero shall, within one Business Day: (i) perform an AVO inspection to evaluate the condition of each PRD and verify that each PRD is in a seated, closed, and sealed position. Only a single AVO inspection at a Subject Vapor Control System is required in the event that the Storage Vessel Pressure Monitor measures subsequent pressures equal to or below the Abnormal Low Point prior to completion of the AVO inspection.

50. If at any time a Storage Vessel Pressure Monitor measures pressure equal to or above the Trigger Point at a Subject Vapor Control System, Antero shall: (i) within one

Day, verify that the ESD Control Valve is closed and all Production Operations are Shut-in for such Subject Vapor Control System, in accordance with Paragraph 28; and,

(ii) within one Business Day, perform an AVO inspection to evaluate the condition of each PRD and verify that each PRD is in a closed and sealed position. Antero may only resume Normal Operations at such Subject Vapor Control Systems that are Shut-in upon verification that each PRD is in a closed and sealed position and the Storage Vessel Pressure Monitor measures pressure below the Control Point.

51. If at any time Antero obtains Reliable Information, Antero shall, within five Days of obtaining such information, either: (i) identify the suspected cause of the Reliable Information, and complete all necessary corrective actions to address the Reliable Information; or, (ii) if not already Shut-in pursuant to Paragraph 28, temporarily remove from service as much equipment at the Facility as is necessary to address any Reliable Information that has not been addressed by timely repair, up to and including Shut-in of all Production Operations at the Facility. Antero may only resume Normal Operations at such Facility, where equipment has been temporarily removed from service or Production Operations at the Facility are Shut-in, upon completion of all necessary corrective actions, including all equipment repairs that address the Reliable Information.

52. If Antero obtains three or more instances of Reliable Information related to any single Subject Vapor Control System in any rolling six-month period, Antero shall complete, within 30 Days of the third such instance, a Root Cause Analysis to identify any operation, maintenance, or design cause(s). Antero shall implement any corrective actions to address operation and maintenance causes no later than 30 Days after the completion of the Root Cause Analysis. Where a Root Cause Analysis identifies a design

cause, Antero shall comply with Paragraph 53. Where a corrective action includes a proactive solution to maintenance, Antero may submit a schedule for implementation of the proactive solution (e.g., if thief hatches with gaskets are observed to have an increased failure rate then a replacement schedule may be implemented pursuant to 47 (Directed Inspection / Preventative Maintenance Program)).

a. In the next Semi-Annual Report or the Semi-Annual Report due at least 30 Days following the completion of the Root Cause Analysis, Antero shall submit the results of the analysis, a description of the appropriate response actions implemented, the date and time the appropriate response actions were implemented, and a proposed schedule for any proactive solution to a maintenance observation.

b. Additional instances of Reliable Information at a Subject Vapor Control System at which Antero is performing a Root Cause Analysis at that time shall be added as additional information in the ongoing Root Cause Analysis and shall not trigger additional Root Cause Analyses.

53. If the Root Cause Analysis identifies a design cause or indicates that the Subject Vapor Control System is not adequately designed and sized for PMIVFR, PPIVFR, or Peak Modeled Pressure, Antero shall:

a. complete an Engineering Evaluation in accordance with Paragraph 55 and implement any necessary modifications no later than 90 Days after the completion of the Root Cause Analysis to ensure that the Subject Vapor Control System is adequately designed and sized;

b. immediately Shut-In and cease all Production Operations associated with that Subject Vapor Control System if Antero fails to implement the modifications required by Paragraph 53.a within 90 Days after the completion of the Root Cause Analysis;

c. comply with the requirements of Paragraph 57 (Verification by IR Camera Inspection) at such storage vessel system within 30 days of resuming any Production Operations associated with that Storage Vessel System; and

d. submit an updated Certification of Completion Report pursuant to Paragraph 60 together with the next Semi-Annual Report required, or with the Semi-Annual Report due at least 30 Days following completion of all requirements in this Paragraph 53.

H. ENGINEERING EVALUATION

54. Design Analysis Methodology. Prior to the Effective Date, Antero submitted a written Design Analysis Methodology in accordance with Appendix D (Design Analysis Methodology) that EPA reviewed and approved, after consultation with WVDEP. At any time, Antero may submit a revised Design Analysis Methodology for EPA review and approval, performed in consultation with WVDEP.

55. Engineering Evaluation. If required by Paragraph 53, Antero shall prepare an Engineering Evaluation for the Subject Vapor Control System. Each Engineering Evaluation shall be based on the approved Design Analysis Methodology and shall incorporate the results of the Field Survey performed pursuant to Paragraphs 14 through 19 (Field Surveys) and the results of the Pressurized Liquid sampling performed pursuant to Paragraph 20 (Pressurized Liquid Sampling) and any additional sampling required by

the Design Analysis Methodology. Each Engineering Evaluation shall include a determination as to whether the Subject Vapor Control System is adequately designed and sized for PMIVFR, PPIVFR, and Peak Modeled Pressure. For each Subject Vapor Control System that the Engineering Evaluation determines is not adequately designed and sized for the PMIVFR, PPIVFR, and the Peak Modeled Pressure, Antero shall determine what design, equipment, operational, or other modifications are necessary to achieve this objective and revise the Engineering Evaluation accordingly.

56. Modifications. With respect to each Subject Vapor Control System for which Antero has determined, pursuant to Paragraph 55, that modifications are necessary to ensure that the Subject Vapor Control System is adequately designed and sized for the PMIVFR, PPIVFR, and the Peak Modeled Pressure, Antero shall implement the modifications referenced in the Engineering Evaluation.

57. Verification by IR Camera Inspection. Antero shall, no later than 90 Days after the completion of the Engineering Evaluation pursuant to Paragraph 55, verify that each Subject Vapor Control System is adequately designed and sized by conducting an IR Camera Inspection of each Subject Vapor Control System. Inspections under this Paragraph must be conducted pursuant to the IR Camera Inspection Standard Operating Procedure ("SOP") prepared by Antero and approved by EPA pursuant to Appendix E (DI/PM Program). A video record of each IR Camera Inspection performed pursuant to this Paragraph shall be maintained and available to EPA and WVDEP (as to the West Virginia Subject Facilities) upon request.

58. Such IR Camera Inspection shall be conducted during Normal Operations while, and immediately after, Produced Oil is sent to the Storage Vessel System. If multiple

separators are capable of sending Produced Oil simultaneously to the Storage Vessel System, such inspections shall be conducted when all separators are sending Produced Oil either simultaneously or by manually triggering each separator in succession.

59. If Antero observes Reliable Information during such IR Camera Inspection, Antero shall comply with the requirements set forth in Paragraphs 48 through 52 (as applicable).

60. Certification of Completion Report Update. When the next Semi-Annual Report is due, Antero shall submit to the Plaintiffs an updated Certification of Completion Report, in spreadsheet or database format, that contains the following information related to the Engineering Evaluation for each Subject Vapor Control System:

a. The results of the Engineering Evaluation (including any revised Engineering Evaluation);

b. The PMIVFR, PPIVFR, Vapor Control System Capacity, Peak Modeled Pressure, and the Maximum Design Pressure;

c. A description of each modification required by Paragraph 56, if any, made to equipment or to operations as a result of the Engineering Evaluation;

d. A description of the site-specific or system-wide operational parameters or practices relied upon in the Engineering Evaluation (including but not limited to the maximum operating pressure for final stage of separation, the minimum available headspace in Storage Vessels, and whether the flow to the Storage Vessels is intermittent (i.e., transient) or steady state);

e. The minimum Subject Vapor Control System PRD settings; and

f. The date an IR Camera Inspection was completed pursuant to Paragraph 57 (Verification by IR Camera Inspection) and the results of such inspection, along with all corrective actions performed to address any identified Reliable Information by the IR Camera Inspection, the date and time of each corrective action performed, and the date and method of verification used to determine that the corrective action was successful.

61. Operational or Equipment Changes after the Engineering Evaluation. After Antero has submitted an updated Certification of Completion Report for a Subject Vapor Control System in accordance with Paragraph 60, if an operational or equipment change is made such that: (1) the PPIVFR increases beyond what was evaluated in the Engineering Evaluation or (2) the Subject Vapor Control System capacity decreases, Antero shall:

a. revise the Engineering Evaluation required by Paragraph 55 within 30 Days of the operational or equipment change;

b. implement all modifications necessary to ensure that the Subject Vapor Control System is adequately designed and sized for the revised PMIVFR, PPIVFR, and Peak Modeled Pressure within 90 Days of the operational or equipment change;

c. immediately Shut-In and cease all Production Operations associated with that Subject Vapor Control System, if Antero fails to implement the modifications required by Subparagraph 61.b;

d. verify that each Subject Vapor Control System is adequately designed and sized for the PMIVFR, PPIVFR, and the Peak Modeled Pressure by

conducting an IR Camera Inspection in compliance with Paragraph 57; and

e. submit an updated Certification of Completion Report with the next Semi-Annual Report or the Semi-Annual Report due at least 30 Days after the IR Camera Inspection conducted pursuant to Subparagraph 61.d.

I. PERFORMANCE STANDARDS

62. No later than the date Antero submits the Certification of Completion Report required by Paragraph 45, for the West Virginia Well Pads identified in Appendix C-1, Antero shall comply with the applicable requirements of 45 W. Va. C.S.R. § 13, including any permit issued by WVDEP for the Well Pad, and any applicable requirement set forth in NSPS OOOO or OOOOa.

63. No later than the date Antero submits the Certification of Completion Report required by Paragraph 45, for Storage Vessels that are part of a Subject Vapor Control System located at Ohio Well Pad identified in Appendix C-2, Antero shall comply with requirements applicable to Storage Vessel Affected Facilities set forth in NSPS OOOO or OOOOa.

64. Newly Identified Subject Vapor Control Systems. If, at any time, Antero redirects Produced Oil from a Storage Vessel System at a Well Pad identified in Appendix C-1 or C-2 to any Storage Vessel System at a Well Pad that is not identified in Appendix C-1 or C-2 ("Newly Identified Subject Vapor Control System"), Antero shall:

a. notify EPA and WVDEP (as to any Storage Vessel System located in West Virginia) within 30 Days of sending Produced Oil to such Newly Identified Subject Vapor Control System; and

b. identify such Newly Identified Subject Vapor Control System to EPA as part of the next Semi-Annual report, as required by Paragraph 96.

Each notification to EPA and WVDEP pursuant to Subparagraph 64.a must include a schedule for compliance at each Newly Identified Subject Vapor Control System with Paragraphs 14 through 47 of the Consent Decree, which shall be subject to approval by EPA and in consultation with WVDEP (as to any Storage Vessel System located in West Virginia).

J. EMISSION CREDIT GENERATION

65. Antero shall not use any emission reductions that result from actions required by this Consent Decree for the purposes of obtaining project decreases, netting reductions or emission offset credits, including applying for, obtaining, trading, or selling any emission reductions credits.

K. ENVIRONMENTAL MITIGATION PROJECTS

66. Antero shall implement the Environmental Mitigation Project(s) ("Projects") described in Appendix F in compliance with the approved plan and schedule for such Project and other terms of this Consent Decree.

67. Antero shall maintain and, within 30 Days of a request from EPA or WVDEP (for Projects in West Virginia), provide copies of documents sufficient to identify and substantiate the costs expended to implement the Projects described in Appendix F.

68. All plans and reports prepared by Antero pursuant to the requirements of this Section K (Environmental Mitigation Projects) are required to be submitted to EPA and WVDEP (for Projects in West Virginia), and Antero shall make any such plan or report available to the public upon request and without charge, except that Antero may redact

information as Confidential Business Information ("CBI") under 40 C.F.R. Part 2 or 45 W. Va. C.S.R. § 31-1, et seq by following the procedures set forth in those regulatory provisions.

69. Project Certification. Antero shall certify, as part of each plan submitted to EPA and WVDEP for any Project, that:

a. Antero is not required to perform the Project by any federal, state, or local law or regulation or by any agreement, grant, or as injunctive relief awarded in any other action in any forum;

b. The Project is not a project that Antero was planning or intending to construct, perform, or implement other than in settlement of the claims resolved in this Consent Decree; and,

c. Antero has not received and will not receive credit for the Project in any other enforcement action.

70. Antero shall use its best efforts to secure as much environmental benefit as possible for the Projects, consistent with the applicable requirements and limits of this Consent Decree.

71. Antero shall comply with the reporting requirements described in Appendix F.

72. In connection with any communication to the public or shareholders regarding Antero's actions or expenditures relating in any way to the Projects in this Consent Decree, Antero shall include in the communication the information that the actions and expenditures were required as a part of this Consent Decree.

73. Project Completion Notice. In the semi-annual report due no earlier than 30 Days following the completion (including any applicable periods of demonstration or testing)

of each Project required under this Consent Decree, Antero shall submit to EPA and WVDEP a report that documents the date the Project was completed, the results achieved by implementing the Project, including a general discussion of the environmental benefits and, where feasible, the estimated emissions reductions, and the costs expended by Antero in implementing the Project.

L. THIRD-PARTY VERIFICATION PROGRAM

74. Antero shall hire an independent third-party verifier ("Verifier") to conduct a program at each of the Subject Vapor Control Systems listed in Appendix C, along with any Newly Identified Subject Vapor Control Systems pursuant to Paragraph 64, to (a) evaluate Antero's compliance with the Consent Decree and, as applicable, with NSPS OOOO and NSPS OOOOa, and the West Virginia G70 General Permit requirements pursuant to 45 W. Va. C.S.R. § 13 (such evaluation to be known as the "Compliance Verification Program"); and (b) complete a report as detailed in Paragraph 89 ("Compliance Verification Program Report").

75. Antero shall bear the cost of retaining the Verifier, and shall ensure that the Verifier conducts the Compliance Verification Program in accordance with the requirements of this Section.

76. Hiring. Within 30 Days of the Effective Date, Antero shall submit to EPA and WVDEP the names and qualifications of one or more proposed Verifiers that meet the following requirements:

a. The proposed Verifier has expertise and competence in Vapor Control Systems, NSPS OOOO, NSPS OOOOa and the West Virginia G70 General Permit requirements pursuant to 45 W. Va. C.S.R. § 13;

b. The proposed Verifier and its personnel to be involved in the verification have not been employed by Antero, have not conducted research and/or development for Antero, and have not provided advisory services of any kind (including but not limited to design, construction, financial, engineering, hazardous waste management, legal, or consulting services) to Antero, within three years of the Effective Date; except that, if Antero is unable to identify an entity satisfying these criteria after undertaking reasonable best efforts, Antero may propose a Verifier that has been employed by Antero within three years of the Effective Date and provide details of prior work for Antero and qualifications to EPA and WVDEP for consideration along with an explanation how Antero will ensure that the Verifier will have sufficient independence to objectively and competently perform the Compliance Verification Program;

c. The proposed Verifier has not been retained by Antero to satisfy any of the requirements of Section V (Compliance Requirements) of this Consent Decree; and

d. The proposed Verifier has executed the certification attached to the Consent Decree as Appendix G. A copy of the certification for each proposed Verifier shall be submitted to EPA and WVDEP along with the list of proposed Verifiers.

77. EPA, after consulting with WVDEP, shall inform Antero in writing which of the proposed Verifiers, if any, it has approved. Within 30 Days of EPA's written approval,

Antero shall retain the approved candidate to serve as the Verifier and to perform the activities set forth in this Section.

78. If EPA disapproves of all proposed Verifiers, Antero shall, within 21 Days of receipt of EPA's written notification, submit to EPA and WVDEP for approval the names and qualifications of one or more additional proposed Verifiers that meet the qualifications set forth in Paragraph 76. EPA, after consulting with WVDEP, shall again provide written approval or disapproval of the proposed Verifiers, per Paragraph 77.

