ENVIRONMENTAL 360

LDAR Site-Specific Inspection Plan

Georgia-Pacific Toledo LLC

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RECORD OF REVISIONS

Date of Revision	Pg. Nos.	Reason for Revision
August 2001	Entire Plan	Site-Specific Inspection Plan was created for the Toledo Mill.
June 2017	23	Updated schematic drawings (P&IDs) were added as Appendix D.
January 2019	Entire Plan	Entire Plan was updated to include updated schematic drawings and checklists, EPA best management practices, and additional site-specific information.
March 2020	Entire Plan	Changes made throughout plan to update wording and procedures. Language added to pages 8 and 11 regarding process equipment inclusion.
August 2020	6, Tables 1-3	Added BHA Evaporators Vapor Sources and updated Tables 1, 2 and 3.
March 2021	1, 2, 9, 11, 12, 13, 16, 18	Updated language on pages 1, 2, 9, 11, 12, 13, 16 and 18 regarding process equipment inclusion and updated drawings and checklists.

1.0 INTRODUCTION

Georgia-Pacific Toledo LLC (Toledo Mill) operates a Kraft, modified Kraft, and recycled fiber pulp and paper mill in Toledo, Oregon. The paper mill's operations include woodyard operations, pulping, power generation, chemical recovery, causticizing, wastewater treatment, and shipping, as well as administration buildings and employee parking areas.

The Toledo Mill is required to comply with the MACT I standards for the pulp and paper industry in 40 CFR 63, Subpart S. These standards require that facilities monitor their closed-vent (CVS) and closed collection system (CCS) for condensates by performing visual inspections on each component within these systems every 30 days. [1] These standards also require EPA Method 21 testing on each component within the positive-pressure portion of the non-condensable gas (NCG) system and on tanks within the CCScondensate system annually.

In addition to the Method 21 testing, each portion of the NCG system under negative pressure must be verified to be under negative pressure annually. The Method 21 testing and negative-pressure certification is collectively referred to as the Leak Detection and Repair (LDAR) Annual Certification.

The Toledo Mill has developed an LDAR program for performing the monthly visual inspections and annual certification which includes this Site Inspection Plan. This Site Inspection Plan outlines each aspect required by the LDAR requirements and how the Toledo Mill is complying with these regulations. As detailed further below, in some respects *(e.g.,* routinely conducting LDAR monitoring of the process equipment itself, in addition to the CVS and CCS), this Plan goes beyond the strict requirements in the regulations. The Site Inspection Plan will be kept in the Environmental Department and will be available for review, as requested, by Toledo Mill personnel or regulatory agencies. As the CVS and CCS change, appropriate modifications will be made to the Site Inspection Plan.

This Site Inspection Plan addresses the following:

- Procedures for identifying, repairing, and keeping track of all leaks and defects.
- A process for evaluating new and replacement equipment to promote the consideration of installing equipment that will minimize leaks or eliminate chronic leakers.
- A list of "LDAR Personnel" that includes the roles of Mill personnel who have the authority to implement improvements to the LDAR program.

As directed in the Mutual Agreement and Final Order (MAO) AQ/V-WR-2020-010 between Oregon DEQ and Georgia-Pacific Toledo LLC (GP) on December 16, 2020, this LDAR Site-Specific Inspection Plan includes schematics of the components of the Mill's Low-Volume, High-Concentration (LVHC) system, including all of the possible leak locations from the modified Kraft pulping (MKP) digester, turpentine recovery system, blow heat accumulator and foul condensate

[1] In a letter dated June 22, 2004, Oregon DEQ approved the Mill's alternative monitoring requirement, to perform the visual inspections "at least once each calendar month (separated by 14 days)". This approval has been incorporated into the Mill's Title V permit.

tank. The schematics are divided into two sections. Figures 1 through 18 and accompanying checklists cover the components that we believe are required to be part of the LDAR program under 40 CFR 63.453(k) and (l), namely the CVS and the CCS.

Figures 19 through 32 and accompanying checklists, labeled as LDAR Best Management Practice (BMP) Inspection Diagrams, cover upstream process equipment that we believe is outside the regulatory boundaries of the CVS and CCS. As GP has previously stated, based on careful review of the Subpart S regulations and associated history and background materials, we do not believe that this upstream process equipment was intended to be covered by the 40 CFR 63, Subpart S regulation requiring an LDAR plan and monthly inspections for the CVS. We believe there is a clear distinction in the rule between the LVHC system and the CVS. While the digester system and other process equipment are part of the LVHC system, only the CVS and "enclosures"[2] are subject to the monthly inspections required in 40 CFR 63.453(k). In short, we are providing updated drawings as required by the MAO, but we continue to believe that this is a BMP that is above and beyond what is required by Subpart S.

1.1 LDAR Program Objectives

The Toledo Mill's LDAR Program objectives include:

- 100% compliance with 40 CFR 63, Subpart S.
- Reduce the number of leaks and/or defects by using personnel who are experienced in identifying leaks and defects and are familiar with areas of the Mill where LDAR components exist.
- Prompt repair of any components identified as leaking by visual observation or Method 21 testing in accordance with 40 CFR 63.453(k)(6).

1.2 LDAR Personnel

- Environmental Department (including the LDAR Coordinator)
- Utilities Area Leader
- Causticizing Asset Manager
- Pulp Mill Asset Leader
- Pulp Mill Asset Manager

[2] Unfortunately, the term "enclosure" is not defined in Subpart S. We believe, however, that digesters themselves are not "enclosures" within the meaning of the rule, and that EPA did not intend to require them to be "enclosed". This is clear from the rule's history, including the October 1993 Background Information Document (BID) for the proposed rule, which expressly and repeatedly lists digesters at Kraft pulp mill process equipment not requiring enclosure to meet the rule's requirements. This 1993 Background Information Document (BID) and the administrative record for the 1998 final rule make it clear that EPA's MACT floor analysis was based primarily on a pulp and paper industry survey conducted by NCASI in 1992. As explained in both the 1993 BID and the October 1997 BID for the final rule, the survey showed that for continuous digesters, only the primary vents (the digester relief gas vent and digester blow gas vents) were being collected within the LVHC systems at existing mills. Hence, EPA's intended control strategy for Subpart S, consistent with this "floor", was that the final rule would only require these discrete digester vent points to be collected and sent downstream for treatment via the CVS. Digesters were not themselves deemed "enclosures", nor were they intended to be totally enclosed as is clear from EPA's background documents.

1.3 LDAR Audits

1.3.1 Internal and Third-Party Audits

Internal and third-party audits of a facility's LDAR program are a critical component of effective LDAR programs to ensure that the LDAR program is being conducted correctly and problems are identified and corrected. The audits verify that the correct equipment is being monitored, Method 21 procedures are being followed, leaks are being repaired in the required time frame, and the required records are being kept.

The Toledo Mill performs internal audits periodically that address the following:

- Records review to ensure that all required LDAR-related records, logs, and databases are being maintained and are up to date.
- Assurance that the correct equipment is included in the LDAR program.
- Observation of the calibration and monitoring techniques used by LDAR technicians, in particular to ensure the entire interface is checked and the probe is held at the interface, not away from the interface.
- If areas of program gaps are discovered, initiate a plan to resolve and document those gaps by using the following guidelines:
    - Implement, as soon as practicable, steps necessary to address any identified gaps and to avoid a recurrence.
    - Retain the audit reports and maintain a written record of the corrective actions taken in response to any deficiencies identified.

1.3.2 Contractor Audits

The Toledo Mill has sufficient oversight procedures in place to increase the accountability of contractors performing inspections and monitoring.

The Toledo Mill will:

- Ensure that the contractor has a procedure in place to review and certify the monitoring data before submitting the data to the facility.
- Review results of contractor work to ensure that a realistic number of components are being monitored.
- Occasionally accompany the LDAR inspector, or conduct other checks, to ensure the comprehensiveness of the inspections meets Georgia-Pacific's expectations.
- Conduct periodic reviews of contractor performance to resolve issues and correct problems, if needed.

1.4 LDAR Training

The training programs can vary according to the level of involvement and degree of responsibility of LDAR personnel.

- According to need, LDAR training is provided for facility employees (*e.g.*, maintenance personnel, supervisors, monitoring technicians, database users, QA/QC personnel, and the LDAR Coordinator) who are assigned key LDAR program responsibilities.
- Contractors used for inspections will have prior LDAR training and will be familiar with site-specific LDAR requirements.

2.0 DEFINITIONS

The following definitions, many of which are taken from 40 CFR 63, Subpart S, apply to the contents of this Plan:

Black liquor – spent cooking liquor that has been separated from the pulp produced by the Kraft, soda, or semi-chemical pulping process.

Closed-collection system – an individual drain system that controls air emissions either by hard-piping, use of covers or water seals, or venting to closed-vent systems.

Closed-vent system – a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and, if necessary, flow-inducing devices that transport gas or vapor from an emission point to a control device.

Defect – EPA does not explicitly define defect so, for the purposes of this plan, Georgia-Pacific considers a defect to be observed visible emissions from equipment designed to be closed. This definition is applicable to equipment containing regulated gases (*e.g.*, gases present in tanks within the closed-vent system).

Digester system – each continuous digester or each batch digester used for the chemical treatment of wood or non-wood fibers. The digester system equipment includes associated flash tank(s), blow tank(s), chip steamer(s), not using fresh steam, blow heat recovery accumulator(s), relief gas condenser(s), prehydrolysis unit(s) preceding the pulp washing system, and any other equipment serving the same function as those previously listed. The digester system includes any of the liquid streams or condensates associated with batch or continuous digester relief, blow, or flash steam processes.

Evaporator System – all equipment associated with increasing the solids content and/or concentrating spent cooking liquor from the pulp washing system including pre-evaporators, multi-effect evaporators, concentrators, and vacuum systems, as well as associated condensers, hotwells, and condensate streams, and any other equipment serving the same function as those previously listed.

Flow Indicator – any device that indicates gas and liquid flow in an enclosed system.

Hazardous Air Pollutant (HAP) – 188 chemical compounds identified in the 1990 Clean Air Act Amendments. The primary HAP at the Toledo Mill is methanol.

Inspection – process of examining the closed-vent or condensate collection system for leaks or for evaluating the condition of the system; inspections are conducted on a routine basis.

Kraft pulping – a chemical pulping process that uses a mixture of sodium hydroxide and sodium sulfide as the cooking liquor.

Modified Kraft Pulping (MKP) – a semi-chemical pulping process that uses a mixture of sodium carbonate and sodium sulfide as the cooking liquor.

Leak – any visible emission from the closed-vent collection system or any visible leak from the pulping process condensate closed-collection system. For positive-pressure points in the closed-vent systems, a leak is also defined as any emission greater than 500 parts per million (ppm) volatile organic compound (VOC) by volume above background concentration.