79. Antero shall not employ the Verifier or any of its personnel who managed, conducted, or otherwise participated in this Compliance Verification Program to provide any other commercial, business, or voluntary services to Antero for a period of at least one year following the Verifier's submission of its final Compliance Verification Program Report.

80. Verifier Replacement Procedure. If Antero or EPA determine that the Verifier approved by EPA cannot satisfactorily perform the required Compliance Verification Program, Antero, EPA and WVDEP shall informally confer. If they agree that a new Verifier should be selected, Antero shall submit to EPA for approval the name and qualifications of two proposed replacement Verifiers that meet the qualifications set forth in Paragraph 76. If Antero and EPA do not agree on the need to select a replacement Verifier, EPA's position shall control, subject to Antero's right to invoke the dispute resolution procedures in Section X (Dispute Resolution) of this Consent Decree.

81. Nothing in Paragraph 80 precludes the United States from assessing stipulated penalties for missed Compliance Verification Program deadlines associated with the need to replace a Verifier, unless Antero successfully asserts that the inability of the Verifier to

perform the required Compliance Verification Programs was due to a Force Majeure event in accordance with Section IX (Force Majeure) of this Consent Decree.

82. Conducting the Compliance Verification Program. Antero shall give the Verifier a copy of this Consent Decree and all appendices, the Process Flow Models developed pursuant to Paragraph 22, the approved Design Analysis Methodology developed pursuant to Paragraph 54, the Engineering Evaluations developed pursuant to Paragraph 55 (where applicable), the Certification of Completion Reports (and Updates) developed pursuant to Paragraphs 45, 46, 60 and 61, and all other information and access necessary to complete the Compliance Verification Program.

83. Antero shall ensure that the Verifier will evaluate Antero's compliance with the Consent Decree at each Well Pad listed in Appendix C (as well as any Storage Vessel System not identified in Appendix C that is subject to the requirements of Paragraph 64), including but not limited to a determination as to whether:

a. the site-specific inputs were not inconsistent between operational conditions and the Process Flow Model inputs, as informed by the Process Flow Modeling Methodology prepared in accordance with the approved VECTOR Design Program and Implementation Specifications and where applicable the Engineering Evaluation, as informed by the Design Analysis Methodology prepared in accordance with Appendix D;

b. each Subject Vapor Control System is adequately designed and sized for Normal Operation Pressures and where applicable PMIVFR, PPIVFR, and Peak Modeled Pressure;

c. all modifications made pursuant to Paragraphs 23, 46, 56 and 61 have been fully and correctly implemented in accordance with the requirements of this Consent Decree; and,

d. all notifications required by Paragraph 40 were provided and appropriate response was taken.

84. The Compliance Verification Program shall include a site visit to each Subject Vapor Control System (including any Newly Identified Subject Vapor Control Systems in accordance with Paragraph 64) by the Verifier and shall be conducted in sufficient detail to permit the Verifier to validate the results of the determinations made pursuant to Paragraph 83. Antero shall instruct the Verifier to notify Antero within 24 hours of any observation of Reliable Information during the site visit.

85. One or more representatives of Antero with a comprehensive understanding of this Consent Decree shall accompany the Verifier during the on-site portion of the Compliance Verification Program. The representatives of Antero shall not interfere with the independent judgment of the Verifier.

86. Antero shall permit representatives of EPA and WVDEP to participate in the on-site portion of the Compliance Verification Program as observers. Antero shall notify EPA and WVDEP at least 14 Days before each on-site visit by the Verifier is scheduled to allow EPA and WVDEP time to arrange for observers to be present.

87. As to each Subject Vapor Control System, the Compliance Verification Program shall begin no earlier than 30 Days after Antero submits the Certification of Completion Report pursuant to Paragraphs 45 and shall be completed no later than 120 Days after the applicable Certification of Completion report is submitted.

88. Antero shall cooperate fully with any reasonable requests of the Verifier, and provide the Verifier with access, upon reasonable notice and taking into account operational impacts, to all records, employees, contractors, and properties under Antero's ownership or control that the Verifier reasonably deems appropriate to effectively perform the duties described in this Section.

89. Antero shall direct the Verifier to prepare a Compliance Verification Program Report for each Subject Vapor Control System. Antero shall direct the Verifier to simultaneously send a copy of a Compliance Verification Program Report for each Subject Vapor Control System to Antero and to EPA no later than 60 Days after the completion of site visit conducted pursuant to Paragraph 84. The Verifier shall not share draft reports with Antero prior to submission of the Compliance Verification Program Report to EPA.

90. The Compliance Verification Program Report shall present the Compliance Verification Program findings and shall, at a minimum, contain the following information:

a. Compliance Verification Program scope, including the period of time covered by the Compliance Verification Program and an identification of all Well Pads evaluated;

b. The date(s) the on-site portion of the Compliance Verification Program was conducted;

c. Identification of Verifier's team members;

d. Identification of representatives of Antero and regulatory agency personnel observing the Compliance Verification Program;

e. A summary of the Compliance Verification Program process, including any obstacles encountered;

f. Detailed Compliance Verification Program findings, including a summary of Antero's compliance with the requirements of this Consent Decree and, as applicable, with NSPS Subpart OOOO, NSPS Subpart OOOOa, and the West Virginia G70 General Permit requirements pursuant to 45 W.Va. C.S.R. § 13;

g. Copies of any photos or videos obtained during the Compliance Verification and Process and the names of any Antero representatives and/or contractors interviewed, if any;

h. Recommendations by the Verifier, based on the findings and areas of concern, for corrective actions and any proposed schedule for implementation or the date of implementation;

i. Detailed description of any Reliable Information observed, including the date the Reliable Information was observed; a description of the Reliable Information; identification of the Subject Vapor Control System at issue; the operation, maintenance or design cause(s) identified through Antero's Root Cause Analysis or otherwise; a description of the corrective actions recommended or implemented, the date corrective actions were implemented (or proposed schedule for implementation of such corrective actions), the date the corrective action was verified by an IR Camera Inspection, and a summary of the results of that Inspection; and

j. A certification by the Verifier, in the form set forth in Appendix G, that the Verification Program was conducted in accordance with the provisions of this Consent Decree.

91. Upon the Verifier's submission of the Compliance Verification Program Report to Antero, EPA and WVDEP, Antero shall investigate and report to the Verifier, EPA and WVDEP on any recommendations, areas of concern, or recommended corrective actions identified in the Compliance Verification Program Report, as follows:

a. Within 60 Days after the Verifier's submission of the Compliance Verification Program Report to Antero, EPA, and WVDEP, Antero shall submit for the Verifier's review and comment an Action Plan to fully address all recommendations, areas of concern, and recommended corrective actions contained in the Compliance Verification Program Report. The Action Plan shall provide specific deliverables, responsibility assignments, and an implementation schedule to address all recommendations, areas of concern, and recommended corrective actions. Antero shall provide EPA and WVDEP with a copy of the Action Plan on the same Day it is submitted to the Verifier;

b. Antero shall direct the Verifier to review and comment on the Action Plan. No later than 30 Days after receiving the Action Plan, the Verifier shall simultaneously send a copy of its comments on the Action Plan to Antero, EPA and WVDEP; and

c. Within 30 Days of receiving the Verifier's comments, EPA and WVDEP may provide additional comments, if any, to Antero.

92. Within 30 Days following the conclusion of the EPA and WVDEP review period contemplated in Paragraph 91.c, Antero shall (i) revise the Action Plan to address comments from the Verifier and comments from EPA and WVDEP, if any; (ii) provide a revised Action Plan to EPA and WVDEP; and (iii) implement the Action Plan in accordance with the requirements and schedules set forth therein unless otherwise notified in writing by EPA within 30 Days of receiving the revised Action Plan.

93. Within 30 Days after implementation of the Action Plan is complete, Antero shall submit to EPA and WVDEP a Completion Report explaining how each item in the Action Plan was addressed and certifying that implementation of the Action Plan is complete. The Completion Report shall comply with the certification requirements of Paragraph 99.

94. Confidential Business Information**.** Antero may assert that any information required to be provided under this Section is protected as Confidential Business Information ("CBI") under 40 C.F.R. Part 2 or 45 W. Va. C.S.R. § 31-1, *et seq* by following the procedures set forth in those regulatory provisions.

VI. PERIODIC REPORTING

95. Within 10 Days after the Effective Date, Antero shall submit to EPA and WVDEP for review a list of deadlines included in this Consent Decree. For any deliverable required by the Consent Decree, the list shall indicate whether EPA and WVDEP approval is required. The list shall be in substantially the same form as Appendix H and shall be submitted in an electronic format (*e.g.*, unlocked spreadsheet or similar format agreed to by the Parties). Within 10 Days of modification of any deadline under this Consent Decree, Antero shall provide an updated list reflecting changes to the future

schedule. In the event of conflict between the list generated pursuant to this Paragraph and the Consent Decree, the Consent Decree shall control.

96. Following entry of this Consent Decree, Antero shall submit to the United States and WVDEP (as to the West Virginia Facilities) in accordance with the requirements of Section XIV (Notices), a Semi-Annual Report no later than 30 Days after the end of each half of the calendar year (*i.e.*, January through June, and July through December). Each Semi-Annual Report shall contain the following information for the applicable six-month reporting period:

a. All records required to be maintained regarding the Field Survey performed pursuant to Paragraph 19;

b. All records of Pressurized Liquid sampling performed pursuant to Paragraph 20, including but not limited to QA/QC assessments and analytical results;

c. The Process Flow Modeling Methodology prepared pursuant to Paragraph 21, including any updates or modifications to such Methodology;

d. The Design Analysis Methodology prepared pursuant to Paragraph 54, including any updates or modifications to such Methodology;

e. All Certification of Completion reports prepared pursuant to Paragraphs 45, 46, 60 and 61, including any updates or modifications to such reports;

f. The results of any pressure testing conducted pursuant to Paragraph 38 (Trigger Point Demonstration), including the date, time, and location of each pressure test, and the make, model, Set Point, and validation that no leaking occurred at the PRD's Trigger Point.

g. Where any Facility or equipment was required to be removed from service, or Production Operations were required to be Shut-In pursuant to Paragraphs 16, 28, or 51, identify the Storage Vessel System, the date such equipment was required to be removed from service or Production Operations were required to be Shut-In, the cause of removal from service or Shut-In, and the date equipment was placed back in service and Production Operations resumed;

h. All notifications required by Paragraph 40, including all monitoring data of such parameters required by Paragraphs 39 for the preceding 10-day period (including the day the notification was made) and the proceeding 5-day period for the Subject Vapor Control System where the notification occurred;

i. Identify all Storage Vessel Systems and Newly Identified Subject Vapor Control Systems identified pursuant to Paragraph 64, including the dates by which Antero must comply with Paragraphs 14 through 61 at such Systems.

j. The DI/PM Plan prepared pursuant to Paragraph 47 and Appendix E, including any updates or modifications to the DI/PM Plan;

k. All records of IR Camera Inspections, AVO inspections, new or modified maintenance or inspection schedules or replacement program, and a summary of any reviews of or modifications to the spare parts program, prepared in accordance with Paragraphs 47 and Appendix E;

l. Whenever Antero obtains Reliable Information, the date Reliable Information was obtained; a description of the Reliable Information; identification of the Subject Vapor Control System at issue; the operation, maintenance or design cause(s) identified in the Root Cause Analysis; a description of the corrective actions implemented and the date and time corrective actions were implemented (or schedule for implementation of such corrective actions); and the date the corrective action was verified by an IR Camera Inspection or other inspection methods meeting any EPA Method 21 standard, and a summary of the results of that inspection;

m. All dates, durations, and causes of Malfunctions and other failures, maintenance, calibration, and repairs of any monitors as required by Paragraph 39;

n. The Compliance Verification Program Report and Action Plan required pursuant to Section V, Subsection L (Third Party Verification Program); and,

o. A summary of activities undertaken pursuant to Section V, Subsection K (Environmental Mitigation Projects), the status of Environmental Mitigation Project milestones set forth in Appendix F, and a summary of costs incurred in the implementation of Subsection K since the previous Semi-Annual report.

97. This report shall also include a description of any non-compliance with the requirements of this Consent Decree and an explanation of the violation's likely cause and of the remedial steps taken, or to be taken, to prevent or minimize such violation. If

Antero violates, or has reason to believe that it may violate, any requirement of this Consent Decree with an associated stipulated penalty, Antero shall notify the United States, EPA, and WVDEP (as to the West Virginia Facilities) in accordance with the requirements of Section XIV (Notices) of such violation and its likely duration, in writing, within 10 Days of the Day Antero first becomes aware of the violation, with an explanation of the violation's likely cause and of the remedial steps taken, or to be taken, to prevent or minimize such violation. If the cause of a violation cannot be fully explained at the time the report is due, Antero shall so state in the report. Antero shall investigate the cause of the violation and shall then submit an amendment to the report, including a full explanation of the cause of the violation, within 30 Days of the day Antero becomes aware of the cause of the violation. Nothing in this Paragraph or the following Paragraph relieves Antero of its obligation to provide the notice required by Section IX (Force Majeure). If EPA or WVDEP (as relating to the West Virginia Facilities) become aware of any violation of any requirement of this Consent Decree, they will use best efforts to promptly notify Antero of such violation.

98. Whenever any violation of this Consent Decree or of any applicable permits or any other event affecting Antero's performance under this Consent Decree may pose an immediate threat to the public health or welfare or the environment, Antero shall comply with any applicable federal and state or local laws and, in addition, shall notify EPA and WVDEP, as applicable, as per Section XIV (Notices) orally or by electronic or facsimile transmission as soon as possible, but no later than 24 hours after Antero first knew of the violation or event. This notice requirement is in addition to the requirement to provide notice of a violation of this Consent Decree set forth in the preceding Paragraph.

99. Certification Statement. Each report submitted by Antero under this Section, and each Certification of Completion Report submitted pursuant to the requirements of Paragraphs 60 or 61 shall be signed by an official of the submitting party and include the following certification:

> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

100. This certification requirement does not apply to emergency notifications where compliance would be impractical.

101. The reporting requirements of this Consent Decree do not relieve Antero of any reporting obligations required by the Act, or implementing regulations, or by any other federal, state, or local law, regulation, permit, or other requirement.

102. Any information provided pursuant to this Consent Decree may be used by the United States or WVDEP in any proceeding to enforce the provisions of this Decree and as otherwise permitted by law.

VII. APPROVAL OF DELIVERABLES

103. After review of any plan, report, or other item that is required to be submitted for EPA's approval pursuant to this Consent Decree, EPA, after consultation with WVDEP (as to the West Virginia Facilities), will in writing: (a) approve the submission; (b) approve the submission with specified conditions; (c) approve part of the submission and disapprove the remainder; or (d) disapprove the submission.

104. If the submission is approved pursuant to Paragraph 103(a), Antero shall take all actions required by the plan, report, or other document, in accordance with the schedules and requirements of the plan, report, or other document, as approved. If the submission is conditionally approved or approved only in part pursuant to Subparagraphs 103(b) or (c), Antero shall, upon written direction from the EPA (after consulting with WVDEP as to the West Virginia Facilities), take all actions required by the approved plan, report, or other item that EPA determines are technically severable from any disapproved portions, subject to Antero's right to dispute only the specified conditions or the disapproved portions, under Section X (Dispute Resolution).

105. If the submission is disapproved in whole or in part pursuant to Subparagraphs 103(c) or (d), Antero shall, within 45 Days or such other time as the Parties agree to in writing, correct all deficiencies and resubmit the plan, report, or other item, or disapproved portion thereof, for approval, in accordance with the preceding Paragraphs. If the resubmission is approved in whole or in part, Antero shall proceed in accordance with the preceding Paragraph.

106. If a resubmitted plan, report, or other item, or portion thereof, is disapproved in whole or in part, EPA after consulting with WVDEP (as to the West Virginia Facilities) may again require Antero to correct any deficiencies, in accordance with the preceding Paragraphs, subject to Antero's right to invoke Dispute Resolution and the right of EPA or WVDEP to seek stipulated penalties as provided in Section VIII (Stipulated Penalties).

107. If Antero elects to invoke Dispute Resolution as set forth in Paragraphs 104 or 106, Antero shall do so by sending a Notice of Dispute in accordance with Paragraph 124

within 30 Days (or such other time as the Parties agree to in writing) after receipt of the applicable decision.

108. Any stipulated penalties applicable to the original submission, as provided in Section VIII (Stipulated Penalties), accrue during the 45 Day period contemplated by Paragraph 105 or other specified period, but shall not be payable unless the resubmission is untimely or is disapproved in whole or in part; provided that, if the original submission was so deficient as to constitute a material breach of Antero's obligations under this Consent Decree, the stipulated penalties applicable to the original submission shall be due and payable notwithstanding any subsequent resubmission.

VIII. STIPULATED PENALTIES

109. Antero shall be liable for stipulated penalties to the United States for violations of this Consent Decree, and to the United States and WVDEP for violations of this Consent Decree with respect to the West Virginia Facilities, as specified below, unless excused under Section IX (Force Majeure), or reduced or waived by the United States or WVDEP (if applicable) pursuant to Paragraph 113 of the Consent Decree. A violation includes failing to perform any obligation required by the terms of this Consent Decree, including any work plan approved under this Consent Decree, according to all applicable requirements of this Consent Decree and within the specified time schedules established by or approved under this Consent Decree.

Violation	Penalty per Facility (unless otherwise noted)
(a) Failure to conduct the Field Survey, as specified in Paragraph 14, for all Storage Vessel Systems at the Well Pads listed in Appendix A.	$550 per Day for the first 30 Days and $2,750 per Day thereafter.
(b) Failure to perform any of the requirements associated with the Field Survey, as specified in Paragraphs 15 and 19.	For each failure to perform a requirement, $1,000 per Day for the first 30 Days and $5,000 per Day thereafter.
(c) Failure to take corrective action in accordance with Paragraphs 16 and 17.	$1,000 per Day for the first 30 Days and $5,000 per Day thereafter.
(d) Failure to collect and analyze Pressurized Liquids samples from all Storage Vessel Systems, as specified in Paragraph 20.	$550 per Day for the first 30 Days and $2,750 per Day thereafter.
(e) Failure to prepare a Process Flow Model for each Subject Vapor Control System, as specified in Paragraph 22.	$1,000 per Day for the first 30 Days and $5,000 per Day thereafter.
(f) Failure to implement any necessary modification, as specified in Paragraph 23.	$1,000 per Day for the first 30 Days and $3,500 per Day thereafter.

(g) Failure to perform any of the requirements associated with the VECTOR Design Program and Implementation Specifications, as specified in Paragraphs 24, 25, 26, 27, 29, 31, 32, 33, 34, 35, 36, 37, and 38.	$1,500 per Day for the first 30 Days and $5,000 per Day thereafter.
(h) Failure to remove equipment from service or Shut-In Production Operations as required in Paragraphs 17, 28, 30, 46.c, 50, 51, 53.b, and61.c.	$1,500 per Day for the first 30 Days and $7,500 per Day thereafter.
(i) Failure to comply with any of the requirements pertaining to Monitoring, Recording, and Data Transmission, as specified in Paragraphs 39 through 44.	$550 per Day for the first 30 Days and $2,750 per Day thereafter.
(j) Failure to submit to EPA and WVDEP a Certification of Completion Report as specified in Paragraphs 45 and 60.	$550 per Day for the first 30 Days and $3,300 per Day thereafter.
(k) Failure to revise a Process Flow Model, implement the necessary modifications, or submit an updated Certification of Completion report, as required by Paragraph 46.	$750 per Day for the first 30 Days and $2,500 per Day thereafter.
(l) Failure to comply with the DI/PM plan, as required by Paragraph 47.	$550 per Day for the first 30 Days and $2,750 per Day thereafter.
(m) Failure to comply with any of the requirements pertaining to an improperly open Bypass Device, improperly open PRD, or open-ended line, as specified in Paragraph 48.	$1,500 per Day for the first 30 Days and $7,500 per Day thereafter.

(n) Failure to perform an AVO inspection as specified in Paragraphs 49 and 50.	$1,000 per Day for the first 30 Days and $3,000 per Day thereafter.
(o) Failure to comply with any of the requirements pertaining to the observation of Reliable Information set forth in Paragraphs 51 and 59.	$1,500 per Day for the first 30 Days and $7,500 per Day thereafter.
(p) Failure to complete a Root Cause Analysis and complete all necessary corrective actions or modifications or Shut-In Production Operations, as required in Paragraphs 52 53, and 56.	$1,500 per Day for the first 30 Days and $7,500 per Day thereafter.
(q) Failure to prepare an Engineering Evaluation, as specified in Paragraph 55.	$1,000 per Day for the first 30 Days and $5,000 per Day thereafter.
(r) Failure to conduct an IR Camera Inspection, as specified in Paragraphs 53.c, 57, and 58.	$1,500 per Day for the first 30 Days and $5,000 per Day thereafter.
(s) Failure to revise an Engineering Evaluation, implement the necessary modifications, conduct the required IR Camera Inspection, or submit an updated Certification of Completion report, as required by Paragraph 61.	$750 per Day for the first 30 Days and $2,500 per Day thereafter.
(t) Failure to comply with requirements set forth in Paragraphs 62 and 63 at each Well Pad identified in Appendix C.	$1,500 per Day for the first 30 Days and $7,500 per Day thereafter.

(u) Failure to comply with any of the requirements for Newly Identified Storage Vessel Systems as required in Paragraph 64.	$550 per Day for the first 30 Days and $2,750 per Day thereafter.
(v) Failure to implement the Environmental Mitigation Project as required by Paragraphs 66 through 73.	$1,500 per Day for the first 30 Days and $7,500 per Day thereafter, assessed on a companywide basis (not per facility)
(w) Failure to comply with any of the requirements pertaining to the Third-Party Verification Program set forth in Paragraphs 74 through 94.	$550 per Day for the first 30 Days and $3,300 per Day thereafter, assessed on a companywide basis (not per facility).
(x) Failure to comply with the Reporting Requirements as set forth in Paragraphs 95 through 99.	$550 per Day for the first 30 Days and $2,750 per Day thereafter, assessed on a companywide basis (not per facility).
(y) Violation of any other requirement of this Consent Decree.	$1,000 per Day per violation.

110. Late Payment of Civil Penalty. If Antero fails to pay the civil penalty payments required to be paid under Section IV (Civil Penalty) when due, Antero shall pay a stipulated penalty of $2,000 per day for each day that the payment is late to the United States or WVDEP.

111. Stipulated penalties under this Section shall begin to accrue on the day after performance is due or on the day a violation occurs, whichever is applicable, and shall

continue to accrue until performance is satisfactorily completed or until the violation ceases. Stipulated penalties shall accrue simultaneously for separate violations of this Consent Decree. The United States or WVDEP, or both of the foregoing, after consultation with the other Plaintiff, may seek stipulated penalties under this Section with respect to violations involving the West Virginia Facilities. The United States alone may seek stipulated penalties with respect to violations involving the Ohio Facilities. The Plaintiff making a demand for payment of a stipulated penalty shall simultaneously send a copy of the demand to the other Plaintiff and, where WVDEP is the demanding Plaintiff, WVDEP shall also send notice of such stipulated penalty demand to EPA Region III via email to the U.S. EPA Region III Regional Hearing Clerk at R3_Hearing_Clerk@epa.gov.

112. Antero shall pay stipulated penalties to the United States and WVDEP within 30 Days of a written demand by the United States or WVDEP. Where both the United States and WVDEP seek stipulated penalties for the same violation of this Consent Decree, Antero shall pay 50% to the United States and 50% to WVDEP.

113. The United States or WVDEP may, in the unreviewable exercise of their discretion, reduce or waive stipulated penalties otherwise due it under this Consent Decree.

114. Stipulated penalties shall continue to accrue as provided in Paragraph 109, during any Dispute Resolution, but need not be paid until the following:

a. If the dispute is resolved by agreement or by a decision of EPA or WVDEP that is not appealed to the Court, Antero shall pay accrued penalties determined to be owing, together with interest, to the United

States or WVDEP within 30 Days of the effective date of the agreement or the receipt of the EPA's or WVDEP's decision or order;

b. If the dispute is appealed to the Court and the United States or WVDEP prevails in whole or in part, Antero shall pay all accrued penalties determined by the Court to be owing, together with interest, within 60 Days of receiving the Court's decision or order, except as provided in Paragraph c, below;

c. If any Party appeals the District Court's decision, Antero shall pay all accrued penalties determined to be owing, together with interest, within 15 Days of receiving the final appellate court decision.

115. If Antero fails to pay stipulated penalties according to the terms of this Consent Decree, Antero shall be liable for interest on such penalties, as provided for in 28 U.S.C. § 1961, accruing as of the date payment became due. Nothing in this Paragraph shall be construed to limit the United States or WVDEP from seeking any remedy otherwise provided by law for Antero's failure to pay any stipulated penalties.

116. Antero shall pay stipulated penalties owing to the United States and WVDEP in the manner set forth and with the confirmation notices required by Section IV (Civil Penalty) except that the transmittal letter shall state that the payment is for stipulated penalties and shall state for which violation(s) the penalties are being paid.

117. Stipulated penalties are not the United States' or WVDEP's exclusive remedy for violations of this Consent Decree. Subject to the provisions of Section XII (Effect of Settlement/Reservation of Rights), the United States and WVDEP expressly reserve the right to seek any other relief they deem appropriate for Antero's violation of this Consent

Decree or applicable law, including but not limited to an action against Antero for statutory penalties, additional injunctive relief, mitigation or offset measures, and/or contempt. However, the amount of any statutory penalty assessed for a violation of this Consent Decree shall be reduced by an amount equal to the amount of any stipulated penalty assessed and paid pursuant to this Consent Decree.

IX. FORCE MAJEURE

118. "Force majeure," for purposes of this Consent Decree, is defined as any event arising from causes beyond the control of Antero, of any entity controlled by Antero, or of Antero's contractors (which, by definition, does not include the independent Verifier), that delays or prevents the performance of any obligation under this Consent Decree despite Antero's best efforts to fulfill the obligation. The requirement that Antero exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any potential force majeure event (a) as it is occurring and (b) following the potential force majeure, such that the delay and any adverse effects of the delay are minimized. "Force Majeure" does not include Antero's financial inability to perform any obligation under this Consent Decree.

119. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Decree, whether or not caused by a force majeure event, Antero shall provide notice to EPA and WVDEP pursuant to Section XIV (Notices) within 72 hours of when Antero first knew that the event might cause a delay. Within ten Days thereafter, Antero shall provide in writing to EPA and WVDEP an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions

taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Antero's rationale for attributing such delay to a force majeure event if it intends to assert such a claim; and a statement as to whether, in the opinion of Antero, such event may cause or contribute to an endangerment to public health, welfare or the environment. Antero shall include with any notice all available documentation supporting the claim that the delay was attributable to a force majeure event. Failure to comply with the above requirements shall preclude Antero from asserting any claim of force majeure for that event for the period of time of such failure to comply, and for any additional delay caused by such failure. Antero shall be deemed to know of any circumstance of which Antero, any entity controlled by Antero, or Antero's contractors knew or should have known.

120. If EPA, after a reasonable opportunity for review and comment by WVDEP (for any events at West Virginia Facilities), agrees that the delay or anticipated delay is attributable to a force majeure event, the time for performance of the obligations under this Consent Decree that are affected by the force majeure event will be extended by EPA, after a reasonable opportunity for review and comment by WVDEP (for any events at West Virginia Facilities), for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure event shall not, of itself, extend the time for performance of any other obligation. EPA will notify Antero in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event.

121. If EPA, after a reasonable opportunity for review and comment by WVDEP (for any events at West Virginia Facilities), does not agree that the delay or anticipated delay

has been or will be caused by a force majeure event, EPA will notify Antero in writing of its decision.

122. If Antero elects to invoke the dispute resolution procedures set forth in Section X (Dispute Resolution), it shall do so no later than 15 Days after receipt of EPA's notice. In any such proceeding, Antero shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and that Antero complied with the requirements of Paragraphs 118 and 119. If Antero carries this burden, the delay at issue shall be deemed not to be a violation by Antero of the affected obligation of this Consent Decree identified to EPA, WVDEP and the Court.

X. DISPUTE RESOLUTION

123. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising under or with respect to this Consent Decree. Antero's failure to seek resolution of a dispute under this Section shall preclude Antero from raising any such issue as a defense to an action by the United States to enforce any obligation of Antero arising under this Consent Decree.

124. Informal Dispute Resolution. Any dispute subject to Dispute Resolution under this Consent Decree shall first be the subject of informal negotiations. The dispute shall be considered to have arisen on the date Antero sends DOJ, EPA and WVDEP (as relating to the West Virginia Facilities) a written Notice of Dispute. Such Notice of

Dispute shall state clearly the matter in dispute. The period of informal negotiations shall not exceed 30 Days from the date the dispute arises, unless that period is modified by written agreement. If the Parties cannot resolve a dispute by informal negotiations, then the position advanced by the United States (after consultation with WVDEP as relating to the West Virginia Facilities) shall be considered binding unless, within 30 Days after the conclusion of the informal negotiation period, Antero invokes formal dispute resolution procedures as set forth below.

125. Formal Dispute Resolution. Antero shall invoke formal dispute resolution procedures, within the time period provided in the preceding Paragraph, by sending DOJ, EPA and WVDEP (as relating to the West Virginia Facilities) a written Statement of Position regarding the matter in dispute. The Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting Antero's position and any supporting documentation relied upon by Antero.

126. The United States, after consultation with WVDEP as relating to the West Virginia Facilities, will send Antero its Statement of Position within 45 Days of receipt of Antero's Statement of Position. The United States' Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting that position and any supporting documentation relied upon by the United States. The United States' Statement of Position is binding on Antero, unless Antero files a motion for judicial review of the dispute in accordance with the following Paragraph.

127. Judicial Dispute Resolution. Antero may seek judicial review of the dispute by filing with the Court and serving on the United States and WVDEP (as relating to the West Virginia Facilities) a motion requesting judicial resolution of the dispute. The

motion must be filed within 30 Days of receipt of the United States' Statement of Position pursuant to the preceding Paragraph. The motion shall contain a written statement of Antero's position on the matter in dispute, including any supporting factual data, analysis, opinion, or documentation, and shall set forth the relief requested and any schedule within which the dispute must be resolved for orderly implementation of the Consent Decree.

128. The United States shall, after consultation with WVDEP (as relating to the West Virginia Facilities), respond to Antero's motion within the time period allowed by the Local Rules of this Court. Antero may file a reply memorandum, to the extent permitted by the Local Rules.

129. Standard of Review

a. Disputes Concerning Matters Accorded Record Review. Except as otherwise provided in this Consent Decree, in any dispute brought under Paragraph 124 pertaining to the adequacy or appropriateness of plans, procedures to implement plans, schedules or any other items requiring approval by EPA under this Consent Decree; the adequacy of the performance of work undertaken pursuant to this Consent Decree; and all other disputes that are accorded review on the administrative record under applicable principles of administrative law, Antero shall have the burden of demonstrating, based on the administrative record, that the position of the United States is arbitrary and capricious or otherwise not in accordance with law.

b. Other Disputes. Except as otherwise provided in this Consent Decree, in any other dispute brought under Paragraph 125, Antero shall bear the burden of

demonstrating that its position complies with and furthers objectives of this Consent Decree, and that Antero is entitled to relief under applicable principles of law.

130. The invocation of dispute resolution procedures under this Section shall not, by itself, extend, postpone, or affect in any way any obligation of Antero under this Consent Decree, unless and until final resolution of the dispute so provides. Stipulated penalties with respect to the disputed matter shall continue to accrue from the first Day of noncompliance, but payment shall be stayed pending resolution of the dispute as provided in Paragraph 114. If Antero does not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section VIII (Stipulated Penalties).