Lime kiln – an enclosed combustion device used to calcine lime mud, which consists primarily of calcium carbonate, into calcium oxide.

Low-volume high-concentration (LVHC) system – the collection of equipment including the digester, turpentine recovery, evaporator, and any other equipment serving the same function as those previously listed.

Source – any process equipment, tank, or vessel from which gases are drawn, directly or indirectly, into the LVHC closed-vent system, or any process equipment, tank, or vessel from which condensates are pumped into the closed-collection systems for pulping process condensates.

Temperature monitoring device – a piece of equipment used to monitor temperature and having an accuracy of +/- 1.0 percent of the temperature being monitored expressed in degrees Celsius (ºC) or +/- 0.5 ºC, whichever is greater.

Turpentine recovery system – all equipment associated with recovering turpentine from digester system gases including condensers, decanters, storage tanks, and any other equipment serving the same function as those previously listed. The turpentine recovery system includes any liquid streams associated with the turpentine recovery process such as turpentine decanter underflow. Liquid streams that are intended for byproduct recovery are not considered turpentine recovery system condensate streams.

3.0 SYSTEM DESCRIPTION

The Toledo Mill operates a closed-vent system consisting of sources, collection systems, and control devices. These processes are referred to as the LVHC System. The LVHCs are collected in a common header and routed to the No. 1 or No. 2 Lime Kiln for incineration. A list of the LVHC system sources is provided below.

LVHC Gas Collection System Sources

- MKP Digester
- MKP Impregnator Vessel
- No. 4 (MKP) Blow Tank
- Batch Digesters (11)
- NCG Condensate Collection Tank
- Foul Condensate Receiver Tank
- Turpentine Overflow Standpipe
- Evaporative Condenser
- Evaporator No. 3 Effect
- Blowheat Evaporator (BHE) Vacuum Pump Tank
- Foul Condensate Collection Tank
- Foul Condensate Flash Tank
- Turpentine Receiver Tank
- Evaporator Surface Condenser Pre-Cooler

Vapor Line Sources

- Blowheat Evaporators No. 1 Effect
- Clean Condensate Flash Tank
- Weak Liquor Flash Tank No. 2

Foul Condensate Collection System

The Foul Condensate Collection System collects condensates from multiple sources. The condensates are pumped to the Foul Condensate Collection Tank for holding before being pumped to the Aeration Stabilization Basin for treatment. A list of the foul condensate collection system sources is provided below.

Foul Condensate System Sources

- LVHC System low-point drains
- Turpentine Decanter
- Turpentine Secondary Condenser
- Turpentine Tertiary Condenser
- Blow Heat Accumulator
- Blow Heat Separator
- BHE Vacuum Pump Tank
- Evaporative Condenser
- Evaporator No. 3 Effect
- Evaporator Surface Condenser
- Evaporator Surface Condenser No. 4 Effect
- Evaporator Surface Condenser After-Cooler
- Evaporator Surface Condenser Inter-Cooler
- Evaporator Surface Condenser Pre-Cooler
- Loop Seal Flash Tank A
- Evaporator No. 1 Effect

4.0 CLOSED-VENT AND CLOSEDCONDENSATE COLLECTION SYSTEM 30-DAY INSPECTION METHODOLOGY AND PROCEDURES

As detailed above, the Toledo Mill requested an alternative monitoring frequency that allows more flexibility to the 30-day monitoring requirements in 63.453(k)(1) and (2). The variance was initially approved by Oregon DEQ in 2004 (see footnote 1) and has since been incorporated into the Toledo Mill's Title V Operating Permit, which states that each enclosure, closed-vent system, bypass line, and valve or enclosure mechanism shall be visually inspected at least once per month, with at least 14 days elapsed time between inspections.

The Toledo Mill must inspect each enclosure, closed-vent system, bypass line, including car seals, and valve or enclosure mechanism visually every month. The monthly inspections will be performed in a manner in which each component is inspected and reviewed thoroughly. Any components that are covered with insulation, whether permanent or removable, will remain insulated during the monthly visual inspections. Every effort will be made to inspect all visible portions of the insulated components.

In an effort to ensure compliance with 40 CFR 63, Subpart S, Georgia-Pacific has also decided to include process equipment/ vessels that contain regulated gases (*i.e.*, batch digesters, blow tanks, continuous digesters, tanks, etc,), as individual components. Along with the process equipment/process vessels in whole, all components directly connected to the body of these vessels will also be included as individual components. These components may be on process lines outside of the regulatory requirements of Subpart S (*i.e.*, steam, liquor, stock, etc,), but will be included due to the connection to the process equipment/process vessels making it a possible leak-point of regulated gases. In some respects (*e.g.*, routinely conducting LDAR monitoring of process equipment itself, in addition to the CVS and CCS), this Plan goes beyond the strict requirements in the regulations as noted in Sections 4.1 – 4.3. This process equipment, vessels, and associated components will be thoroughly inspected visually during each LDAR inspection from a safe distance/location, and any visual leaks observed will be noted on the inspection report. Leaks will be addressed according to the same repair requirements of the rest of the LDAR System.

During the course of the inspection, the components will be inspected by the following guidelines.

4.1 CVS Inspection

40 CFR 63.453(k) *Each enclosure and closed-vent system used to comply with § 63.450(a) shall comply with the requirements specified in paragraphs (k)(1) through (k)(6) of this section.*

(1) For each enclosure opening, a visual inspection of the closure mechanism specified in § 63.450(b) shall be performed at least once every 30 days to ensure the opening is maintained in the closed position and sealed.

(2) Each closed-vent system required by § 63.450(a) shall be visually inspected every 30 days and at other times as requested by the Administrator. The visual inspection shall include inspection of ductwork, piping, enclosures, and connections to covers for visible evidence of defects.

(3) For positive pressure closed-vent systems or portions of closed-vent systems, demonstrate no detectable leaks as specified in § 63.450(c) measured initially and annually by the procedures in § 63.457(d).

(4) Demonstrate initially and annually that each enclosure opening is maintained at negative pressure as specified in § 63.457(e).

(5) The valve or closure mechanism specified in § 63.450(d)(2) shall be inspected at least once every 30 days to ensure that the valve is maintained in the closed position and the emission point gas stream is not diverted through the bypass line.

(6) If an inspection required by paragraphs (k)(1) through (k)(5) of this section identifies visible defects in ductwork, piping, enclosures, or connections to covers required by § 63.450, or if any instrument reading of 500 parts per million by volume or greater above background is measured, or if enclosure openings are not maintained at negative pressure, then the following corrective actions shall be taken as soon as practicable.

4.2 Car Seals

40 CFR 63.450(d)(2) *For bypass line valves that are not computer controlled, the owner or operator shall maintain the bypass line valve in a closed position with a car seal or a seal placed on the valve or closure mechanism in such a way that the valve or closure mechanism cannot be opened without breaking the seal.*

All bypass lines of the CVS and CCS must be monitored or inspected. Any non-computer-controlled bypass line must be sealed and included in the monthly inspection to ensure the seal is not broken or damaged. Broken or missing car seals will be noted during each inspection and will be replaced. Georgia-Pacific's guidance is that, as a best practice, mills should consider installing a cap, plug, double valves or flange on all valves regardless of size in the closed vent system, if practical, to minimize the potential for fugitive emissions.

4.3 CCS Inspection

40 CFR 63.964(a)(i) *The owner or operator shall visually inspect each drain as follows:*

A. In the case when the drain is using a water seal to control air emissions, the owner or operator shall verify appropriate liquid levels are being maintained and identify any other defects that could reduce water seal control effectiveness.

B. In the case when the drain is using a water seal to control air emissions, the owner or operator shall visually inspect each drain to verify that the closure device is in place and there are not defects. Defects include, but are not limited to, visible cracks, holes, or gaps *in the closure devices; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing plugs, caps, or other closure devices.*

40 CFR 63.964(a)(ii*) The owner or operator shall visually inspect each junction box to verify that closure devices are in place and there are no defects. Defects include, but are not limited to, visible cracks, holes, or gaps in the closure devices; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.*

40 CFR 63.964(a)(iii) *The owner or operator shall visually inspect the unburied portion of each sewer line to verify that all closure devices are in place and there are no defects. Defects include, but are not limited to, visible cracks, holes, gaps, or other open spaces in the sewer line joints, seals, or other emission interfaces.*

During the monthly inspection, multiple interfaces of each component will be inspected for leaks and defects. Once the monthly inspection is complete, a list of defects identified during the inspection will be generated. The area leader and the area maintenance leader will be contacted. If the leak can be repaired quickly with minimal planning, a shift millwright will be contacted to repair it immediately. If planning and scheduling is required to make the repair, a work request to repair the leak(s) will be processed. The Toledo Mill must complete the first attempt to repair within five (5) days of discovering the leak, and repairs must be completed within fifteen (15) days of discovering the leak. If the system must be shut down to repair the leak, or if the emissions resulting from immediate repair would be greater than the emissions likely to result from delay of repair, then the Toledo Mill may wait until the next process unit shutdown to repair the leak. If the Toledo Mill does not complete the repairs within the 15-day time frame, an explanation must be attached to the inspection defect summary, and documentation must be completed verifying that the equipment would be required to be shut down in order to complete repairs and that the emissions due to shutting down and restarting the equipment would be greater than the leaking component. The date of the next scheduled shutdown and repair schedule will also be documented. The Mill will work as expeditiously as possible to develop a plan and obtain parts (if needed) for the necessary repairs such that this is available in the event of an unplanned outage of sufficient duration to complete repairs prior to the next scheduled shutdown. Appropriately trained Mill employees may be used to confirm repairs have been completed and the Environmental Department LDAR Coordinator will be notified.

4.4 Batch Digesters Inspection

With the BMP addition of the individual components of the process equipment/vessels per the MAO, also included is the batch digester capping valves. GP believes that batch digester capping valves were not intended to be subject to LDAR, and indeed, were not intended or required to operate without leaks. For the reasons summarized in section 1.0 of this plan, we believe that batch digesters are process vessels that are upstream of the CVS. In addition, we believe that minor amounts of fugitive emissions from the capping valves were not required or intended to be collected. EPA specifically determined soon after promulgation of Subpart S that fugitive emissions from uncapping batch digesters "are not subject to any requirements under the

NESHAP" because only two mills were controlling such emissions in the MACT floor evaluation.[3] EPA found that "controlling uncapping emissions would not be a cost-effective control option for existing or new sources."[4] Industry reasonably interpreted this conclusion to apply to other fugitive emissions from digester vessels, such as fugitive emissions during batch digester operation, which are likely much lower in quantity. Additionally, fugitive emissions that are visibly observed may actually be water vapor. This is consistent with the level of control in place at mills representing the MACT floor at the time of promulgation, as the capping valves in use on batch digesters simply are not designed to operate totally leak-free. GP's interpretation and implementation of Subpart S is consistent with the industry's common understanding on this issue. However, GP will include the digester capping valves in the monthly inspections as a Best Management Practice as directed by DEQ in the MAO.