XI. INFORMATION COLLECTION AND RETENTION

131. The United States, WVDEP (as relating to the West Virginia Facilities), and their representatives, including attorneys, contractors, and consultants, shall have the right of entry into any Facility covered by this Consent Decree, at all reasonable times, upon presentation of credentials, to:

a. monitor the progress of activities required under this Consent Decree;

b. verify any data or information submitted to the United States or WVDEP in accordance with the terms of this Consent Decree;

c. obtain samples and, upon request, splits or duplicates of any samples taken by Antero or its representatives, contractors, or consultants related to activities under this Consent Decree;

d. obtain documentary evidence, including photographs and similar data related to activities under this Consent Decree; and

e. assess Antero's compliance with this Consent Decree.

132. Upon request, Antero shall provide EPA and WVDEP (as relating to the West Virginia Facilities) or their authorized representatives splits or duplicates of any Pressurized Liquid samples taken by Antero at a Storage Vessel System or other associated equipment as required by this Consent Decree. Upon request, EPA and WVDEP shall provide Antero splits or duplicates of any samples taken for purposes of this Consent Decree by EPA or WVDEP or their authorized representatives. In both cases, such request shall be made prior to sampling to ensure that adequate sample volume is obtained.

133. Until five years after the termination of this Consent Decree, Antero shall retain, and shall instruct its contractors and agents to preserve, all non-identical copies of all documents, records, or other information (including documents, records, or other information in electronic form) in its or its contractors' or agents' possession or control, or that come into its or its contractors' or agents' possession or control, and that relate in any manner to Antero's performance of its obligations under this Consent Decree. This information-retention requirement shall apply regardless of any contrary corporate or institutional policies or procedures. At any time during this information-retention period, upon request by the United States or WVDEP (as relating to the West Virginia Facilities), Antero shall provide copies of any documents, records, or other information required to be maintained under this Paragraph.

134. At the conclusion of the information-retention period provided in the preceding Paragraph, Antero shall notify the United States and WVDEP at least 90 Days prior to the destruction of any documents, records, or other information subject to the requirements of

the preceding Paragraph and, upon request by the United States or WVDEP, Antero shall deliver any such documents, records, or other information to EPA or WVDEP. Antero may assert that certain documents, records, or other information is privileged under the attorney-client privilege, attorney work product doctrine, or any other privilege recognized by federal law. If Antero asserts such a privilege, it shall provide the following: (a) the title of the document, record, or information; (b) the date of the document, record, or information; (c) the name and title of each author of the document, record, or information; (d) the name and title of each addressee and recipient; (e) a description of the subject of the document, record, or information; and (f) the privilege asserted by Antero. However, no documents, records, or other information created or generated pursuant to the requirements of this Consent Decree shall be withheld on grounds of privilege.

135. Antero may also assert that information required to be provided under this Section is protected as Confidential Business Information ("CBI") under 40 C.F.R. Part 2 or 45 W. Va. C.S.R. § 31-1, *et seq*. As to any information that Antero seeks to protect as CBI, Antero shall follow the procedures set forth in 40 C.F.R. Part 2 or 45 W. Va. C.S.R. § 31-1, *et seq*.

136. This Consent Decree in no way limits or affects any right of entry and inspection, or any right to obtain information, held by the United States or WVDEP (as relating to the West Virginia Facilities) pursuant to applicable federal or state laws, regulations, or permits, nor does it limit or affect any duty or obligation of Antero to maintain documents, records, or other information imposed by applicable federal or state laws, regulations, or permits.

XII. EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS

137. This Consent Decree resolves the civil claims of the United States and WVDEP for the violations alleged in the Notices of Violations and Complaint filed in this action, through the Date of Lodging as to all of the Facilities listed in Appendix A.

138. The United States and WVDEP reserve all legal and equitable remedies available to enforce the provisions of this Consent Decree. This Consent Decree shall not be construed to limit the rights of the United States or WVDEP to obtain penalties or injunctive relief under the Act or implementing regulations, or under other federal or state laws, regulations, or permit conditions, except as expressly specified in Paragraph 137. The United States and WVDEP further reserve all legal and equitable remedies to address any imminent and substantial endangerment to the public health or welfare or the environment arising at, or posed by, any of Antero's Facilities, whether related to the violations addressed in this Consent Decree or otherwise.

139. In any subsequent administrative or judicial proceeding initiated by the United States or WVDEP for injunctive relief, civil penalties, other appropriate relief relating to any of Antero's Facilities, Antero shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States or WVDEP in the subsequent proceeding were or should have been brought in the instant case, except with respect to claims that have been specifically resolved pursuant to Paragraph 137.

140. This Consent Decree is not a permit, or a modification of any permit, under any federal, state, or local laws or regulations. Antero is responsible for achieving and

maintaining complete compliance with all applicable federal, state, and local laws, regulations, and permits; and Antero's compliance with this Consent Decree shall be no defense to any action commenced pursuant to any such laws, regulations, or permits, except as set forth herein. The United States and WVDEP do not, by their consent to the entry of this Consent Decree, warrant or aver in any manner that Antero's compliance with any aspect of this Consent Decree will result in compliance with provisions of the Act, 42 U.S.C. § 7401, *et seq*., or with any other provisions of federal, state, or local laws, regulations, or permits.

141. This Consent Decree does not limit or affect the rights of any of the Parties against any third parties, not party to this Consent Decree, nor does it limit the rights of third parties, not party to this Consent Decree, against Antero, except as otherwise provided by law.

142. This Consent Decree shall not be construed to create rights in, or grant any cause of action to, any third party not party to this Consent Decree.

XIII. COSTS

143. The Parties shall bear their own costs of this action, including attorneys' fees, except that the United States and WVDEP shall be entitled to collect the costs (including attorneys' fees) incurred in any action necessary to collect any portion of the civil penalty or any stipulated penalties due but not paid by Antero.

XIV. NOTICES

144. Unless otherwise specified in this Consent Decree, whenever notifications, submissions, or communications are required by this Consent Decree, they shall be sent by email, unless otherwise requested, and addressed as follows:

As to DOJ by email (preferred):	eescdcopy.enrd@usdoj.gov Re: DJ # 90-5-2-1-12292
As to DOJ by mail:	EES Case Management Unit Re: DJ # 90-5-2-1-12292 Environment and Natural Resources Division U.S. Department of Justice P.O. Box 7611 Washington, D.C. 20044-7611
As to EPA by email:	AED_Oil_Gas_CD@epa.gov r5airenforcement@epa.gov smith.robert@epa.gov r3_orc_mailbox@epa.gov augustine.bruce@epa.gov hall.kristen@epa.gov
As to WVDEP by mail:	Division of Air Quality Attention: Laura M. Crowder, Director 601 57th Street, SE Charleston, West Virginia 25304
As to WVDEP by email:	DEPAirQualityReports@wv.gov
As to Antero by email:	generalcounsel@anteroresources.com cgrossi@anteroresources.com jresnick@anteroresources.com

145. Any Party may, by written notice to the other Parties, change its designated notice recipient or notice address provided above.

146. Notices submitted pursuant to this Section shall be deemed submitted upon mailing or transmission by email, unless otherwise provided in this Consent Decree or by

mutual agreement of the Parties in writing. Notifications or communications mailed to Antero shall be deemed to be received on receipt of an electronic version sent to the addresses set forth in Paragraph 144. An email is presumed to have been received on the day it is sent. With the exception of notices sent pursuant to Section IX (Force Majeure), if the date for submission of a report, study, notification, or other communication falls on a Saturday, Sunday or federal holiday, the report, study, notification, or other communication will be deemed timely if it is submitted the next Business Day.

XV. EFFECTIVE DATE

147. The Effective Date of this Consent Decree shall be the date upon which this Consent Decree is entered by the Court or a motion to enter the Consent Decree is granted, whichever occurs first, as recorded on the Court's docket.

XVI. RETENTION OF JURISDICTION

148. The Court shall retain jurisdiction over this case until termination of this Consent Decree, for the purpose of resolving disputes arising under this Consent Decree or entering orders modifying this Consent Decree, pursuant to Sections X (Dispute Resolution) and XVII (Modification), or effectuating or enforcing compliance with the terms of this Consent Decree.

XVII. MODIFICATION

149. The terms of this Consent Decree, including any attached appendices, may be modified only by a subsequent written agreement signed by all the Parties. Where the modification constitutes a material change to this Consent Decree, it shall be effective only upon approval by the Court.

150. Any disputes concerning modification of this Consent Decree shall be resolved pursuant to Section X (Dispute Resolution), provided, however, that, instead of the burden of proof provided by Paragraph 129, the Party seeking the modification bears the burden of demonstrating that it is entitled to the requested modification in accordance with Federal Rule of Civil Procedure 60(b).

XVIII. PLUGGING AND ABANDONMENT

151. Effect of Plugging and Abandonment. The permanent plug and abandonment of a well ("P&A") shall be deemed to satisfy all requirements of this Consent Decree applicable to the well (as long as the well no longer emits or has the potential to emit hydrocarbons) and the Storage Vessel System (as long as the Storage Vessel System is no longer servicing wells that have not been plugged and abandoned). To P&A a well, Antero must submit to EPA and WVDEP (as applicable) verified reporting of abandonment made in accordance with W. Va. Code § 35-4-5.7(b) (as to West Virginia Facilities) and Ohio Admin. Code 1501:9-11-12 (as to Ohio Facilities). Antero shall maintain copies of all documentation required by this Paragraph for inspection and review by EPA and WVDEP (as applicable). In each Semi-Annual Report, Antero shall update the list of Subject Vapor Control Systems on Appendix C to reflect any wells and associated Storage Vessel Systems that have been permanently plugged and abandoned. Nothing herein shall preclude Antero from reusing any equipment from a plugged and abandoned well.

XIX. TERMINATION

152. After Antero (and/or, in the case of a transfer of a Facility or Facilities, the Substitution Party) has (a) completed the requirements of Paragraphs 14 through 45 for each of the Well Pads listed in Appendix A and C, as applicable, (b) has thereafter maintained satisfactory compliance with this Consent Decree for a period of two years at all Subject Vapor Control Systems (except that such two-year requirement shall not apply at those Newly Identified Storage Vessel Systems identified pursuant to Paragraph 64), and (c) Antero has paid the civil penalty and any accrued stipulated penalties as required by this Consent Decree:

(i) Antero and/or the Substitution Party may serve upon the Plaintiffs a Request for Partial Termination, stating that Antero and/or the Substitution Party has satisfied those requirements as to all of their Facilities, together with all necessary supporting documentation; or

(ii) the United States may serve upon Antero and/or the Substitution Party a Notice of Intent to Partially Terminate.

153. Following (a) receipt by the United States and WVDEP (for Facilities located in West Virginia) of Antero and/or Substitution Party's Request for Partial Termination, or (b) receipt by Antero and/or Substitution Party of the United States' Notice of Intent to Terminate, the Parties shall confer informally concerning the Request and any disagreement that the Parties may have as to whether Antero and/or Substitution Party has satisfactorily complied with the requirements for partial termination of this Consent Decree. If the United States, after consultation with WVDEP (for Facilities located in West Virginia), agrees that the Consent Decree may be partially terminated, the relevant

Parties shall submit, for the Court's approval, a joint stipulation terminating the portions of the Consent Decree in Paragraph 152(a)-(c), or, if Antero and/or Substitution Party will not consent to a joint stipulation, the United States may file a motion to partially terminate the Consent Decree. For the sake of clarity, either Antero or Substitution Party may seek partial termination of the Consent Decree when that party has met the requirements of Paragraph 152(a)-(c) as to all their Facilities regardless of whether the other Defendant has qualified to seek partial termination.

154. Antero may seek full termination of the Consent Decree as to it once it has met the requirements of Paragraph 152(a)-(c) as well as completing the Environmental Mitigation Projects in Section V, Subsection K through the same procedure outlined in Paragraphs 152-153, regardless of whether any Substitution Party has qualified for full termination.

155. If the United States, after consultation with the WVDEP (for Facilities located in West Virginia), does not agree that the Consent Decree may be fully or partially terminated, Antero and/or the Substitution Party may invoke Dispute Resolution under Section X (Dispute Resolution). However, Antero and/or the Substitution Party shall not seek Dispute Resolution of any dispute regarding termination until 90 Days after service of its Request for Termination.

XX. PUBLIC PARTICIPATION

156. This Consent Decree shall be lodged with the Court for a period of not less than 30 Days for public notice and comment in accordance with 28 C.F.R. § 50.7. The United States and WVDEP reserve the right to withdraw or withhold their consent if the comments regarding the Consent Decree disclose facts or considerations indicating that

the Consent Decree is inappropriate, improper, or inadequate. Antero consents to entry of this Consent Decree without further notice and agrees not to withdraw from or oppose entry of this Consent Decree by the Court or to challenge any provision of the Consent Decree, unless the United States or WVDEP has notified Antero in writing that it no longer supports entry of the Consent Decree.

XXI. SIGNATORIES/SERVICE

157. Each undersigned representative of Antero, WVDEP, and the Assistant Attorney General for the Environment and Natural Resources Division of the Department of Justice certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind the Party he or she represents to this document.

158. This Consent Decree may be signed in counterparts, and its validity shall not be challenged on that basis. Antero agrees to accept service of process by mail with respect to all matters arising under or relating to this Consent Decree and to waive the formal service requirements set forth in Rules 4 and 5 of the Federal Rules of Civil Procedure and any applicable Local Rules of this Court including, but not limited to, service of a summons. Antero need not file an answer to the complaint in this action unless or until the Court expressly declines to enter this Consent Decree.

XXII. INTEGRATION

159. This Consent Decree and its Appendices constitutes the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in the Consent Decree and supersedes all prior agreements and understandings,

whether oral or written, concerning the settlement embodied herein. The Parties acknowledge that there are no representations, agreements, or understandings relating to the settlement other than those expressly contained in this Consent Decree.

XXIII. FINAL JUDGMENT

160. Upon approval and entry of this Consent Decree by the Court, this Consent Decree shall constitute a final judgment of the Court as to the United States, WVDEP, and Antero.

XXIV. 26 U.S.C. SECTION 162(f)(2)(A)(ii) IDENTIFICATION

161. For purposes of the identification requirement of Section 162(f)(2)(A)(ii) of the Internal Revenue Code, 26 U.S.C. § 162(f)(2)(A)(ii), performance of the requirements set out in: (a) Paragraphs 6 (of Section II (Applicability), 14 through 93 of Section V (Compliance Requirements), 95 through 99 of Section VI (Periodic Reporting), and Paragraphs 131 to 134 of Section XI (Information Collection and Retention); and Appendices B, D, E, F, and G, is restitution, remediation, or required to come into compliance with law.

XXV. APPENDICES

162. The following Appendices are attached to and part of this Consent Decree:

"Appendix A" is the list of Antero's Well Pads in West Virginia and Ohio;
"Appendix B" is the Sampling and Analysis Plan;
"Appendix C" is the list of Well Pads that have Subject Vapor Control Systems in West Virginia and Ohio;
"Appendix D" is the Design Analysis Methodology;
"Appendix E" is the DI/PM Program;
"Appendix F" is the Mitigation Projects;
"Appendix G" is the Verifier Certification; and
"Appendix H" is the Consent Decree Deliverables Template.

Dated and entered this __ day of _____, 20__

_____
UNITED STATES DISTRICT JUDGE

FOR THE UNITED STATES OF AMERICA:

Date: 1/30/26

ADAM R.F. GUSTAFSON
Principal Deputy Assistant Attorney General
Environment and Natural Resources Division
U.S. Department of Justice

Date: 1/30/26

JASON A. DUNN
Assistant Section Chief
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
Washington, DC 20044-7611

Date: 2/6/2026

MATTHEW L. HARVEY
United States Attorney
U.S. Attorney's Office
Northern District of West Virginia

FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY:

Date: 2/10/2026

JEFFREY A. HALL
Assistant Administrator
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Date: _____

ROSEMARIE KELLEY Digitally signed by ROSEMARIE KELLEY Date: 2026.02.09 14:04:20 -05'00'

ROSEMARIE A. KELLEY
Director, Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency,
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Date: _____

SPARSH KHANDESHI Digitally signed by SPARSH KHANDESHI Date: 2026.02.09 13:31:29 -05'00'

SPARSH KHANDESHI
Acting Director, Air Enforcement Division
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency,
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Date: _____

ALEXANDER CHEN Digitally signed by ALEXANDER CHEN Date: 2026.02.09 12:24:54 -06'00'

ALEX CHEN
Attorney, Air Enforcement Division
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency,
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY:

Date: _____

AMY VAN BLARCOM-LACKEY Digitally signed by AMY VAN BLARCOM-LACKEY Date: 2026.02.06 16:30:22 -05'00'

_____

AMY VAN BLARCOM-LACKEY
Regional Administrator
U.S. Environmental Protection Agency, Region 3

Date: _____

ALLISON GARDNER Digitally signed by ALLISON GARDNER Date: 2026.02.04 21:01:29 -05'00'

_____

ALLISON GARDNER
Regional Counsel
U.S. Environmental Protection Agency, Region 3

Date: _____

JENNIFER ABRAMSON Digitally signed by JENNIFER ABRAMSON Date: 2026.01.27 08:41:31 -05'00'

_____

JENNIFER ABRAMSON
Senior Assistant Regional Counsel
Office of Regional Counsel
U.S. Environmental Protection Agency, Region 3

FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY:

Date: _____

ROBERT KAPLAN Digitally signed by ROBERT KAPLAN Date: 2026.02.06 15:26:53 -06'00'

ROBERT A. KAPLAN
Regional Counsel
U.S. Environmental Protection Agency, Region 5

Date: _____

JILLIAN ROUNTREE Digitally signed by JILLIAN ROUNTREE Date: 2026.01.29 13:04:40 -06'00'

JILLIAN ROUNTREE
Associate Regional Counsel
Office of Regional Counsel
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FOR THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION:

Date: 2/6/26

Charles S. Driver

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FOR ANTERO RESOURCES CORPORATION:

Date: 1/21/2026

Jennifer Hornemann
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APPENDIX A

A-1: Antero's Well Pads in West Virginia

Pad Name	Surface Latitude	Surface Longitude	County
5H Investments Pad	39.2959361	-80.4026528	Doddridge
Addie Pad	39.33347838	-80.8056894	Doddridge
Alexander Pad	39.33574349	-80.7754441	Doddridge
Allen Ash Pad	39.36846948	-80.55876545	Doddridge
Alta Pad	39.39427521	-80.746793	Tyler
Alvadore Pad	39.2733035	-80.8828085	Doddridge
Annie Horizontal Pad	39.32735125	-80.925511	Ritchie
B Williams Pad	39.26738316	-80.47029523	Harrison
Bachelor Pad	39.31147593	-81.0152556	Ritchie
Balli Pad	39.30228032	-80.8440069	Doddridge
Bee Lewis Pad	39.25487223	-80.8230327	Doddridge
Beech Run Pad	39.52877655	-80.78239645	Tyler
Bennett Pad	39.20358051	-80.4745493	Harrison
Big Run Pad	39.554848	-80.818922	Tyler
Bison Pad	39.29520525	-80.9013976	Ritchie
Black Forest Pad	39.30951081	-81.0282848	Ritchie
Blizzard Pad	39.49895833	-80.8505417	Tyler
Bowyer Pad	39.20162638	-80.48976455	Harrison
Buck Run Pad	39.31586898	-80.9474431	Ritchie
Carnes Pad	39.32601459	-80.40479805	Harrison
Cashew Pad	39.1719336	-80.85772197	Ritchie
Caynor Pad	39.1961873	-80.4801288	Harrison
Charlene Pad	39.29959327	-80.9637174	Ritchie
Chestnut Pad	39.363329	-80.720992	Doddridge
Clarence Pad	39.244757	-80.567933	Doddridge
Cline Pad	39.18584	-80.69959	Doddridge
Coastal 1 Pad	39.42344295	-80.73432792	Tyler
Coastal 2 Pad	39.4287562	-80.7260268	Tyler
Coastal Hilltop Pad	39.20213552	-80.69767629	Doddridge

Coffman Pad	39.25128226	-80.43962029	Harrison
Cofor Pad	39.2993437	-80.8002709	Doddridge
Colorado East Pad	39.40291771	-80.7881803	Tyler
Colorado West Pad	39.402308	-80.789726	Tyler
Corder East Pad	39.22230014	-80.55358263	Harrison
Cunningham Pad	39.30468922	-80.42601932	Harrison
Dale Pad	39.43197886	-80.8626926	Tyler
Davis 1 Pad	39.16910419	-80.53632169	Harrison
Dawson Pad	39.3805673	-80.8736477	Tyler
Deets Pad	39.3144602	-80.7253954	Doddridge
Delbert Leatherman Pad	39.298194	-80.692987	Doddridge
Diane Davis Pad	39.30394882	-80.822884	Doddridge
Dogwood Pad	39.5263075	-80.7245976	Wetzel
Dotson-Holland Pad	39.27332443	-80.8729977	Doddridge
Dry Run Pad	39.551604	-80.91157	Tyler
Ed Yost Pad	39.547945	-80.836421	TYLER
Eddy Pad	39.33398924	-80.9200812	Ritchie
Edna Monroe Pad	39.42265895	-80.8733492	Tyler
Edwin Pad	39.23042522	-80.902983	Ritchie
Eldon Pad	39.49342222	-80.9577065	Tyler
Elk Fork Pad	39.54117557	-80.87032559	Tyler
Erwin Hilltop Pad	39.1782502	-80.709194	Doddridge
Erwin Valley Pad	39.15219074	-80.6953519	Doddridge
Estlack Pad	39.41436333	-80.8782367	Tyler
Ferrell Pad	39.47222233	-80.9178386	Tyler
Flanigan Pad	39.34549554	-80.39493753	Harrison
Forest Pad	39.396028	-80.739939	Tyler
Fritz Pad	39.2340995	-80.840121	Doddridge
Furbee Pad	39.5567998	-80.73125356	Wetzel
Gadd Pad	39.54996111	-80.7552583	Wetzel
Gamehenge East Pad	39.497631	-80.901311	Tyler
Gamehenge Pad	39.5089422	-80.8881796	Tyler
Gaspar Pad	39.314645	-80.762437	Doddridge
George Scott Pad	39.30755034	-80.7333989	Doddridge
Gorrell Pad	39.4185406	-80.9903913	Tyler

Grand Pad	39.50739675	-80.81084716	Tyler
Hamilton Pad	39.36768087	-80.743689	Doddridge
Hartley East Pad	39.365272	-80.9932223	Tyler
Heintzman Pad	39.543027	-80.85589	Tyler
Hichman Pad	39.3384982	-80.8844734	Ritchie
Hill Pad	39.32301729	-80.55469843	Harrison
Hogue Pad	39.4715486	-80.8980903	Tyler
Hubert Pad	39.2534052	-80.56034967	Harrison
Hughes Pad	39.219393	-80.620524	Doddridge
Hurst 21 Pad	39.18654833	-80.49537849	Harrison
Hustead Pad	39.29148123	-80.54320483	Harrison
Ingold Pad	39.55422895	-80.79282023	Wetzel
Ireland North Pad	39.17272529	-80.8993103	Ritchie
Jackson Pad	39.289309	-80.983732	Ritchie
James Webb Pad	39.23856543	-80.8733728	Doddridge
John Campbell North Pad	39.18092463	-80.9301588	Ritchie
John Richards Pad	39.20535315	-80.9196861	Ritchie
Johnson Pad	39.32741805	-80.54859365	Harrison
Jonathan Davis Pad	39.29934435	-80.8289388	Doddridge
Jones Pad	39.3175693	-80.41982844	Harrison
Journeyman Pad	39.54821389	-80.74385	Wetzel
Kelly Pad	39.31426938	-80.9627937	Ritchie
Kirk Hadley Pad	39.46324918	-80.9322962	Tyler
Larry Pad	39.30445402	-80.37499361	Harrison
Lemley Pad	39.3262782	-80.6802514	Doddridge
Lemuel Pad	39.42237708	-80.913527	Tyler
Leonard Pad	39.26531555	-80.59656738	Doddridge
Lettie Pad	39.36484316	-80.910495	Ritchie
Locke Pad	39.1776802	-80.8333695	DODDRIDGE
Lockhart Heirs Pad	39.19105139	-80.8903569	Ritchie
Lockhart Heirs West Pad	39.18952222	-80.9281704	Ritchie
Long Run Pad	39.30033135	-80.8639916	Doddridge
Lowe Pad	39.24823866	-80.44760011	Harrison
Lynn Camp Pad	39.2139081	-80.9452504	Ritchie

Mackay Pad	39.23831353	-80.897178	Ritchie
Male Pad	39.298586	-80.409931	Harrison
Margery Pad	39.51721051	-80.8297233	Tyler
Marsden Pad	39.2470123	-80.5987695	Doddridge
Mary Post Pad	39.29957072	-80.53890158	Harrison
Matheny Pad	39.24729916	-80.42946291	Harrison
Mathews Pad	39.3124278	-80.3941404	Harrison
Matthey Pad	39.3266972	-80.5427667	Harrison
Maxwell Horizontal Pad	39.207694	-80.69283	Doddridge
McGill Pad	39.27463434	-80.8489048	Doddridge
McKim Pad	39.38548113	-80.9513719	Tyler
Melody Pad	39.35843609	-80.7592834	Doddridge
Meredith Pad	39.34852953	-80.8701577	Tyler
Middle Pad	39.32245546	-80.8065139	Doddridge
Misery Pad	39.36064574	-80.7490269	Doddridge
Moore Pad	39.31786003	-80.70003699	Doddridge
Morris Pad	39.3033359	-80.4293994	Harrison
Mountain Lakes Pad	39.22354892	-80.46960095	Harrison
Mulvay Pad	39.32251338	-80.8991258	Ritchie
Myer Pad	39.18918752	-80.51182231	Harrison
Nalley Pad	39.544553	-80.954728	Tyler
Nash Pad	39.31547859	-80.7124594	Doddridge
Neat Pad	39.42150287	-80.9377045	Tyler
Ness Pad	39.19534635	-80.9013137	Ritchie
Noland Pad	39.29882617	-80.9782016	Ritchie
O Rice Pad	39.31727367	-80.53134931	Harrison
OXFD 1 Pad	39.24244629	-80.8256255	Doddridge
OXFD 11 Pad	39.17067367	-80.7637086	Doddridge
OXFD 13 Pad	39.16858138	-80.74780191	Doddridge
OXFD 97 Pad	39.23294578	-80.8038469	Doddridge
OXFD 98 Pad	39.25303611	-80.79967222	Doddridge
Pearl Jean Pad	39.285125	-80.6731785	Doddridge
Peggy June Pad	39.40294253	-80.7882014	Tyler
Pennington North Pad	39.21043	-80.739021	Doddridge

Pennington South Pad	39.2025	-80.740833	Doddridge
Phillips Pad	39.3253278	-80.3715833	Harrison
Pierpoint Pad	39.45201539	-80.8589493	Tyler
Plaugher North Pad	39.27069284	-80.60901798	Doddridge
Pool Pad	39.29802145	-80.91163	Ritchie
Powell Pad	39.276199	-80.690984	Doddridge
Primm Pad	39.24134478	-80.8528152	Doddridge
Pyle Run Pad	39.40015621	-80.9040775	Tyler
Pyles Pad	39.50385	-80.8373042	Tyler
Quinn Pad	39.19729872	-80.50696127	Harrison
R Swiger Pad	39.38638681	-80.57843148	Doddridge
Red Lady Pad	39.52595741	-80.76174874	Wetzel
Reed Pad	39.20003498	-80.53268194	Doddridge
Reel Pad	39.54022306	-80.8830067	Tyler
Revival Pad	39.324233	-80.69015	Doddridge
Richard Garry Pad	39.18963008	-80.71437607	Doddridge
Ritchie Petroleum Pad	39.35923695	-80.975394	Tyler
RJ Smith Pad	39.3657592	-80.732956	Doddridge
Robert Williams Pad	39.23757447	-80.8628439	Doddridge
Rock Run Pad	39.30487	-80.8148444	Doddridge
Roma Lou Pad	39.48532651	-80.97405405	Tyler
Ross Pad	39.3024041	-80.4336498	Harrison
Rossco Pad	39.3149194	-80.41415	Harrison
Ruddy Alt Pad	39.156706	-80.69592	Doddridge
Rush Fork	39.41683594	-80.9696524	Tyler
Scarff Pad	39.32349504	-80.38985403	Harrison
Shepherd Pad	39.39356497	-80.76125088	Tyler
Sine Pad	39.41511	-80.9568	Tyler
Snake Run Pad	39.204868	-80.651022	Doddridge
Southern Pad	39.2657443	-80.47948938	Harrison
Sperry 2 Pad	39.23802144	-80.46646194	Harrison
Sperry 3 Pad	39.24695051	-80.45207061	Harrison
Stanley Pad	39.23681969	-80.8796314	Doddridge
State Ridge Pad	39.50839033	-80.8744589	Tyler

Stewart Pad	39.188552	-80.661419	Doddridge
Stonefly Pad	39.41785809	-80.9227259	Tyler
Strickling Pad	39.33217417	-80.7838429	Doddridge
Susie Jane Pad	39.253895	-80.632041	Doddridge
Swisher Pad	39.210289	-80.666369	Doddridge
Terry Snider Pad	39.36803375	-80.9641858	Tyler
Thin Air Pad	39.5280375	-80.7927172	Tyler
Thompson Pad	39.38452531	-80.55882119	Doddridge
Tracey Pad	39.3034833	-80.4197583	Harrison
Trans Energy Pad (Graff)	39.431203	-80.849183	Tyler
Trent Pad	39.209247	-80.62932	Doddridge
Varner West Pad	39.25469266	-80.54715049	Harrison
Vera Pad	39.42528016	-80.9040486	Tyler
Vogt Pad	39.27731908	-80.8623983	Doddridge
Wagner Pad	39.210671	-80.604261	Doddridge
Walnut West Pad	39.31309114	-80.9981382	Ritchie
Washbourne Pad	39.18388195	-80.51709997	Harrison
Weekley Trust Pad	39.37157353	-80.9239663	Ritchie
Weekley West Pad	39.16962	-80.875339	Ritchie
Weigle East Pad	39.46619757	-80.8527933	Tyler
Williams 10 Pad	39.30810585	-80.40102013	Harrison
Williams 9 Pad	39.3079392	-80.40549221	Harrison
Wrigley Pad	39.42123802	-81.0076702	Tyler
Yeager Pad	39.19541988	-80.8844575	Ritchie
Yolanda Pad	39.34874065	-80.7695328	Doddridge
Yvonne Pad	39.34874065	-80.7695328	Doddridge
Zinn Pad	39.32012299	-80.9382615	Ritchie