[3] Questions and Answers (Q&A's) For The Pulp And Paper NESHAP Second Volume 2, March 31, 2000, Response to Question 7.
[4] Id.

5.0 CVS AND CCS SYSTEM ANNUAL CERTIFICATION METHODOLOGY AND PROCEDURES

5.1 Method 21 Testing

The monitoring requirements for the CVS and CCS specified by 40 CFR 63.453(k)(3) and 40 CFR 63.453(l)(2) require EPA Method 21 testing on positive-pressure portions of the closed-vent system and each condensate tank within the closed-collection system. The Toledo Mill will oversee the Method 21 testing that will be performed by Toledo Mill personnel or by a designated contractor.

Each possible HAP emission point, including manhole entry points, taps, valves, and blanks, should be tested for detectable leaks during the annual certification. A detectable leak is defined as a point with a detected VOC reading of 500 parts per million (ppm) or greater above background.

As discussed above, in an effort to ensure compliance with 40 CFR 63, Subpart S and as a BMP to satisfy requirements in the MAO, Georgia-Pacific has also decided to include process equipment/vessels that contain regulated gases (*i.e.,* batch digesters, blow tanks, continuous digesters, tanks, etc,), as well as components directly connected to these vessels, as individual components in the Mill's LDAR program. As detailed in Section 4.0, these process units/process vessels and associated components will be thoroughly inspected during each monthly LDAR inspection and during the annual Method 21 testing and any visual leaks observed will be noted on the inspection report and repaired following the requirements of Subpart S.

The Method 21 testing should be performed as explained in the Method 21 procedure in the appendix of 40 CFR 63. Any removable insulation that is in place on components within the LDAR system will be removed for the Annual Method 21 testing to ensure proper testing is able to be completed on each of the components. Any permanent insulation that is in place will not be removed, but every effort will be made to properly Method 21 test every accessible portion of any such components. Once the annual certification is complete, the Toledo Mill will generate, or will be provided, a summary list of all components with observed leaks or defects detected either by the visual inspection or the Method 21 testing.

The Toledo Mill must complete the initial attempt to repair within five (5) days of discovering the leak, and repairs must be completed within fifteen (15) days of discovering the leak. If the system must be shut down to repair the leak, or if the emissions resulting from immediate repair would be greater than the emissions likely to result from delay of repair, then the Toledo Mill may wait until the next process unit shutdown to repair the leak. The Mill will work as expeditiously as possible to develop a plan and obtain parts (if needed) for the necessary repairs such that this is available in the event of an unplanned shutdown of sufficient duration to complete repairs prior to the next scheduled shutdown. If the Toledo Mill cannot complete the repairs within the 15-day time frame, an explanation must be attached to the annual certification defect summary, and documentation must be completed verifying that the equipment would be required to be shut down in order to complete repairs and that the emissions due to shutting down and restarting the equipment would be greater than the leaking component. The date of the next scheduled shutdown and repair schedule will also be documented, but the expectation is that any repairs be completed prior to the scheduled shutdown if possible.

Once repairs are complete, a detailed report or log should be developed by the Toledo Mill or provided by the contractor performing the annual certification, and it should include the following information:

- Date of Annual Certification.
- Component List.
- Results of the Negative-Pressure Test for enclosures.
- Results of the Method 21 Test for each component.
- The nature of the defect or leak and the method of detection (*i.e.*, visual inspection or Method instrument detection).
- The date the defect or leak was detected and the date of each attempt to repair the defect or leak.
- Repair methods applied in each attempt to repair the defect or leak.
- The reason for the delay if the defect or leak is not repaired within fifteen (15) days after discovery.
- The expected date of successful repair of the defect or leak if the repair is unable to be completed within fifteen (15) days.
- The date of successful repair of the defect or leak.
- Follow-up inspections of all leaks and defects after repairs are completed to verify that the repairs were successful.

A work order or other maintenance document indicating that repairs have been completed may be attached to the LDAR annual certification report in order to represent information on repair dates and methods. All inspection records, work orders, and repair orders must be kept for five (5) years.

5.2 Negative-Pressure Procedures

Subpart S provides the following requirements for negative-pressure procedures:

> ***§63.457(e)*** *To demonstrate negative pressure at process equipment enclosure openings and for sections of the closed-vent system as specified in §63.450(b), the owner or operator shall use one of the following procedures:*
>
> 1) *An anemometer to demonstrate flow into the enclosure opening.*
> 2) *Measure the static pressure across the openings.*
> 3) *Smoke tubes to demonstrate flow into the enclosure openings.*
> 4) *Any other industrial ventilation test method demonstrated to the Administrator's satisfaction.*

6.0 MAINTENANCE

In order to ensure that the first attempt to repair occurs within five (5) days and that repairs are completed within fifteen (15) days, the Toledo Mill will maintain an inventory of spare parts for facilitating common repairs. If a spare part is not available to allow completion of a repair within fifteen (15) days, the Toledo Mill's Maintenance Department will facilitate procurement of the part as soon as possible.

Common spare parts will be maintained at all times in order to ensure that repair deadlines are met. Spare part availability, past repairs, and the importance of minimizing emissions are factored into decisions as to which spare parts are kept on-site and which spare parts will be ordered.

7.0 INACCESSIBLE COMPONENTS AND UNSAFE AREAS

7.1 Inaccessible Components

There may be certain areas within the Mill that could inhibit the accessibility of a component for Method 21 testing during normal operation. Possible situations would be:

- A regulated emission point located at a height that requires a man lift, scaffolding, or a bucket truck in order to access that particular component.
- A component that is located in a position that cannot be viewed from a safe location.
- A component that is located out of reach of a Method 21 testing instrument.

The Toledo Mill has not identified any components as inaccessible during normal operation.

7.2 Unsafe Areas

There may be certain areas within the Mill that may not be safe for entry during normal operating periods, even with the use of personal protective equipment (PPE). For this reason, components within these areas cannot be inspected or tested during normal operating periods if found to be unsafe. The following conditions are considered in order to designate an area unsafe:

- An area where there is a danger of venting, spills, or explosions.
- An area that requires a confined space permit.
- An area of the mill that is under construction and deemed dangerous.
- Any component that would cause monitoring personnel to be exposed to an immediate danger as a consequence of monitoring.
- An area of the mill that is using hazardous materials for maintenance purposes.

If a component cannot be inspected due to temporary unsafe conditions (*e.g.,* spills, construction activities), the facility will attempt to complete an inspection at another time during the month once the conditions are safe.

EPA has historically approved alternative monitoring for inspection and monitoring of CVSs and CCSs for components that are inherently unsafe to inspect or inaccessible. One such approval from EPA Region 1[5] allowed the company to exempt any CVS components from the 30-day and annual inspection monitoring and repair requirements if the company determined that personnel performing the inspection or repair would be exposed to an imminent or potential danger, or the equipment could not be inspected without elevating the inspection personnel more than 6 feet above a support surface. GP expects that there will be a number of components within the newly-added BMP drawings for process vessels that will prove to be unsafe to routinely inspect, or will be inaccessible. GP reserves the right to seek approval of alternative monitoring for any such components that cannot reasonably be inspected as part of the routine LDAR activities.

[5] EPA Applicability Determination Index, Control Number M010024, EPA Region 1 Silverton to International Paper Craft, September 3, 2001.

8.0 COMPONENT NUMBERING SYSTEM

The following tables show the numbering convention that was used for designating each system and for numbering the components in the Process Flow Diagrams (PFD). Table 1 is a list of numbering sequences that designate each system. Table 2 is a list of component abbreviations used in the PFDs. In the PFDs, a four- or five-digit number with the first number or first two numbers designating what system the component is located in follows the abbreviation. New components added into the system will use existing numbering for the appropriate System noted in Table 1 except a “letter” suffix will be added to that equipment number to maintain the sequence. Ex. G-1001A. Table 3 is the component legend.

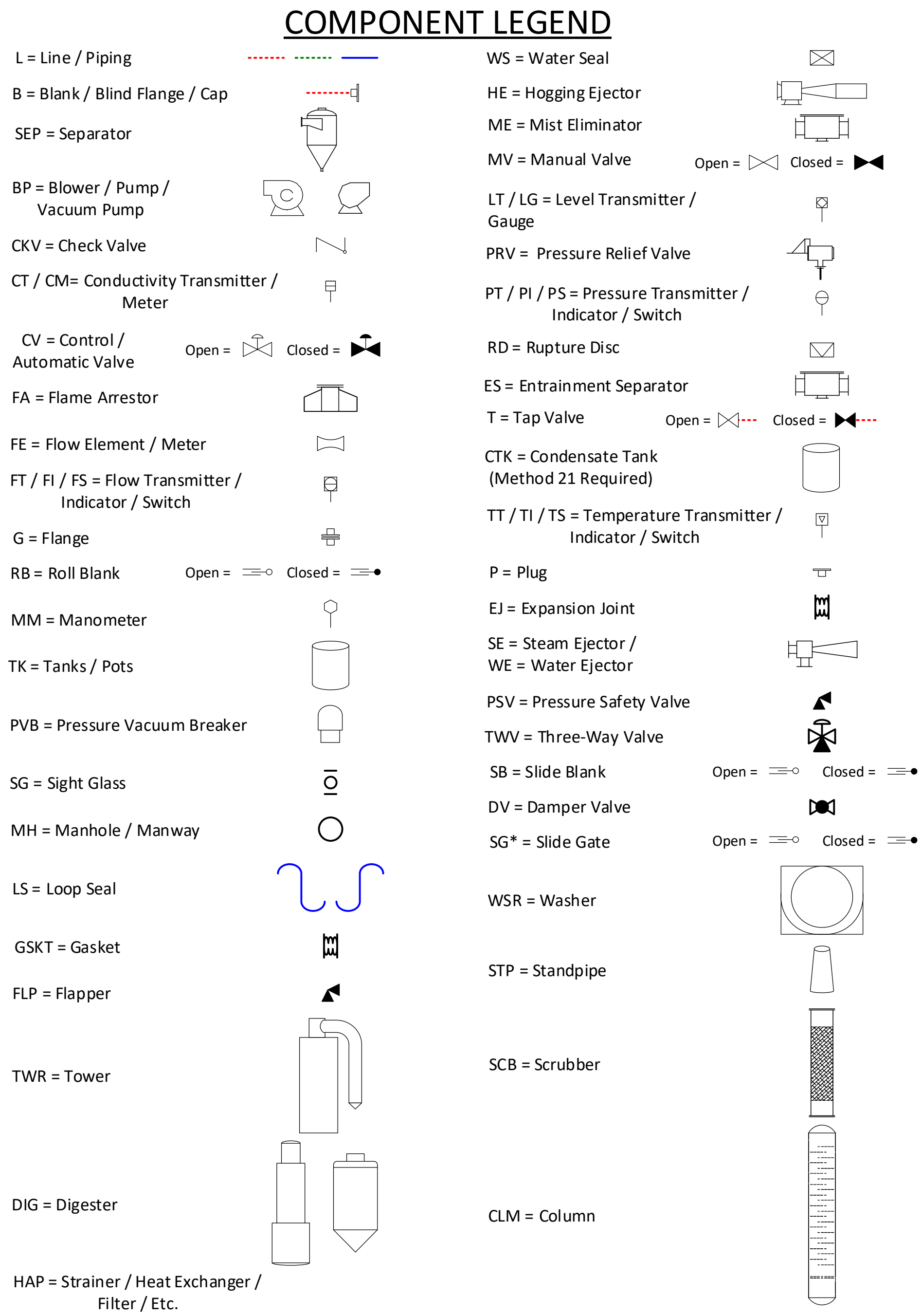
Table 1: System Numbering Scheme

System	Series Numbering
Lime Kiln Incineration	1000 series
NCG Condensate Collection Tank	2000 series
Foul Condensate Receiver Tank	3000 series
LVHC Header	4000 series
Batch Digesters 1-6	5000 series
Batch Digesters 7-11	6000 series
MKP Digester and Blow Heat System	7000 series
Turpentine Receiver Tank	8000 series
Evaporator LVHCs (1 of 2)	9000 series
Evaporator LVHCs (2 of 2)	10000 series
Foul Condensate Flash Tank	11000 series
Evaporators Foul Condensate	12000 series
BHE Vacuum Pump Tank Foul Condensate	13000 series
Foul Condensate Collection Tank	14000 series
Turpentine Overflow Standpipe	15000 series
Turpentine System	16000 series
MKP Digester System Connections	17000 series
Blow Heat Evaporators Vapor Lines	18000 series
3rd Floor Batch Digesters	19000 series
2nd Floor Batch Digesters No. 1-8	20000 series
Ground Floor Batch Digesters No. 1-8	21000 series
Ground – 2nd Floor Batch Digesters No. 9-11	22000 series
3rd Floor Blow Tanks 1-3	23000 series
Ground Floor Blow Tanks 1-3	24000 series
MKP Digester & Impregnation Vessel	25000 series
No. 4 (MKP) Blow Tank	26000 series
Blow Heat Accumulator	27000 series
Blow Heat Evaporators 4th & 3rd Floors	28000 series
Blow Heat Evaporators 2nd Floor	29000 series
Blow Heat Evaporators 1st & Ground Floors (1 of 2)	30000 series
Blow Heat Evaporators 1st & Ground Floors (2 of 2)	31000 series
Turpentine Recovery System	32000 series

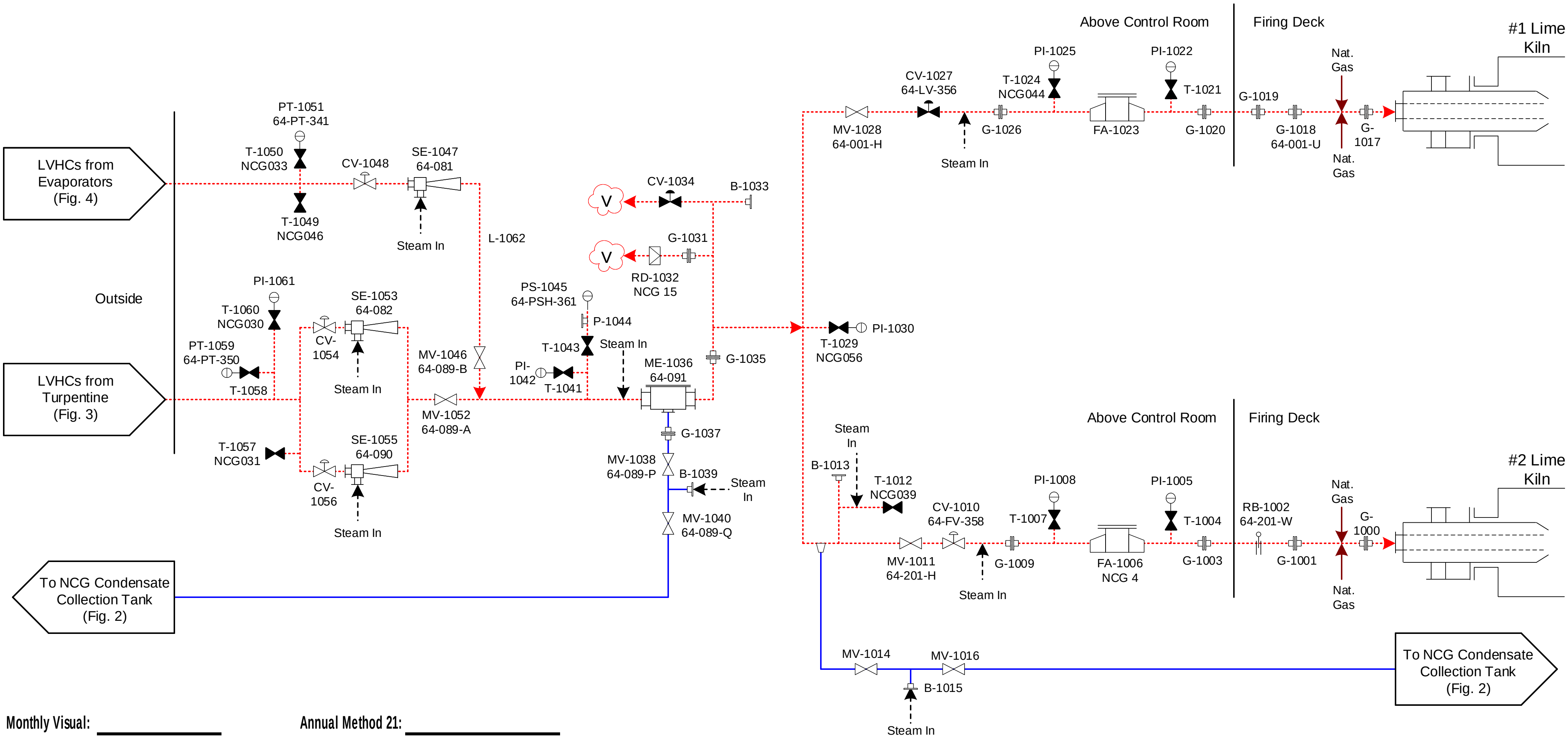
Table 2: Equipment Number System

Digester	DIG-xxxx	Standpipe	STP-xxxx
Tank	TK-xxxx	Washer	WSR-xxxx
Tower	TWR-xxxx	Loop Seal	LS-xxxx
Water Seal	WS-xxxx	Scrubber	SCB-xxxx
Control Valve / Automatic Valve	CV-xxxx	Manual Valve / Hand Valve	MV-xxxx
Check Valve	CKV-xxxx	Flow Element	FE-xxxx
Roll Blank	RB-xxxx	Rupture Disc	RD-xxxx
Sight Glass	SG-xxxx	Mist Eliminator	ME-xxxx
Expansion Joint	EJ-xxxx	Damper Valve	DV-xxxx
Flow Meter	FM-xxxx	Three-Way Valve	TWV-xxxx
Manhole / Manway	MH-xxxx	Hogging Ejector	HE-xxxx
Slide Blank	SB-xxxx	Flame Arrestor	FA-xxxx
Conductivity Meter	CM-xxxx	Temperature Indicator	TI-xxxx
Conductivity Transmitter	CT-xxxx	Pressure Vacuum Breaker	PVB-xxxx
Temperature Transmitter	TT-xxxx	Blower / Pump / Vacuum Pump	BP-xxxx
Temperature Switch	TS-xxxx	Condensate Tank	CTK-xxxx
Column	CLM-xxxx	Separator	SEP-xxxx
Pressure Safety Valve	PSV-xxxx	Pressure Relief Valve	PRV-xxxx
Flange	G-xxxx	Tap Valve	T-xxxx
Steam Ejector	SE-xxxx	Plug	P-xxxx
Blank / Blind Flange / Cap	B-xxxx	Strainer / Filter / Heat Exchanger	HAP-xxxx
Flow Indicator	FI-xxxx	Flow Transmitter	FT-xxxx
Flow Switch	FS-xxxx	Entrainment Separator	ES-xxxx
Pressure Indicator	PI-xxxx	Pressure Transmitter	PT-xxxx
Pressure Switch	PS-xxxx	Level Transmitter	LT-xxxx
Level Indicator	LI-xxxx	Level Gauge	LG-xxxx
Level Switch	LS*-xxxx	Manometer	MM-xxxx
Process Vessel (Condenser, Cooler, Effect, etc.)	VSL-xxxx	Line / Piping	L-xxxx

Table 3: Component Legend



APPENDIX A - PROCESS FLOW DIAGRAMS AND CHECKLISTS



Monthly Visual: ____________ **Annual Method 21:** ____________

Vent Gases
Condensates
Liquor/Stock Lines
Process Lines

To Another Page and Indicated Equipment
From Another Page and Indicated Equipment

ENVIRONMENTAL360

Georgia-Pacific Toledo LLC

LDAR Inspection and Testing Diagrams
Lime Kiln Incineration

Rev. Date: January 2021

Figure 1

Fig. 1 Lime Kiln Incineration

Completed Date: Inspector Name:

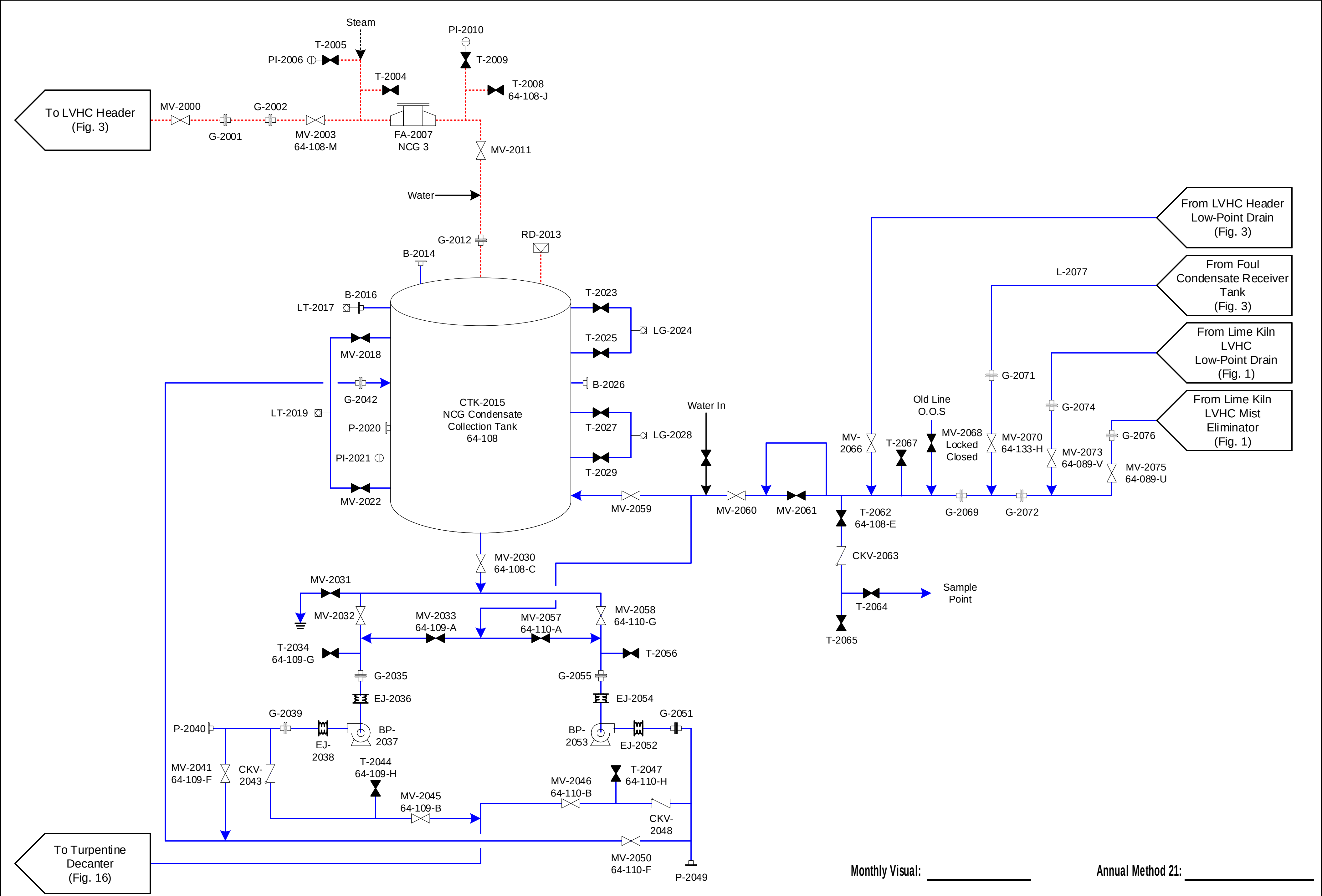
Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
1000	G			
1001	G			
1002	RB	64-201-W		
1003	G			
1004	T			
1005	PI			
1006	FA	NCG 4		
1007	T			
1008	PI			
1009	G			
1010	CV	64-FV-358		
1011	MV	64-201-H		
1012	T	NCG 039		
1013	B			
1014	MV			
1015	B			
1016	MV			
1017	G			
1018	G	61-001-U		
1019	G			
1020	G			
1021	T			
1022	PI			
1023	FA			
1024	T	NCG 044		
1025	PI			
1026	G			
1027	CV	64-LV-356		
1028	MV	64-001-H		
1029	T	NCG 056		
1030	PI			

Fig. 1 Lime Kiln Incineration

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
1031	G			
1032	RD	NCG 15		
1033	B			
1034	CV			
1035	G			
1036	ME	64-091		
1037	G			
1038	MV	64-089-P		
1039	B			
1040	MV	64-089-Q		
1041	T			
1042	PI			
1043	T			
1044	P			
1045	PS	64-PSH-361		
1046	MV	64-089-B		
1047	SE	64-081		
1048	CV			
1049	T	NCG 046		
1050	T	NCG 033		
1051	PT	64-PT-341		
1052	MV	64-089-A		
1053	SE	64-082		
1054	CV			
1055	SE	64-090		
1056	CV			
1057	T	NCG 031		
1058	T			
1059	PT	64-PT-350		
1060	T	NCG 030		
1061	PI			
1062	L			

Monthly Visual: ______________ **Annual Method 21:** ________________



Monthly Visual: __________

Annual Method 21: __________

Vent Gases	To Another Page and Indicated Equipment
Condensates	From Another Page and Indicated Equipment
Liquor/Stock Lines	
Process Lines	

ENVIRONMENTAL 360

Georgia-Pacific Toledo LLC

LDAR Inspection and Testing Diagrams

NCG Condensate Collection Tank

Rev. Date: January 2021

Figure 2

Fig. 2 NCG Condensate Collection Tank

Completed Date: Inspector Name:

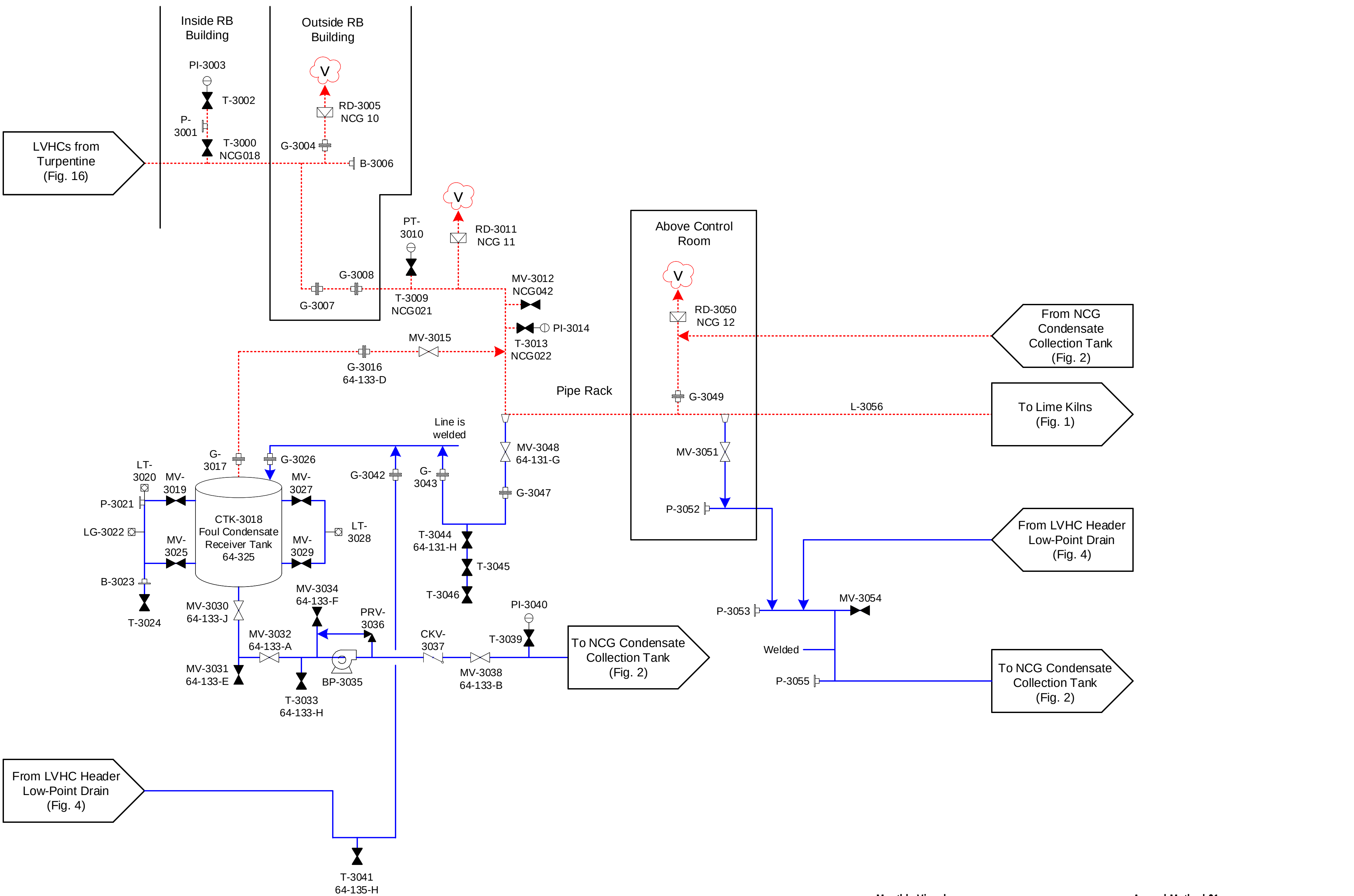
Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
2000	MV			
2001	G			
2002	G			
2003	MV	64-108-M		
2004	T			
2005	T			
2006	PI			
2007	FA	NCG 3		
2008	T	64-108-J		
2009	T			
2010	PI			
2011	MV			
2012	G			
2013	RD			
2014	B			
2015	CTK	64-108		
2016	B			
2017	LT			
2018	MV			
2019	LT			
2020	P			
2021	PI			
2022	MV			
2023	T			
2024	LG			
2025	T			
2026	B			
2027	T			
2028	LG			
2029	T			
2030	MV	64-108-C		
2031	MV			
2032	MV			
2033	MV	64-109-A		
2034	T	64-109-G		
2035	G			
2036	EJ			
2037	BP			
2038	EJ			

Monthly Visual: ______________ Annual Method 21: ______________

Fig. 2 NCG Condensate Collection Tank

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
2039	G			
2040	P			
2041	MV	64-109-F		
2042	G			
2043	CKV			
2044	T	64-109-H		
2045	MV	64-109-B		
2046	MV	64-110-B		
2047	T	64-110-H		
2048	CKV			
2049	P			
2050	MV	64-110-F		
2051	G			
2052	EJ			
2053	BP			
2054	EJ			
2055	G			
2056	T			
2057	MV	64-110-A		
2058	MV	64-110-G		
2059	MV			
2060	MV			
2061	MV			
2062	T	64-108-E		
2063	CKV			
2064	T			
2065	T			
2066	MV			
2067	T			
2068	MV			
2069	G			
2070	MV	64-133-H		
2071	G			
2072	G			
2073	MV	64-089-V		
2074	G			
2075	MV	64-089-U		
2076	G			
2077	L			



Monthly Visual: ____________ Annual Method 21: ____________

Vent Gases	To Another Page and Indicated Equipment
Condensates	
Liquor/Stock Lines	From Another Page and Indicated Equipment
Process Lines	

ENVIRONMENTAL 360

Georgia-Pacific Toledo LLC

LDAR Inspection and Testing Diagrams

Foul Condensate Receiver Tank

Rev. Date: January 2021

Figure 3

Fig. 3 Foul Condensate Receiver Tank

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
3000	T	NCG 018		
3001	P			
3002	T			
3003	PI			
3004	G			
3005	RD	NCG 10		
3006	B			
3007	G			
3008	G			
3009	T	NCG 021		
3010	PT			
3011	RD	NCG 11		
3012	MV	NCG 042		
3013	T	NCG 022		
3014	PI			
3015	MV			
3016	G	64-133-D		
3017	G			
3018	CTK	64-325		
3019	MV			
3020	LT			
3021	P			
3022	LG			
3023	B			
3024	T			
3025	MV			
3026	G			
3027	MV			