A-2: Antero's Well Pads in Ohio

Pad Name	Surface Latitude	Surface Longitude	County
Albert Wellpad	39.859465	-81.204269	Monroe
Alpha Well Pad	39.926798	-81.276018	Noble
Andes Pad	39.912739	-81.371337	Noble
Bettinger Well Pad	39.692987	-81.393557	Noble
Betts Pad	39.809392	-81.254994	Monroe
Bishop Pad	39.773809	-81.297633	Monroe
Bond Pad	39.864883	-81.370972	Noble
Bronson Pad	39.866187	-81.171234	Monroe
Capstone Pad	39.930491	-81.266894	Guernsey
Crestone Pad	39.857723	-81.18995	Monroe
Cynthia Pad	39.88136944	-81.40434722	Noble
Ervin Pad	39.90791332	-81.32493468	Noble
Et Carpenter	39.81801189	-81.30421598	Monroe
Et Rubel Pad	39.83304768	-81.30229086	Monroe
Farnsworth Pad	39.78462	-81.277739	Monroe
Fuller Pad	39.919325	-81.354519	Noble
Hercher Pad	39.674675	-81.24566667	Monroe
Hill Pad	39.8712873	-81.5201244	Noble
Hughes Pad	39.8527025	-81.2372963	Monroe
J Anderson	39.97478278	-81.26941531	Guernsey
J. Hall Pad	39.99164391	-81.26024229	Guernsey
Jr Byler Pad	39.90217222	-81.33103056	Noble
Justice Pad	39.88241944	-81.42294167	Noble
Krupa Pad	39.88438233	-81.36417539	Guernsey
Kurtz Pad	39.838721	-81.254141	Monroe
Loraditch Pad	39.83211389	-81.2611	Monroe
Melvin Pad	39.846899	-81.245755	Monroe
Miley Pad	39.85447722	-81.45349481	Noble
Monroe Pad	39.84916389	-81.28694444	Noble
Myron Pad	39.88400833	-81.39320556	Noble
Nikki Pad	39.861042	-81.177245	Monroe

Noble Pad	39.94626127	-81.2871006	Monroe
Otto Pad	39.84963611	-81.22194	Monroe
Price Pad	39.93589167	-81.31632222	Noble
Quintel Pad	39.885411	-81.276345	Noble
Renny Pad	39.84973745	-81.21367306	Monroe
Rich Pad	39.86403333	-81.43098889	Noble
Robert Pad	39.861886	-81.441108	Noble
Roe Pad	39.91360278	-81.31436389	Noble
Roxie Pad	39.778267	-81.282833	Monroe
Schultz Pad	39.93730278	-81.30751944	Noble
Smierciak Pad	39.87988333	-81.4087	Noble
Troyer Pad	39.872827	-81.334557	Noble
Urban Pad	39.8269256	-81.2847676	Monroe
Warner Pad	39.818378	-81.329561	Noble
Wayne Pad	39.86820993	-81.42252563	Noble
Webb Pad	39.70736944	-81.25005278	Monroe
Wehr Pad	39.898844	-81.273787	Noble
Wilson Pad	39.82269673	-81.31869183	Noble

APPENDIX B:
SAMPLING AND ANALYSIS PLAN

1. Introduction

The purpose of this Sampling and Analysis Plan (SAP) is to provide an overview of the equipment and procedures to obtain representative samples of produced liquids and gas. It also includes the analytical methods used to determine the composition of those samples and content of the report provided by the laboratory. The resulting compositional reports will be used in emissions calculations and as input for modeling evaluation and design of vapor collection systems for upstream oil and gas production facilities owned by Antero Resources Corporation (Antero). Antero shall apply the following procedures when collecting and analyzing samples in accordance with Paragraph 20 of the Consent Decree.

2. Liquid Sampling Procedures

The following methods shall be used to collect liquid samples:

1. ***GPA 2174*** - *"Obtaining Liquid Hydrocarbon Samples for Analysis by Gas Chromatography"*
2. ***ASTM D4057*** - *"Standard Practice for Manual Sampling of Petroleum and Petroleum Products"*

The pressurized liquid samples should be collected using a constant-pressure cylinder. If a constant-pressure cylinder is not available, a constant-volume cylinder, as described in GPA 2174, shall be used. Samples may be collected from:

- The gas production unit (GPU, located upstream of the low pressure separator and VRT, when present) or
- From the low pressure separator (when present), the separation vessel that dumps to the storage tanks, specifically at a sampling port located immediately upstream of the dump valve. Samples shall not be collected from a Vapor Recovery Tower.

Collection from the GPU will allow Antero to model the emissions from the entire facility through process simulation models (PSM, i.e., Promax or HYSYS) at different operating conditions, and the flashing, working, and breathing (FWB) vapors from the atmospheric tanks. Where the operational conditions are not the worst case for the facility (i.e., highest separator pressure and lowest separator temperature) at the time a sample was obtained, such simulation model shall use back blending of the pressurized liquid sample with the associated natural gas sample to estimate the composition of the bulk fluid entering the separation vessel and associated worst case FWB vapors from the atmospheric tanks. The following steps shall be taken when collecting the samples:

- **Verify Normal Operations** – Prior to sampling, check with the operator to ensure the separator is functioning normally.
- **Pressurized Liquid Sample Timing Relative to Dumping Events** – The following shall apply:

  - For high-producing wells, if during a sampling event the sampler has an indication that a dump event is about to happen, the sampler can close the sample valve and wait until the dump has occurred and continue to sample.
  - For low-producing wells, the operator can manually dump the separator to allow the sampler to draw a sample.
  - For separators that have proportional (or throttling) level control, the sample will be collected during a period when the flow is stable.
- **Pressurized Liquid Sampling Rate** – The pressurized liquid sampling rate shall not exceed 60 milliliters per minute and shall be verified by timing the fill indicator on the cylinder used during collection.
- **Operational Temperature and Pressure** - The pressure and temperature will be recorded for the equipment where the sample is being obtained. If samples are obtained in pursuit of an Engineering Evaluation (required by the Consent Decree), conditions in downstream equipment (pressures, temperatures and, if appropriate, flows) shall be obtained.
- **Sample Temperature and Pressure** – Measure the source pressure and temperature using Measurement Equipment and record the following values: the initial source pressure and temperature, the minimum pressure observed during the purging stage, and the minimum pressure observed during the sampling stage.
- **Leak Checks** – Perform a leak check of the sample cylinder or container after each sample collection.
  - For pressurized cylinders, wrap the external valve connections with Teflon tape and then cap them using threaded metal caps.
  - For atmospheric sample containers, tighten the cap snuggly and then tape around the edge of the cap for added sealing.

3. Gas Sampling Procedures

The following method shall be used to collect gas samples:

1. ***GPA 2166*** – *"Obtaining Natural Gas Samples for Analysis by Gas Chromatography"*

The produced gas samples shall be collected on the topside of the separator/heater treater or at a commingled sales line in accordance with the procedures in GPA 2166.

- **Operational Temperature and Pressure** - The pressure and temperature will be recorded for the separation vessel or commingled sale line.

4. Measurement Equipment

- The measurement equipment shall comply with the requirements:
  1. An intrinsically safe pressure gauge capable of measuring actual liquid pressures within ±0.1 percent accuracy; and,
  2. A temperature gauge capable of measuring actual liquid temperature within ±2°F.

5. Samples to be Collected

Antero shall collect the following samples from a given facility on the same date and as close as possible to the same time:

1. **Hydrocarbon Liquid Separation Vessel** - collect a pressurized Produced Oil sample from a representative separation vessel located upstream of the Produced Oil Storage Vessel.
2. **Associated Natural Gas** – collect a natural gas sample at the separation vessel where the Produced Oil sample was obtained or commingled sale line.

Antero may collect the following samples from a given facility on the same date and as close as possible to the same time to provide detailed information for an Engineering Evaluation:

1. **Hydrocarbon Liquid Storage Vessel** - collect a Produced Oil sample from the sales oil tanks.

6. Laboratory Analysis Procedures

The analysis and/or testing for hydrocarbon liquids and produced water shall be performed using the following method for flash gas calculations pertaining to the Design Assessment Methodology:

1. ***GPA 2186M*** - *"Tentative Method for the Extended Analysis of Hydrocarbon Liquid Mixtures Containing Nitrogen and Carbon Dioxide by Temperature Programmed Gas Chromatography"*

The following methods shall be performed when an Engineering Evaluation is triggered by the Consent Decree:

2. ***GPA 2103M*** - *"Tentative Method for the Analysis of Natural Gas Condensate Mixtures Containing Nitrogen and Carbon Dioxide by Gas Chromatography"*
3. ***ASTM D5191*** – *"Standard Test Method for Vapor Pressure of Petroleum Products and Liquid Fuels"* or;
4. ***ASTM D6377*** – *"Standard Test Method for Determination of Vapor Pressure of Crude Oil: VPCRx (Expansion Method)"*
5. ***ASTM D323*** – "*Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method)"*
6. ***ASTM D7777*** - *"Standard Test Method for Density, Relative Density, or API Gravity of Liquid Petroleum by Portable Digital Density Meter"*
7. ***ASTM D5002*** – *"Standard Test Method for Density, Relative Density, and API Gravity of Crude Oils by Digital Density Analyzer"*
8. ***ASTM D4052*** – *"Standard Test Method for Density and Relative Density of Liquids by Digital Density Meter"*

The analysis and/or testing of the produced gas or flash gas shall be performed using the following methods:

1. ***GPA 2286*** - *"Method for the Extended Analysis of Natural Gas and Similar Mixtures by Temperature Programmed Gas Chromatography"*

Gas samples should be taken at points within the process as to appropriately represent actual operating conditions.

7. Laboratory Analysis and Test Reports

The report of analysis and calculated values shall include a summary of the methods used, a presentation of the data collected, results of analysis of samples, and a discussion of the testing itself, including any deviations from the methods or protocols included in this SOP.

7.1 Quality Assurance and Quality Control

The following QA/QC data listed below must be included on either the pressurized liquids laboratory report or the process model simulation documents:

1. pressurized liquid sample collection rate (mL/min)
    a. the maximum liquid collection rate should not exceed 60 mL/min
2. atmospheric pressure, psia
3. pressurized liquid sample collection pressure, psig
4. pressurized liquid sample temperature, °F
5. pressurized liquid sample bubble point pressure, psig (calculated)
6. percent difference between collection and bubble point pressures
    a. $\frac{Sample\ collection\ pressure\ (psig) - Bubble\ Point\ Pressure\ (psig)}{Sample\ collection\ pressure\ (psia)}$
    b. a sample must have a calculated bubble point pressure (at the sample collection temperature) that is no greater than 30% difference from the field sample pressure.
7. pressurized liquid Bubble Point Phase Envelope diagram

7.2 Report Contents

The analytical report shall include the following:

1. All analytical reports
    a. Copies of Sample Tags and Chain of Custody
    b. Sample identification.
    c. Date and time sampled
    d. Description of vessel sampled
    e. Well name, pad name, and county
    f. Results of analysis (hydrocarbons C1 through C10+, benzene-toluene-ethylbenzene-xylene components, CO2, and N2)
    g. Average molecular weight
    h. Operational Conditions (temperature in °F and pressure in psig) of the facility equipment at time of liquids and gas sample collection
    i. Sample Conditions (temperature in °F and pressure in psig) for the source, the minimum pressure observed during the purging stage, and the minimum pressure observed during the sampling stage.
    j. Start and stop times for sampling
    k. Quality Control Data listed above in Section 7.1, including the data flags (if any)
    l. Calibration certificates for field instruments
    m. Field Data Forms and checklists (see Section 9)

2. Additional information for pressurized liquid analysis reports
    a. Relative specific gravity of decanes (C10+) fraction (calculated)
    b. Average molecular weight of decanes (C10+) fraction (calculated)
    c. Reid vapor pressure of the sales oil or condensate
    d. API gravity of the sales oil or condensate
3. Additional information for as specified above for an Engineering Evaluation

8 Representative Samples

In cases where it is not be feasible to collect a quality site-specific sample, Antero shall use a representative sample, in lieu of a site-specific sample, that meets the following criteria:

1. The representative sample must originate from the same producing formation as the facility stream being represented.

2. The representative facility must be a reasonable distance from the facility being evaluated. Antero is defining "reasonable distance" as less than 10 miles.

3. The sample must be taken from a facility that processes the liquids and gas streams in a similar manner as the facilities where the sample results will be used.

In situations where multiple representative samples that meet the stated criteria are available Antero shall use the sample with the highest flash to liquid ratio.

In situations where a representative sample was collected during operational conditions that are not within ±20 psig and ±30 degrees Fahrenheit of the separation vessel being evaluated or not the worst case for the subject facility (i.e., highest separator pressure and lowest separator temperature), Antero shall perform simulated back blending of the modeled liquid sample with a gas stream having a composition appropriate to the subject facility (i.e., based on an empirical analysis of subject facility separation vessel gas or commingled sale line) to define a representative separator inlet fluid. The purpose of the simulated back blending procedure is to ensure that the pre-flash modeled system has a system pressure and temperature consistent with the worst-case operating pressure and temperature (to beget worst case flash gas at the tanks) of the separator at the subject facility.

9 Field Data Form

Antero shall use the following form, or a digital version, when collecting a sample:

FORM 1
Flash Analysis Testing Field Data Form

Date of Testing:		
Production Company Name:		
Address:		
City:		
Contact:	Phone:	
Sampling Company Name:		
Address:		
City:		
Contact:	Phone:	
Sample Information		
Portable Pressure Separator ID:		
Pressure Separator ID:		
Sample Pressure:		psia
Sample Temperature:		°F
Atmospheric Tank or Separator Temperature		°F
Cylinder Type (Double Valve or Piston):		
Sample Type (circle one): crude oil condensate produced water		
Cylinder ID:	Cylinder Volume:	ml
Displacement Liquid:		
Sample Volume: ml	Outage Displaced:	ml

APPENDIX C:
SUBJECT VAPOR CONTROL SYSTEMS IN WEST VIRGINIA AND OHIO

C-1: Subject Vapor Control Systems in West Virginia

Pad Name	Surface Latitude	Surface Longitude	County
Addie Pad	39.33347838	-80.8056894	Doddridge
Alexander Pad	39.33574349	-80.7754441	Doddridge
Alvadore Pad	39.2733035	-80.8828085	Doddridge
Annie Horizontal Pad	39.32735125	-80.925511	Ritchie
Bachelor Pad	39.31147593	-81.0152556	Ritchie
Balli Pad	39.30228032	-80.8440069	Doddridge
Beech Run Pad	39.52877655	-80.78239645	Tyler
Big Run Pad	39.554848	-80.818922	Tyler
Bison Pad	39.29520525	-80.9013976	Ritchie
Black Forest Pad	39.30951081	-81.0282848	Ritchie
Blizzard Pad	39.49895833	-80.8505417	Tyler
Buck Run Pad	39.31586898	-80.9474431	Ritchie
Cashew Pad	39.1719336	-80.85772197	Ritchie
Charlene Pad	39.29959327	-80.9637174	Ritchie
Cofor Pad	39.2993437	-80.8002709	Doddridge
Colorado East Pad	39.40291771	-80.7881803	Tyler
Dale Pad	39.43197886	-80.8626926	Tyler
Dawson Pad	39.3805673	-80.8736477	Tyler
Deets Pad	39.3144602	-80.7253954	Doddridge
Diane Davis Pad	39.30394882	-80.822884	Doddridge
Dogwood Pad	39.5263075	-80.7245976	Wetzel
Dotson-Holland Pad	39.27332443	-80.8729977	Doddridge
Dry Run Pad	39.551604	-80.91157	Tyler
Ed Yost Pad	39.547945	-80.836421	Tyler
Eddy Pad	39.33398924	-80.9200812	Ritchie
Edna Monroe Pad	39.42265895	-80.8733492	Tyler
Edwin Pad	39.23042522	-80.902983	Ritchie
Eldon Pad	39.49342222	-80.9577065	Tyler

Elk Fork Pad	39.54117557	-80.87032559	Tyler
Estlack Pad	39.41436333	-80.8782367	Tyler
Ferrell Pad	39.47222233	-80.9178386	Tyler
Fritz Pad	39.2340995	-80.840121	Doddridge
Furbee Pad	39.5567998	-80.73125356	Wetzel
Gadd Pad	39.54996111	-80.7552583	Wetzel
Gamehenge East Pad	39.497631	-80.901311	Tyler
Gamehenge Pad	39.5089422	-80.8881796	Tyler
Gaspar Pad	39.314645	-80.762437	Doddridge
George Scott Pad	39.30755034	-80.7333989	Doddridge
Gorrell Pad	39.4185406	-80.9903913	Tyler
Grand Pad	39.50739675	-80.81084716	Tyler
Hartley East Pad	39.365272	-80.9932223	Tyler
Heintzman Pad	39.543027	-80.85589	Tyler
Hichman Pad	39.3384982	-80.8844734	Ritchie
Hogue Pad	39.4715486	-80.8980903	Tyler
Ingold Pad	39.55422895	-80.79282023	Wetzel
Ireland North Pad	39.17272529	-80.8993103	Ritchie
Jackson Pad	39.289309	-80.983732	Ritchie
James Webb Pad	39.23856543	-80.8733728	Doddridge
John Campbell North Pad	39.18092463	-80.9301588	Ritchie
John Richards Pad	39.20535315	-80.9196861	Ritchie
Jonathan Davis Pad	39.29934435	-80.8289388	Doddridge
Journeyman Pad	39.54821389	-80.74385	Wetzel
Kelly Pad	39.31426938	-80.9627937	Ritchie
Kirk Hadley Pad	39.46324918	-80.9322962	Tyler
Lemley Pad	39.3262782	-80.6802514	Doddridge
Lemuel Pad	39.42237708	-80.913527	Tyler
Lettie Pad	39.36484316	-80.910495	Ritchie
Locke Pad	39.1776802	-80.8333695	Doddridge
Lockhart Heirs Pad	39.19105139	-80.8903569	Ritchie
Lockhart Heirs West Pad	39.18952222	-80.9281704	Ritchie
Long Run Pad	39.30033135	-80.8639916	Doddridge
Lynn Camp Pad	39.2139081	-80.9452504	Ritchie

Mackay Pad	39.23831353	-80.897178	Ritchie
Margery Pad	39.51721051	-80.8297233	Tyler
McGill Pad	39.27463434	-80.8489048	Doddridge
McKim Pad	39.38548113	-80.9513719	Tyler
Melody Pad	39.35843609	-80.7592834	Doddridge
Meredith Pad	39.34852953	-80.8701577	Tyler
Middle Pad	39.32245546	-80.8065139	Doddridge
Misery Pad	39.36064574	-80.7490269	Doddridge
Mulvay Pad	39.32251338	-80.8991258	Ritchie
Nalley Pad	39.544553	-80.954728	Tyler
Neat Pad	39.42150287	-80.9377045	Tyler
Ness Pad	39.19534635	-80.9013137	Ritchie
Noland Pad	39.29882617	-80.9782016	Ritchie
OXFD 11 Pad	39.17067367	-80.7637086	Doddridge
OXFD 97 Pad	39.23294578	-80.8038469	Doddridge
OXFD 98 Pad	39.25303611	-80.79967222	Doddridge
Peggy June Pad	39.40294253	-80.7882014	Tyler
Pierpoint Pad	39.45201539	-80.8589493	Tyler
Pool Pad	39.29802145	-80.91163	Ritchie
Primm Pad	39.24134478	-80.8528152	Doddridge
Pyle Run Pad	39.40015621	-80.9040775	Tyler
Pyles Pad	39.50385	-80.8373042	Tyler
Red Lady Pad	39.52595741	-80.76174874	Wetzel
Reel Pad	39.54022306	-80.8830067	Tyler
Ritchie Petroleum Pad	39.35923695	-80.975394	Tyler
Robert Williams Pad	39.23757447	-80.8628439	Doddridge
Rock Run Pad	39.30487	-80.8148444	Doddridge
Roma Lou Pad	39.48532651	-80.97405405	Tyler
Rush Fork	39.41683594	-80.9696524	Tyler
Sine Pad	39.41511	-80.9568	Tyler
Stanley Pad	39.23681969	-80.8796314	Doddridge
State Ridge Pad	39.50839033	-80.8744589	Tyler
Stonefly Pad	39.41785809	-80.9227259	Tyler
Strickling Pad	39.33217417	-80.7838429	Doddridge
Terry Snider Pad	39.36803375	-80.9641858	Tyler

Thin Air Pad	39.5280375	-80.7927172	Tyler
Vera Pad	39.42528016	-80.9040486	Tyler
Vogt Pad	39.27731908	-80.8623983	Doddridge
Walnut West Pad	39.31309114	-80.9981382	Ritchie
Weekley Trust Pad	39.37157353	-80.9239663	Ritchie
Weekley West Pad	39.16962	-80.875339	Ritchie
Weigle East Pad	39.46619757	-80.8527933	Tyler
Wrigley Pad	39.42123802	-81.0076702	Tyler
Yolanda Pad	39.34874065	-80.7695328	Doddridge
Yvonne Pad	39.34874065	-80.7695328	Doddridge
Zinn Pad	39.32012299	-80.9382615	Ritchie

C-2: Subject Vapor Control Systems in Ohio

Pad Name	Surface Latitude	Surface Longitude	County
Alpha Well Pad	39.926798	-81.276018	Noble
Andes Pad	39.912739	-81.371337	Noble
Bond Pad	39.864883	-81.370972	Noble
Capstone Pad	39.930491	-81.266894	Guernsey
Cynthia Pad	39.88136944	-81.40434722	Noble
Ervin Pad	39.90791332	-81.32493468	Noble
Fuller Pad	39.919325	-81.354519	Noble
Hill Pad	39.8712873	-81.5201244	Noble
J. Hall Pad	39.99164391	-81.26024229	Guernsey
JR Byler Pad	39.90217222	-81.33103056	Noble
Justice Pad	39.88241944	-81.42294167	Noble
Krupa Pad	39.88438233	-81.36417539	Guernsey
Miley Pad	39.85447722	-81.45349481	Noble
Myron Pad	39.88400833	-81.39320556	Noble
Noble Pad	39.94626127	-81.2871006	Monroe
Price Pad	39.93589167	-81.31632222	Noble
Quintel Pad	39.885411	-81.276345	Noble
Rich Pad	39.86403333	-81.43098889	Noble
Robert Pad	39.861886	-81.441108	Noble
Roe Pad	39.91360278	-81.31436389	Noble
Schultz Pad	39.93730278	-81.30751944	Noble
Smierciak Pad	39.87988333	-81.4087	Noble
Troyer Pad	39.872827	-81.334557	Noble
Wayne Pad	39.86820993	-81.42252563	Noble

APPENDIX D:
DESIGN ANALYSIS METHODOLOGY

I. SCOPE AND APPLICABILITY

1. Antero shall develop a Design Analysis Methodology as outlined below, and revise it as required by this Consent Decree.

II. VAPOR FLOW RATE AND PRESSURE MODELING

2. Antero shall determine the PMIVFR, PPIVFR and Peak Modeled Pressure for each Storage Vessel System with a Subject Vapor Control System. The PPIVFR shall (i) reflect the maximum potential rate of vapors routed to the Subject Vapor Control System during Normal Operations, and (ii) be expressed in standard cubic feet per day.

3. The Design Analysis Methodology shall address the following, where applicable:

   a. All vapor sources (*e.g.*, atmospheric Storage Vessels and transfer and loading systems) tied or to be tied into the Subject Vapor Control System;

   b. The maximum operating pressure and minimum operating temperature from the last stage of separation prior to the Storage Vessel System;

   c. Maximum potential Storage Vessel liquid temperature;

   d. Vapor pressure of the final weathered product transported from the Storage Vessel(s);

   e. The recycling of liquids from the Storage Vessel(s) back to the upstream process equipment;

   f. Estimation of highest potential flow rate of flash gas to the Vapor Control System utilizing: representative or site-specific pressurized and atmospheric liquid sampling according to Appendix B; lab analyses,

including representative or site-specific flash gas to oil ratio according to Appendix B; process simulation; correlations; or any combination thereof;

g. Volume and duration of individual dump events, including the nature of the flow of liquids to and from the Separator (*i.e.*, steady flow, slug flow, intermittent flow (*e.g.*, due to discrete well cycling events; and the maximum number of dump events associated with a single well cycle with slug or intermittent flow the minimum time between dump events, including where applicable:

(1) The type of dump valve control (*e.g.*, proportional, on/off) and dump valve size and trim size;

(2) Size, length and fittings of the liquid transfer line between the last stage of separation and the Storage Vessel(s);

(3) Simultaneous dump events to the same Storage Vessel System (unless all potential simultaneous dump events have been precluded through installation of timers, automation, or other measures);

(4) The current maximum potential daily oil and water, or actual, production rates and diurnal variations in these flows;

(5) The calculation methods or simulation tools for processing the data inputs; and

(6) The accuracy of the input data and results (*e.g.*, uncertainty of empirical correlations, representativeness of samples, process conditions).

III. VAPOR CONTROL SYSTEM CAPACITY DETERMINATION

4. The Design Analysis Methodology shall include:

a. Vapor control equipment installed on the Subject Vapor Control System including the size, design and manufacturer specifications for minimum and maximum flow or pressure for each VRU and control device, the Maximum Design Pressure and capacity of the Vapor Control System and the set points for each Control Valve and the Set Points for each Subject Vapor Control System pressure relief device. If manufacturer specifications for the control device are not available, incorporate representative data based on the results of an engineering assessment;

b. Size and design of the piping system between the Storage Vessel(s) and the emission control device, including any associated pressure losses (*e.g.*, liquid knock-out drums, control device Flame Arrestors) and consideration of equivalent pipe length and back pressure valves or other restrictions on vapor flow;

c. Volume and duration of individual dump events; the nature of the flow of liquids to and from the Separator (*i.e.*, steady flow, slug flow, intermittent flow (*e.g.*, due to discrete well cycling events)); the minimum time between dump events; and the maximum number of dump events associated with a single well cycle with slug or intermittent flow;

d. Minimum available headspace in the Storage Vessel(s); and

e. Engineering design considerations applied to account for issues associated with the Vapor Control System (*e.g.*, fouling, potential for liquids accumulation in lines, winter operations) and variability of data.

APPENDIX E:
DIRECTED INSPECTION / PREVENTATIVE MAINTENANCE PROGRAM

1. The DI/PM Plan is comprised of five Standard Operating Procedures ("SOPs") for Storage Vessel Vapor Control System Preventative Maintenance, Combustor Operation and Maintenance, IR Camera Inspection for Subject Tank Vapor Control Systems, the AVO SOP, and the Spare Parts Inventory SOP. Together, the five DI/PM Plan SOPs include a schedule for the performance of all requirements set forth in this Appendix E, and the procedures for each of the inspection and maintenance programs listed in Paragraph 2, below. The DI/PM Plan SOPs shall apply only to equipment associated with Subject Vapor Control Systems.

2. The five SOPs set forth the procedures for the following aspects of the DI/PM Plan:

a. **Weekly AVO Inspections.** Antero shall perform an AVO Inspection at each Subject Vapor Control System on a weekly basis. Antero shall develop an SOP, informed by the Engineering Evaluations, for AVO Inspections. Antero shall identify the variable, verifiable, and critical parameters and practices (*e.g.*, production rate, temperatures, pressures) relied upon in determining whether the Vapor Control System is adequately designed and sized for the PMIVFR, PPIVFR, and the Peak Modeled Pressure in the Engineering Evaluation, and make them available to Antero's inspectors while on location. In each AVO Inspection, Antero shall verify that the equipment is operating consistent with all such parameters and practices. In addition, the SOP for weekly AVO inspections shall include:

(1) Definitions for "audio," "visual," and "olfactory" components of AVO inspections to assist in training of the personnel who will conduct these inspections; and

(2) Procedures for walk-around AVO inspection of all Vapor Control Systems and associated production equipment (*e.g.*, Separators) on a weekly basis (including while Storage Vessel(s) are receiving Produced Oil from Production Operations) to ensure that all equipment is operating properly and to check for hissing, hydrocarbon odors, new stains, or any other evidence of VOC emissions. In addition, the procedures shall include, but not be limited to:

(i) As to the well: check for presence of choke (if any) and surface flowing pressure.

(ii) As to the Separators: check for final stage of separation maximum operating pressure, set point of any device restricting final stage Separator dump flow rate, and ensure the valves are in the correct position.

(iii) As to the Vapor Control System: check to ensure that PRDs are properly sealed; thief hatches are closed, latched, and properly sealed; other valves are in the correct position (*e.g.*, Bypass Device is not open); and that Storage Vessel piping (*e.g.*, load line, blowdown line, vapor line) have no other observed or detected emissions.

(iv) As to the VRUs and control devices: check to ensure that the pressure monitoring equipment and Control Valve (if installed) are operating such that the valve is closed whenever the Vapor Inlet Monitor indicates the pressure is inconsistent with manufacturer specifications, and that the Valve Position Monitor is recording the valve position.

(v) As to the combustion control devices: ensure that burner is operational and confirm the absence of smoke; confirm the presence of a pilot light and that the liquid knockout is drained as necessary, inlet valves are functioning properly, and that the auto-ignitor is in good working condition. If smoke is observed, conduct an EPA Method 22 test to determine whether smoke is visible for more than one minute in any fifteen-minute period.

(vi) As to the Pilot Monitor, Storage Vessel Pressure Monitor, the Vapor Inlet Monitor and the Valve Position Monitor: ensure that the data is being recorded at the required interval and being transmitted to a central monitoring station to be monitored by the Control Room via exception reports.

b. **Monthly IR Camera Inspection Program.** Antero shall develop an SOP for monthly IR Camera Inspections in those months in which Antero does not do an inspection pursuant to 40 C.F.R § 60.5397a(a) or 40 C.F.R. § 60.5397b(a) including on-site personnel using a hand-held camera,

aerial, or fixed monitor technology and which SOP includes, but is not limited to, the following procedures:

(1) Antero shall perform an IR Camera Inspection at each Subject Vapor Control System on a monthly basis.

(2) Antero shall record the date and time of all IR Camera Inspections and record and maintain a video of any emissions detected from the Vapor Control System during an IR Camera Inspection.

(3) Antero shall maintain and provide the following records pertaining to each IR Camera Inspection in a spreadsheet form in the Semi-Annual Report required pursuant to Paragraph 96:

(i) The date, time, Well Pad, Subject Storage Vessel System, number of Storage Vessels inspected, and number of combustion devices inspected;

(ii) The date, time and description of any Reliable Information that is observed; and

(iii) The model and manufacturer, where available, of any combustion devices found with: a) VOC emissions observed (indicating incomplete combustion); or b) no pilot light is present, by checking presence of the light through the sight glass.

c. **Other Monthly Inspections.** Antero shall perform the Bypass Device inspection that is required by 40 C.F.R. § 60.5416a(c)(3), to the extent Antero operates any Bypass Devices.

d. **Preventative Maintenance**. Antero shall develop an SOP for Preventative Maintenance that includes, but is not limited to, maintenance, inspection, and replacement schedules for equipment subject to wear and tear. Such SOP shall include, but not be limited to, the following actions:

(1) Clean and check PRD and thief hatch seals and gaskets for integrity, check that the spring in the PRD aligns with the parameter identified in the Engineering Evaluation (through visual observation), repair or replace any Compromised Equipment, clean or replace Flame Arrestor and air-intake (annual frequency), clean or replace burner tray (annual frequency), check proper operation of dump valve on Separator by manually actuating the dump valve and visually observing its operation (unless actuation occurs without manual activation during the inspection), and perform any other appropriate maintenance and inspection activities. These activities shall occur no less frequently than semi-annually, except where otherwise noted. Weighted emergency hatches that require disassembly to inspect the spring are not required to conduct a check to confirm that spring aligns with the parameter identified in the Engineering Evaluation.

(2) If applicable, where Separator dump valve orifices are present, check to ensure they are in good condition, to the extent verifiable by means of visual or auditory observation, and replace them as necessary. This shall occur no less frequently than annually.