Fig. 3 Foul Condensate Receiver Tank

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
3028	LT			
3029	MV			
3030	MV	64-133-J		
3031	MV	64-133-E		
3032	MV	64-133-A		
3033	T	64-133-H		
3034	MV	64-133-F		
3035	BP			
3036	PRV			
3037	CKV			
3038	MV	64-133-B		
3039	T			
3040	PI			
3041	T	64-135-H		
3042	G			
3043	G			
3044	T	64-131-H		
3045	T			
3046	T			
3047	G			
3048	MV	64-131-G		
3049	G			
3050	RD	NCG 12		
3051	MV			
3052	P			
3053	P			
3054	MV			
3055	P			
3056	L			

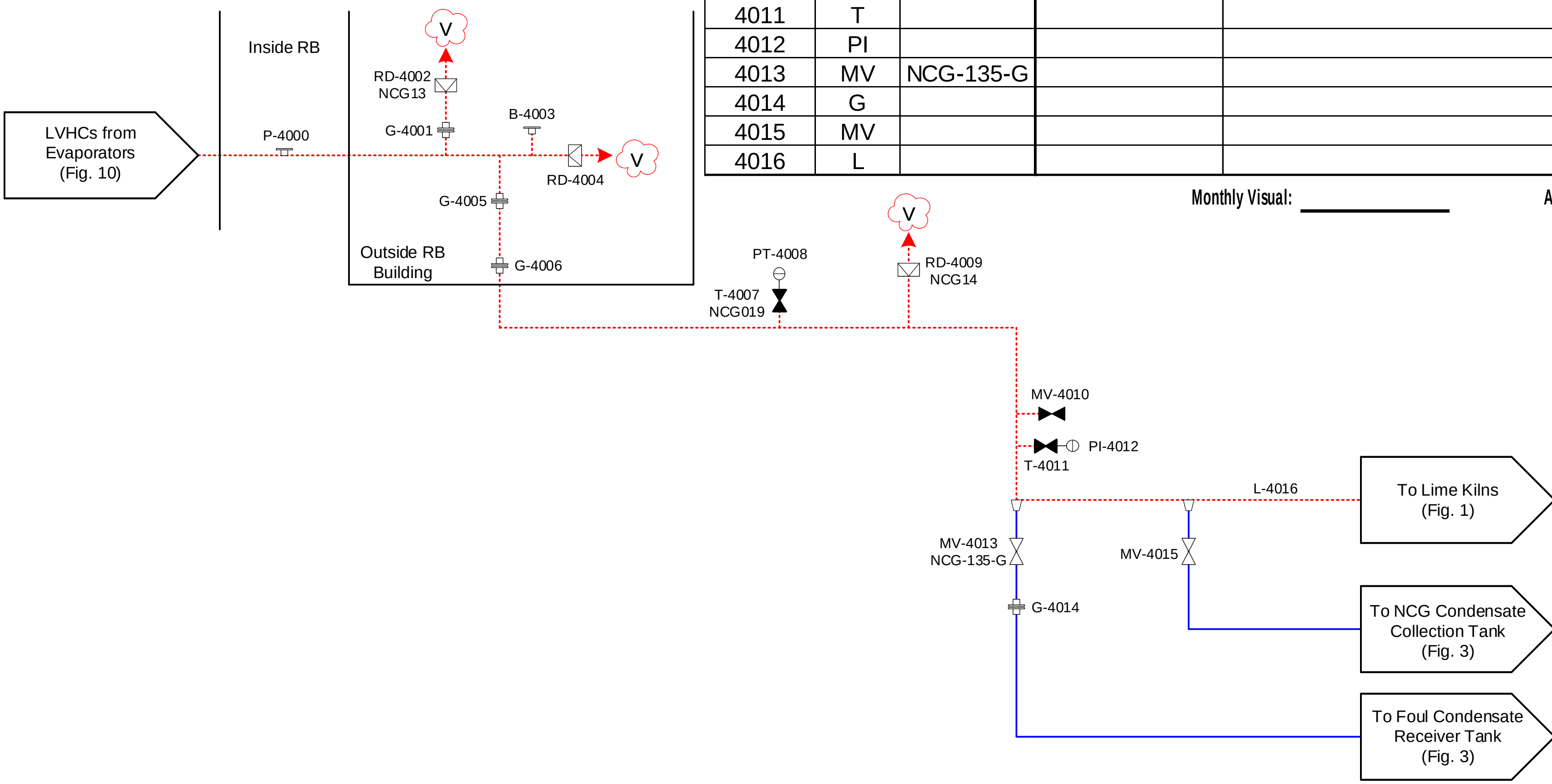
Monthly Visual: ____________ **Annual Method 21:** ____________

Fig. 4 LVHC Header

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
4000	P			
4001	G			
4002	RD	NCG 13		
4003	B			
4004	RD			
4005	G			
4006	G			
4007	T	NCG 019		
4008	PT			
4009	RD	NCG 14		
4010	MV			
4011	T			
4012	PI			
4013	MV	NCG-135-G		
4014	G			
4015	MV			
4016	L			

Monthly Visual: ____________ Annual Method 21: ____________



Vent Gases	To Another Page and Indicated Equipment
Condensates	From Another Page and Indicated Equipment
Liquor/Stock Lines	
Process Lines	

ENVIRONMENTAL 360

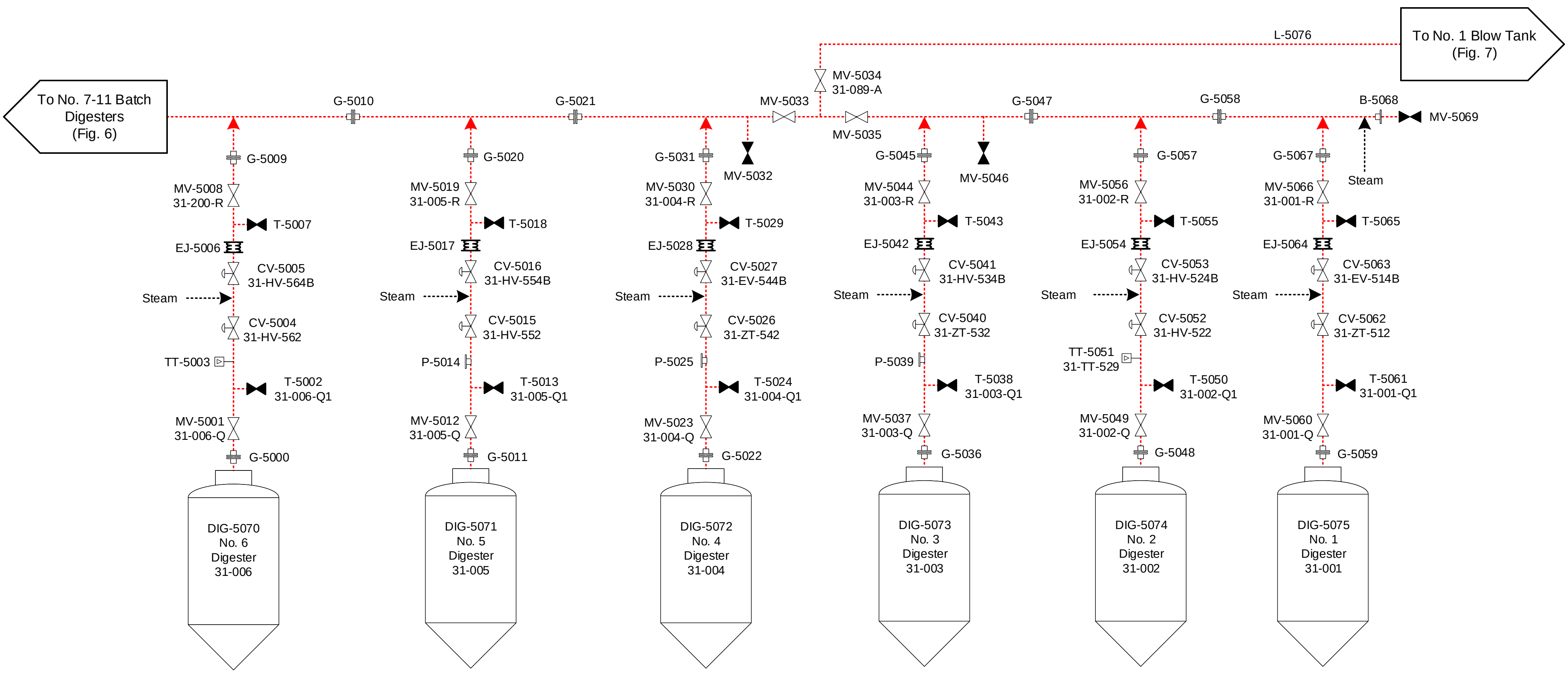
Georgia-Pacific Toledo LLC

LDAR Inspection and Testing Diagrams
LVHC Header

Rev. Date: January 2021

Figure 4

Monthly Visual: ______________ Annual Method 21: ________________



Vent Gases	To Another Page and Indicated Equipment	
Condensates	From Another Page and Indicated Equipment	
Liquor/Stock Lines		
Process Lines		

ENVIRONMENTAL 360

Georgia-Pacific Toledo LLC

LDAR Inspection and Testing Diagrams
Batch Digesters 1-6

Rev. Date: January 2021

Figure 5

Fig. 5 Batch Digesters No. 1-6

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
5000	G			
5001	MV	31-006-Q		
5002	T	31-006-Q1		
5003	TT			
5004	CV	31-HV-562		
5005	CV	31-HV-564B		
5006	EJ			
5007	T			
5008	MV	31-200-R		
5009	G			
5010	G			
5011	G			
5012	MV	31-005-Q		
5013	T	31-005-Q1		
5014	P			
5015	CV	31-HV-552		
5016	CV	31-HV-554B		
5017	EJ			
5018	T			
5019	MV	31-005-R		
5020	G			
5021	G			
5022	G			
5023	MV	31-004-Q		
5024	T	31-004-Q1		
5025	P			
5026	CV	31-ZT-542		
5027	CV	31-EV-544B		
5028	EJ			
5029	T			
5030	MV	31-004-R		
5031	G			
5032	MV			
5033	MV			
5034	MV	31-089-A		
5035	MV			
5036	G			
5037	MV	31-003-Q		
5038	T	31-003-Q1		

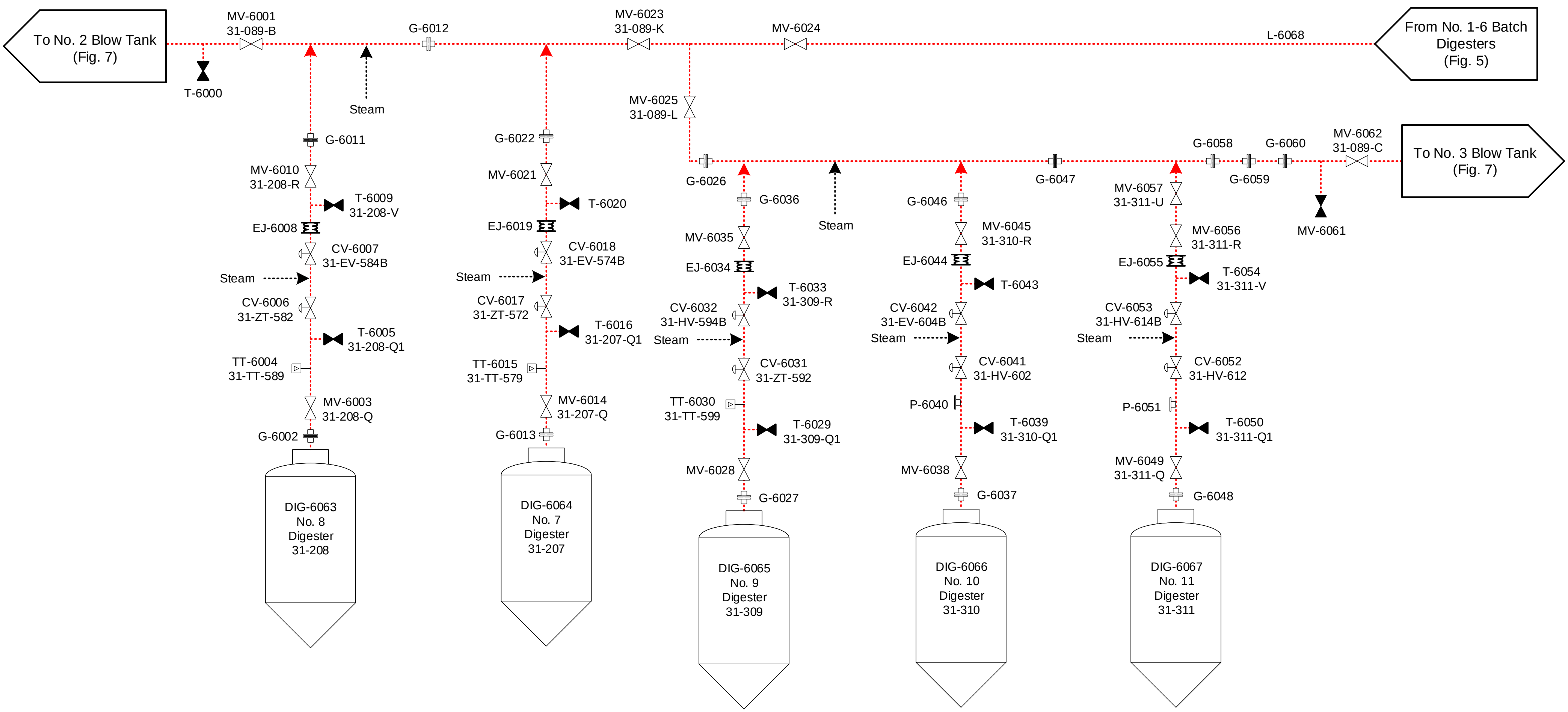
Monthly Visual: ______________ Annual Method 21: ________________

Fig. 5 Batch Digesters No. 1-6

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
5039	P			
5040	CV	31-ZT-532		
5041	CV	31-HV-534B		
5042	EJ			
5043	T			
5044	MV	31-003-R		
5045	G			
5046	MV			
5047	G			
5048	G			
5049	MV	31-002-Q		
5050	T	31-002-Q1		
5051	TT	31-TT-529		
5052	CV	31-HV-522		
5053	CV	31-HV-524B		
5054	EJ			
5055	T			
5056	MV	31-002-R		
5057	G			
5058	G			
5059	G			
5060	MV	31-001-Q		
5061	T	31-001-Q1		
5062	CV	31-ZT-512		
5063	CV	31-EV-514B		
5064	EJ			
5065	T			
5066	MV	31-001-R		
5067	G			
5068	B			
5069	MV			
5070	DIG	31-006		
5071	DIG	31-005		
5072	DIG	31-004		
5073	DIG	31-003		
5074	DIG	31-002		
5075	DIG	31-001		
5076	L			

Monthly Visual: ____________ Annual Method 21: ____________



Vent Gases	To Another Page and Indicated Equipment	ENVIRONMENTAL 360	Georgia-Pacific Toledo LLC
Condensates			
Liquor/Stock Lines	From Another Page and Indicated Equipment		LDAR Inspection and Testing Diagrams Batch Digesters 7-11
Process Lines			

Rev. Date: January 2021

Figure 6

Fig. 6 Batch Digester 7-11

Completed Date: Inspector Name:

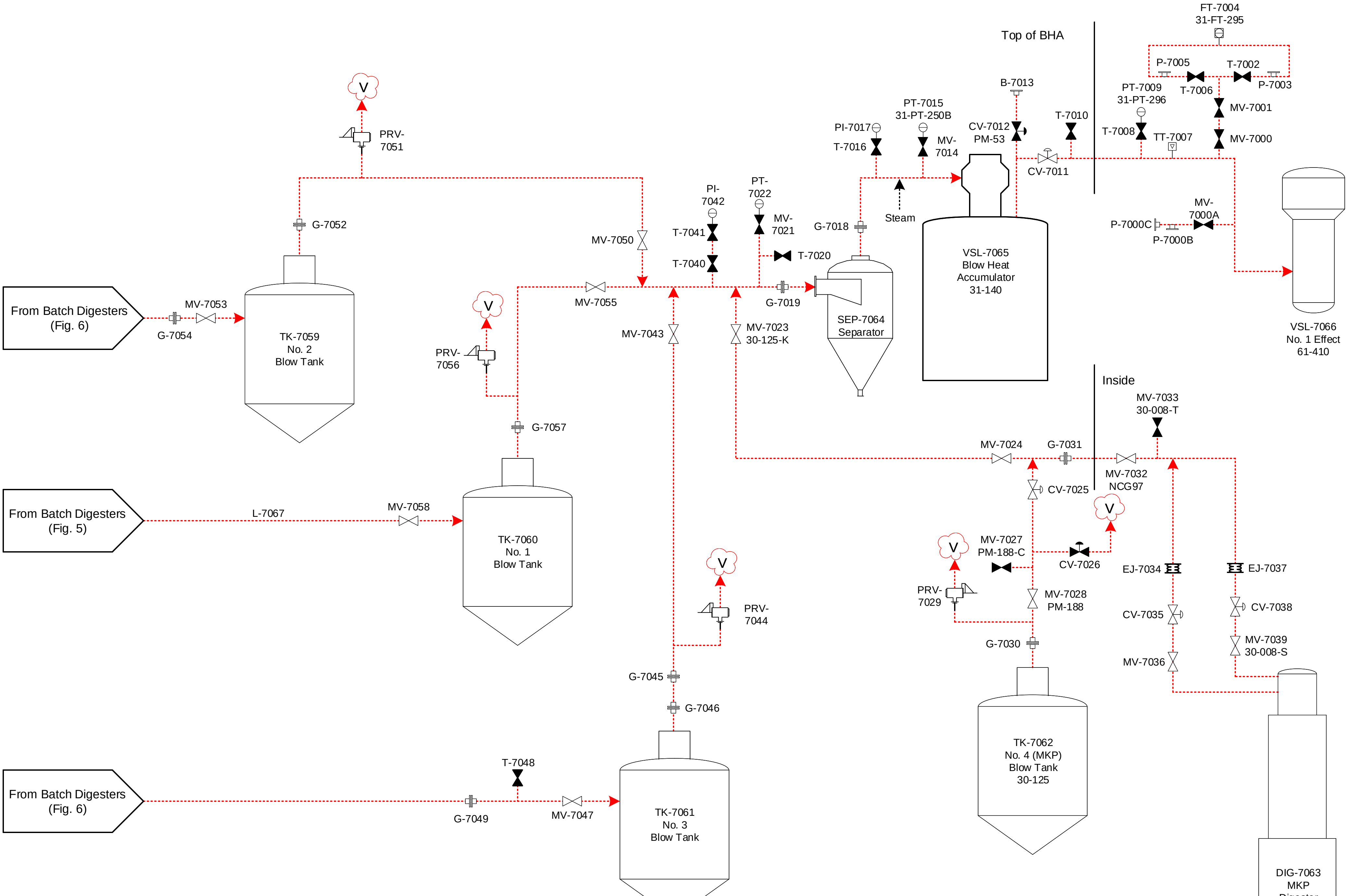
Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
6000	T			
6001	MV	31-089-B		
6002	G			
6003	MV	31-208-Q		
6004	TT	31-TT-589		
6005	T	31-208-Q1		
6006	CV	31-ZT-582		
6007	CV	31-EV-584B		
6008	EJ			
6009	T	31-208-V		
6010	MV	31-208-R		
6011	G			
6012	G			
6013	G			
6014	MV	31-207-Q		
6015	TT	31-TT-579		
6016	T	31-207-Q1		
6017	CV	31-ZT-572		
6018	CV	31-EV-574B		
6019	EJ			
6020	T			
6021	MV			
6022	G			
6023	MV	31-089-K		
6024	MV			
6025	MV	31-089-L		
6026	G			
6027	G			
6028	MV			
6029	T	31-309-Q1		
6030	TT	31-TT-599		
6031	CV	31-ZT-592		
6032	CV	31-HV-594B		
6033	T	31-309-R		

Monthly Visual: ______________ **Annual Method 21:** ______________

Fig. 6 Batch Digester 7-11

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
6034	EJ			
6035	MV			
6036	G			
6037	G			
6038	MV			
6039	T	31-310-Q1		
6040	P			
6041	CV	31-HV-602		
6042	CV	31-EV-604B		
6043	T			
6044	EJ			
6045	MV	31-310-R		
6046	G			
6047	G			
6048	G			
6049	MV	31-311-Q		
6050	T	31-311-Q1		
6051	P			
6052	CV	31-HV-612		
6053	CV	31-HV-614B		
6054	T	31-311-V		
6055	EJ			
6056	MV	31-311-R		
6057	MV	31-311-U		
6058	G			
6059	G			
6060	G			
6061	MV			
6062	MV	31-089-C		
6063	DIG	31-208		
6064	DIG	31-207		
6065	DIG	31-309		
6066	DIG	31-310		
6067	DIG	31-311		
6068	L			