(3) Clear liquids from any buried lines where liquids can accumulate no less frequently than quarterly, except the knock-out pot should be drained no less frequently than semi-annually. Should maintenance activities or other inspection activities, including any Root Cause Analysis or abnormal pressure fluctuations identified by the Storage Vessel Pressure Monitor or Vapor Inlet Monitor, indicate that liquids are accumulating in vapor lines and causing VOC emissions, Antero shall perform this maintenance more frequently to minimize the accumulation of liquids in vapor lines, including but not limited to the knockout pot.

e. **Spare Parts Program**. Antero shall develop an SOP for a Spare Parts Program that supports normal operation, routine maintenance, and replacement requirements. The SOP shall include written procedures for the acquisition of parts on an emergency basis (*e.g.*, vendor availability on a next-day basis), and evaluate appropriate parts to be kept on hand (*e.g.*, gaskets and seals for thief hatches kept on trucks and replacement PRDs kept at a central Antero facility). No later than 30 Days after the Effective Date, Antero shall ensure that a current employee has been designated with the responsibility to maintain an adequate spare parts inventory.

f. **Recordkeeping and Reporting**. Antero shall establish and implement requirements for documentation of compliance with DI/PM practices and procedures (organized by Subject Vapor Control System as identified in Appendix C), including documentation of the date of the

inspection/maintenance activity, the observation of any Reliable Information, and the performance of any Corrective Action. Antero shall report all observations of Reliable Information (and instances of corrective action in conducting inspections pursuant to the DI/PM Plan) as required by Paragraph 47.

g. **Reliable Information**. As to the Subject Vapor Control Systems, Antero shall develop procedures for addressing Reliable Information, including performing Root Cause Analysis, and implementing corrective action.

h. **Training**. Antero shall ensure that all persons (*e.g.*, employees and contractors) responsible for implementation or execution of any part of the DI/PM program, except for independent contractors solely responsible for servicing equipment (*e.g.*, combustor manufacturer personnel replacing a burner tray), have completed training on the aspects of the DI/PM program, including any SOPs, that are applicable to the person's duties. Antero shall develop a training program to ensure that refresher training is performed once per calendar year and that new personnel are sufficiently trained prior to any involvement in the DI/PM program. New personnel training will include a job shadowing program, and refresher training shall include on-the-job review by supervising personnel or personnel familiar with the requirements of this Consent Decree and SOPs.

i. **Annual Review**. Antero shall perform the following during each Calendar year for each Subject Vapor Control System, and any other equipment subject to the DI/PM program:

(1) A DI/PM program-trained employee or contractor of Antero, whose primary responsibilities do not include performing duties in the DI/PM program on a routine basis for the particular Subject Vapor Control System under evaluation, shall undertake the following for each Subject Vapor Control System, and any other equipment subject to the DI/PM, in consultation with persons performing DI/PM program duties for that particular Subject Vapor Control System:

(i) Verify that maintenance and inspection schedules and the replacement program have been followed at the appropriate frequency;

(ii) Review maintenance and corrective action work records required to be maintained by this Consent Decree and records necessary to implement the DI/PM program for the Vapor Control System to confirm proper recordkeeping, timely response to all issues (*e.g.*, emissions or other operational issues), and determine if there are recurrent or systemic issues associated with a particular Vapor Control System; and

(iii) Make any appropriate updates to the DI/PM program, including SOPs.

(2) Upon completion of review of all Subject Vapor Control Systems, Antero shall evaluate whether there are recurrent or systemic issues across Antero's Subject Vapor Control Systems.

(3) If Antero determines that actions need to be taken to address operations or maintenance activities at one or more Vapor Control Systems based on Antero's review described in this Paragraph 2.i, such as making appropriate updates to the DI/PM program, including SOPs, Antero shall take such actions as soon as practicable, but no later than 75 Days after completion of the Annual Review of all Subject Vapor Control Systems.

(4) Antero shall complete the review required by this Paragraph 2.i for no fewer than half of its Subject Vapor Control Systems during the first semi-annual period of each Calendar year (*e.g.*, Antero shall review its 2021 records for no fewer than half of its Subject Vapor Control Systems between January 1 and June 30 of 2022).

(5) With each Semi-Annual Report, Antero shall submit documentation of the following information: (a) the date that review of the Subject Vapor Control System was completed; (b) a discussion of whether Antero identified any systemic issues; and (c) the nature and timing of all modifications, corrective actions, or other actions planned or undertaken as a result of this review.

APPENDIX F:
ENVIRONMENTAL MITIGATION PROJECTS

Antero shall comply with the requirements of this Appendix F and with Section V.K (Environmental Mitigation Projects) of the Consent Decree to implement and secure the environmental benefits of the Orphan Well Closure Project and the Auto Shut-in and Recovery Project described in this Appendix.

Nothing in this Appendix shall relieve Antero of its obligation to comply with all applicable federal, state, and local laws and regulations, including, but not limited to, any obligations to obtain any permits pursuant to the Clean Air Act. The Parties acknowledge that, under Sections 107(r) and 101(40) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Antero's agreement to this Project will not on its own cause Antero to be liable as a Potentially Responsible Party for any previously released hazardous substances at the Site, provided Antero exercises appropriate care with respect to hazardous substances found at the facility by taking reasonable steps to (i) stop any continuing release, (ii) prevent any threatened future release, and (iii) prevent or limit human, environmental, or natural resource exposure to any previously released hazardous substance.

The State of West Virginia represents that it has sufficient legal authority to authorize and oversee the Orphan Well Closure Project set forth in Section I and in accordance with this Consent Decree.

I. Orphan Well Closure Project

1. Prior to the Effective Date, Antero submitted for review and approval a proposed plan ("Project Plan") in accordance with the requirements of Paragraph 2 of this Section.

2. The Project Plan includes:

   a. A plan for implementation of the Orphan Well Closure Project, memorializing Antero's rights and obligations in performing the work in coordination with WVDEP;

   b. A summary-level budget for the Orphan Well Closure Project;

   c. A description of how Antero will identify wells proposed for plugging;

   d. A schedule for implementation of the Orphan Well Closure Project;

   e. A requirement that if Antero chooses to engage a third-party to accomplish this Orphan Well Closure Project, the terms of that arrangement shall be disclosed; and

f. A method to verify the anticipated environmental benefits of the Orphan Well Closure Project.

3. Antero shall complete the approved Orphan Well Closure Project in accordance with the approved Project Plan.

4. General Requirements. Antero shall plug and restore orphan wells in West Virginia in accordance with the applicable technical standards in W.Va. Code §§ 22-6-23 to -30 and associated implementing regulations. For the purposes of this Project, including determining whether the minimum spending requirement has been met, plugging and reclamation may include pre-plugging due diligence; sampling, obtaining necessary permits, road bonds, approvals, or permissions required to complete the work; clearing and construction necessary to access the well(s); downhole work necessary to plug the well(s); post plugging regulatory reporting; and basic site reclamation to the approximate contour present prior to plugging.

5. Plugging Criteria. In selecting wells to be plugged, Antero shall prioritize the reduction of VOC emissions, including working with WVDEP to identify priority orphan or abandoned wells in Doddridge County, Harrison County, Tyler County, Ritchie County and Wetzel County. In selecting wells to be plugged, Antero may also consider overall environmental conditions at candidate well sites, including as revealed through pre-plugging due diligence and sampling, well conditions and existing integrity, overall feasibility, and related logistical and technical considerations. Antero shall not plug wells that are viable for long-term production. Should there be insufficient wells in Doddridge County, Harrison County, Tyler County, Ritchie County and Wetzel County that meet the appropriate considerations, then Antero may select wells from other adjacent West Virginia counties.

6. Minimum spend. In carrying out this Project, Antero shall spend no less than $1,500,000 ("Minimum Spend Amount"). The Minimum Spend Amount can be met through both internal and third-party costs and expenses incurred by Antero in furtherance of the project, including, but not limited to, costs associated with selecting, inspecting (including pre-plugging qualitative and quantitative analyses, such as sampling), and permitting, pre-construction, construction, and reclamation costs. These costs incurred apply to the Minimum Spend Amount even if the well is not selected for plugging, provided that such costs associated with an unplugged well shall be capped at 20 percent of the Minimum Spend Amount. Costs incurred to pay contractors and also through reasonably attributed internal costs to Antero must be accounted for in accordance with generally accepted accounting principles for time and materials. None of the $1,500,000 may be used to abate or remediate any environmental contamination caused or contributed to by Antero or its agents. The parties acknowledge that in agreeing to this Project, they do not intend for Antero to be liable for releases of contamination at a well-site that occurred prior to the Date of Lodging of the Consent Decree, provided that Antero has no ownership interest in the property, has not caused or contributed to pre-existing contamination, and its involvement has been limited to the operations contemplated by this Appendix. As part of completing the Orphan Well Closure Project, any spending above the minimum spending amount shall be only as necessary to complete a well plugging in process

when the Minimum Spend Amount has been reached. In this case, the well plugging will be completed and the additional costs above the minimum spend will be paid by Antero.

7. Environmental Benefits. The Orphan Well Closure Project is anticipated to reduce VOC emissions, as well as provide significant environmental benefit in the State of West Virginia.

8. Deadline for Completion of Project. Antero shall complete the Orphan Well Closure Project no later than three years from the date that WVDEP provides the list of Candidate Wells.

9. Reporting Requirements. Antero's reporting requirements for this Orphan Well Closure Project under Paragraph 96.o of the Consent Decree shall be satisfied by:

a. Identification of the orphan oil and gas wells surveyed, assessed, from which emissions were quantified, plugged or restored under this Orphan Well Closure Project during the period covered by the Semi-Annual Report;

b. Photographs or other records establishing the orphan oil and gas wells involved during the period covered by the Semi-Annual Report;

c. Any pre- and post-project emissions testing verifying the emissions reductions from any orphan oil and gas wells under this Orphan Well Closure Project during the period covered by the Semi-Annual Report;

d. Upon completion, a summary of expenditures on this Orphan Well Closure Project through the date of the report; and

e. Upon completion, a summary of estimated emissions benefits from the Closure Project.

II. Auto Shut-in and Recovery Project

1. Beginning on the Consent Decree Effective Date, and continuing for 24 months thereafter, at facilities that Antero operates in West Virginia and Ohio, Antero shall implement a Pressure Maximization Shut-In and Recovery ("PMSR") process for well unloadings for at least twenty percent of well unloadings that Antero conducts during each six-month period. Antero currently unloads wells by shutting in a loaded well for several days so the well can accumulate necessary pressure. Antero's PMSR project contemplates shutting in the loaded wells for a substantially longer period than occurs in the typical practice, allowing pressure to rebuild within the well to high enough pressures to push production through normal equipment such as a separator, eliminating the "unload" to storage tanks and venting of gas that would occur during unloading.

2. Antero shall develop a PMSR Standard Operating Procedure to implement PMSR and shall conduct appropriate training for personnel involve in the PMSR. In identifying those wells at which PMSR will be deployed, Antero shall employ reasonable best efforts to identify and deploy PMSR at wells likely to maximize the environmental benefits of the PMSR project. The parties acknowledge that such identification will involve reasoned judgements as to how a well is likely to react to the PMSR procedure and the associated avoided emissions to be achieved based on good faith predictions.

3. In accordance with Section VI (Periodic Reporting) of the Consent Decree, Antero shall submit a cumulative list of wells that were unloaded using PMSR in each Semi-Annual Report, with the following information for each such well:

    a. GPS coordinates (latitude and longitude);

    b. U.S. or API Well Number;

    c. associated facility name and identification number;

    d. the estimated volume of liquids unloaded (in bbls);

    e. the estimated amount of pollutant emissions avoided using PMSR (in lbs VOC).

APPENDIX G:
VERIFIER CERTIFICATION

[VERIFIER] makes the following certifications and representations in connection with its proposed appointment as the Independent Compliance Auditor to oversee compliance aspects of the consent decree entered in *United States and WVDEP v. Antero Resources Corporation:*

"VERIFIER" means [VERIFIER], and the employees or contractors who would provide the oversight described above.

"The Defendant" means Antero Resources Corporation.

1. Financial interests.

   a. [VERIFIER] has no financial interest in the Defendant or any of its subsidiaries or affiliates.

   b. If, between the date of this certification and when [VERIFIER]'s term as the Independent Compliance Auditor expires, [VERIFIER]'s financial interests with respect to the Defendant change, [VERIFIER] agrees to notify the U.S. Department of Justice in writing as soon as reasonably possible after becoming aware of the change. [VERIFIER] is aware that acquiring a financial interest in the Defendant could disqualify it from continuing the oversight work described above.

2. Employment, professional relationships, and affiliations.

   a. [VERIFIER] is not a party to any employment, consulting, agency, attorney-client, auditing or other professional relationship or affiliation with the Defendant, or any of its subsidiaries or affiliates.

b. [VERIFIER] has not been a party to such a professional relationship or affiliation with the Defendant within the past 3 years.

c. [VERIFIER] agrees not to engage in such a professional relationship or affiliation with [VERIFIER] during its term as the Independent Compliance Auditor or for a period of at least one year after the termination of its term as the Independent Compliance Auditor.

d. After the date of this certification, to the extent that the services of additional personnel will be utilized in the proper discharge of the Independent Compliance Monitor's duties, prior to engaging any such personnel, [VERIFIER] agrees to review the backgrounds of all such personnel to determine whether said personnel or any other entity with which said personnel is affiliated, is or has been a party to any employment, consulting, agency, attorney-client, auditing or other professional relationship or affiliation with the Defendant or any of its subsidiaries or affiliates. To the extent any such relationship or affiliation exists, [VERIFIER] will notify the U.S. Department of Justice to seek a determination whether it is appropriate to engage said personnel to assist in the monitorship of the Defendant.

Date: _____ _____

Name:
On behalf of VERIFIER

APPENDIX H:
CONSENT DECREE DELIVERABLES TEMPLATE

Field	Instructions
Deliverable/Obligation	This should contain a description of the specific deliverable or obligation (a single line of succinct text for plans, reports, data, penalty payments and any other item due under the consent decree). In the case of repeating or ongoing deliverables/obligations (*e.g.*, annually recurring deliverables), enter each repeating or ongoing deliverable/obligation as a distinct line item. For consent decrees that cover multiple facilities, a separate deliverable/obligation line should be included for each item (*e.g.*, a plan, a report) that must be submitted individually for each facility and the deliverable/obligation name should be provided in the following format: "Facility Name – Deliverable/Obligation Name." If a single item (*e.g.*, a plan, a report) is required for all facilities, a single, aggregated deliverable/obligation line should be included for this one item and a note should be included in the "Comments" field indicating that this item addresses all of the facilities.
Due Date	Enter the due date for the deliverable in MM/DD/YYYY format.
Comments	Enter any comments or details specific to the deliverable/obligation. If the exact deliverable/obligation due date is not known (*e.g.*, it is contingent upon the completion of another deliverable), enter a description for the deliverable/obligation due date.
Approval Required?	Enter "Yes" or "No" to indicate whether the deliverable/obligation requires written approval by EPA and/or WVDEP.
Facility Name	Enter the facility name associated with the deliverable/obligation. The facility name will be consistent across all deliverables/obligations for single-facility consent decrees. For multi-facility consent decrees, each deliverable/obligation for each facility must be entered as a separate line and the facility name associated with each deliverable/obligation will be entered accordingly. If the deliverable line pertains to all facilities, leave the Facility Name field blank.
Facility State	Select the two-letter acronym (*e.g.*, WV, OH) for the state in which the facility is located. If the deliverable line pertains to all facilities, leave the Facility State field blank.

Deliverable/Obligation	Due Date	Comments	Approval Required?	Facility Name	Facility State
[Type Input]	*[MM/DD/YYYY]*	*[Type Input]*	*[Select "Yes/No"Input]*	*[Type Input]*	*[State Abbreviation]*