Monthly Visual: ____________ Annual Method 21: ____________

Vent Gases	(red dotted line)	To Another Page and Indicated Equipment	(arrow symbol)
Condensates	(blue line)	From Another Page and Indicated Equipment	(arrow symbol)
Liquor/Stock Lines	(red line)		
Process Lines	(black line)		

ENVIRONMENTAL 360

Georgia-Pacific Toledo LLC

LDAR Inspection and Testing Diagrams

MKP Digester and Blow Heat System

Rev. Date: January 2021

Figure 7

Fig. 7 MKP Digester and Blow Heat System

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
7000	MV			
7000A	MV			
7000B	P			
7000C	P			
7001	MV			
7002	T			
7003	P			
7004	FT	31-FT-295		
7005	P			
7006	T			
7007	TT			
7008	T			
7009	PT	31-PT-296		
7010	T			
7011	CV			
7012	CV	PM-53		
7013	B			
7014	MV			
7015	PT	31-PT-350B		
7016	T			
7017	PI			
7018	G			
7019	G			
7020	T			
7021	MV			
7022	PT			
7023	MV	30-125-K		
7024	MV			
7025	CV			
7026	CV			
7027	MV	PM-188-C		
7028	MV	PM-188		
7029	PRV			
7030	G			
7031	G			

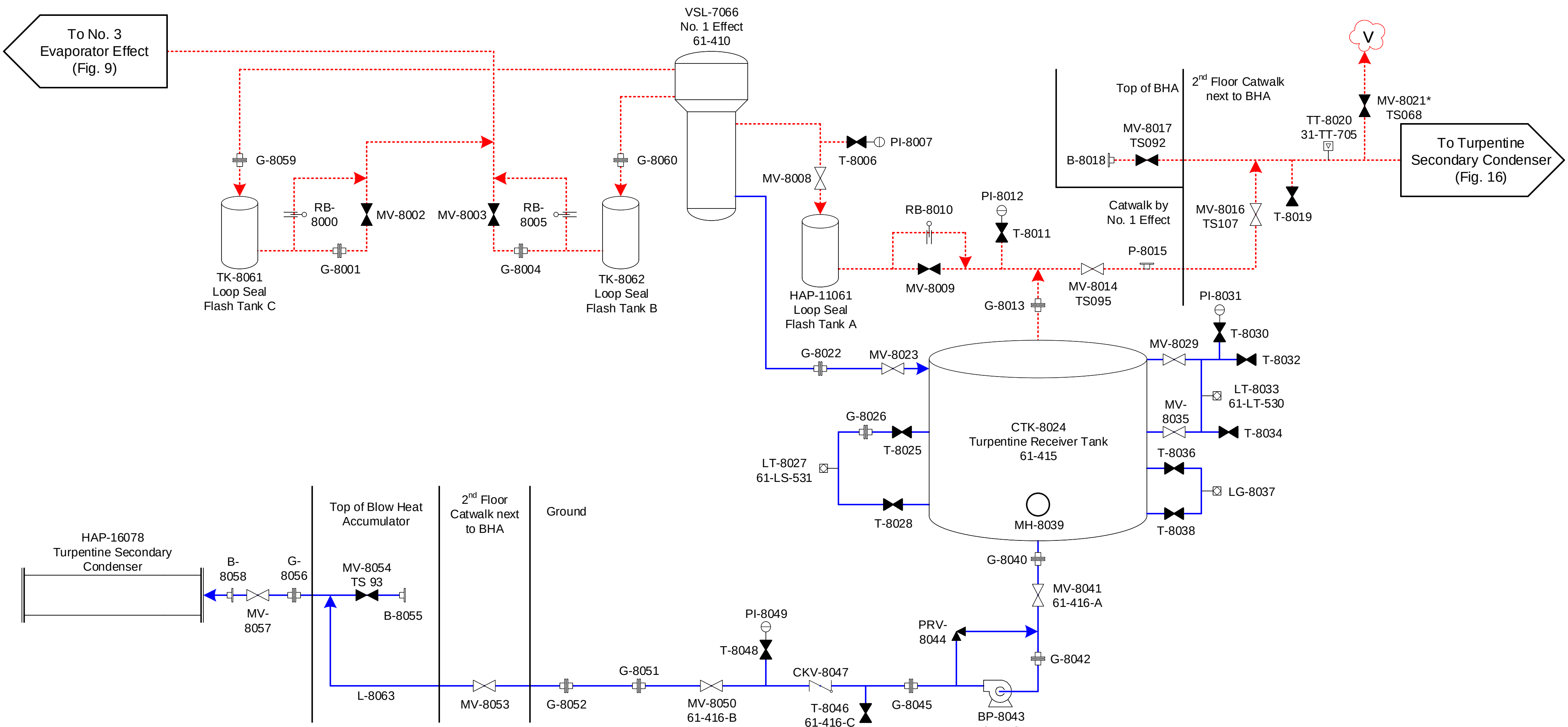
Monthly Visual: ______________ Annual Method 21: ________________

Fig. 7 MKP Digester and Blow Heat System

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
7032	MV	NCG 097		
7033	MV	30-008-T		
7034	EJ			
7035	CV			
7036	MV			
7037	EJ			
7038	CV			
7039	MV	30-008-S		
7040	T			
7041	T			
7042	PI			
7043	MV			
7044	PRV			
7045	G			
7046	G			
7047	MV			
7048	T			
7049	G			
7050	MV			
7051	PRV			
7052	G			
7053	MV			
7054	G			
7055	MV			
7056	PRV			
7057	G			
7058	MV			
7059	TK	No. 2 B.T.		
7060	TK	No. 1 B.T.		
7061	TK	No. 3 B.T.		
7062	TK	No. 4 B.T.		
7063	DIG	MKP Dig.		
7064	SEP	B.H. Sep.		
7065	VSL	31-140		
7066	VSL	61-410		
7067	L			

Monthly Visual: ______________ Annual Method 21: ________________



*Indicates Car Seal Present

Vent Gases	
Condensates	(blue line)
Liquor/Stock Lines	(red line)
Process Lines	(black line)
To Another Page and Indicated Equipment	
From Another Page and Indicated Equipment	

ENVIRONMENTAL 360

Georgia-Pacific Toledo LLC

LDAR Inspection and Testing Diagrams

Turpentine Receiver Tank

Rev. Date: January 2021

Figure 8

Fig. 8 Turpentine Receiver Tank

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
8000	RB			
8001	G			
8002	MV			
8003	MV			
8004	G			
8005	RB			
8006	T			
8007	PI			
8008	MV			
8009	MV			
8010	RB			
8011	T			
8012	PI			
8013	G			
8014	MV	TS 095		
8015	P			
8016	MV	TS 107		
8017	MV	TS 092		
8018	B			
8019	T			
8020	TT	31-TT-705		
8021	MV	TS 068		
8022	G			
8023	MV			
8024	CTK	61-415		
8025	T			
8026	G			
8027	LT	61-LS-531		
8028	T			
8029	MV			
8030	T			
8031	PI			

Monthly Visual: ________ **Annual Method 21:** ________

Fig. 8 Turpentine Receiver Tank

Completed Date: Inspector Name:

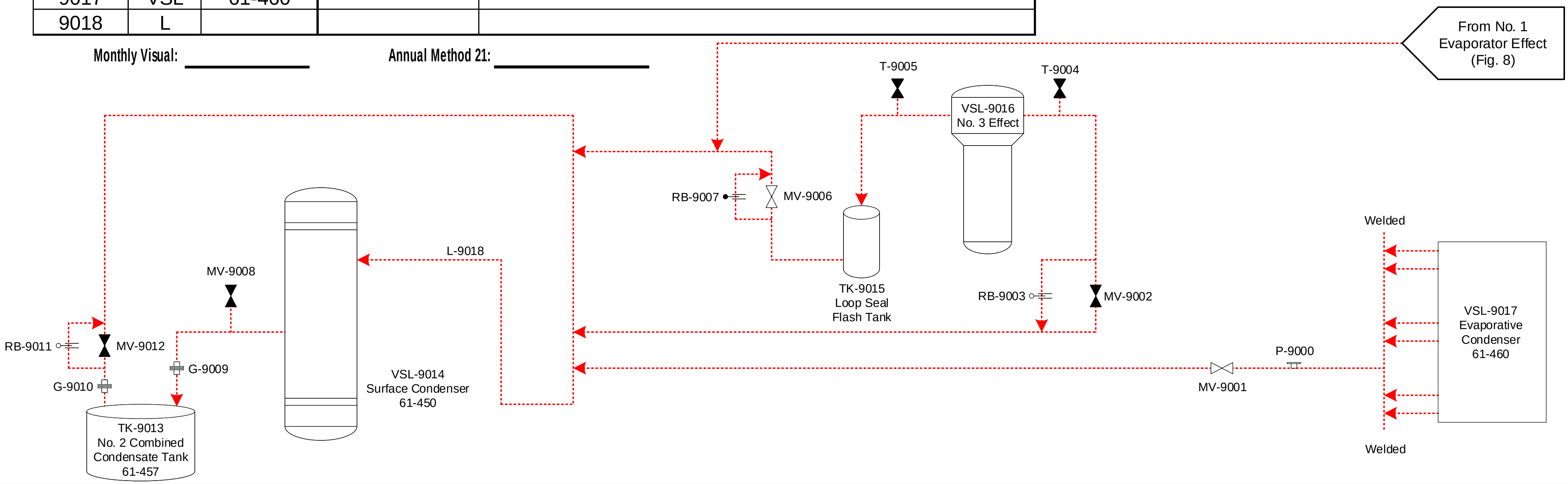
Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
8032	T			
8033	LT	61-LT-530		
8034	T			
8035	MV			
8036	T			
8037	LG			
8038	T			
8039	MH			
8040	G			
8041	MV	61-416-A		
8042	G			
8043	BP	61-416		
8044	PRV			
8045	G			
8046	T	61-416-C		
8047	CKV			
8048	T			
8049	PI			
8050	MV	61-416-B		
8051	G			
8052	G			
8053	MV			
8054	MV	TS 93		
8055	B			
8056	G			
8057	MV			
8058	B			
8059	G			
8060	G			
8061	TK			
8062	TK			
8063	L			

Fig. 9 Evaporator LVHCs (1 of 2)

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
9000	P			
9001	MV			
9002	MV			
9003	RB			
9004	T			
9005	T			
9006	MV			
9007	RB			
9008	MV			
9009	G			
9010	G			
9011	RB			
9012	MV			
9013	TK	61-457		
9014	VSL	61-450		
9015	TK			
9016	VSL	No. 3 Effect		
9017	VSL	61-460		
9018	L			

Monthly Visual: ____________ Annual Method 21: ____________



Vent Gases
Condensates
Liquor/Stock Lines
Process Lines

To Another Page and Indicated Equipment

From Another Page and Indicated Equipment

ENVIRONMENTAL 360

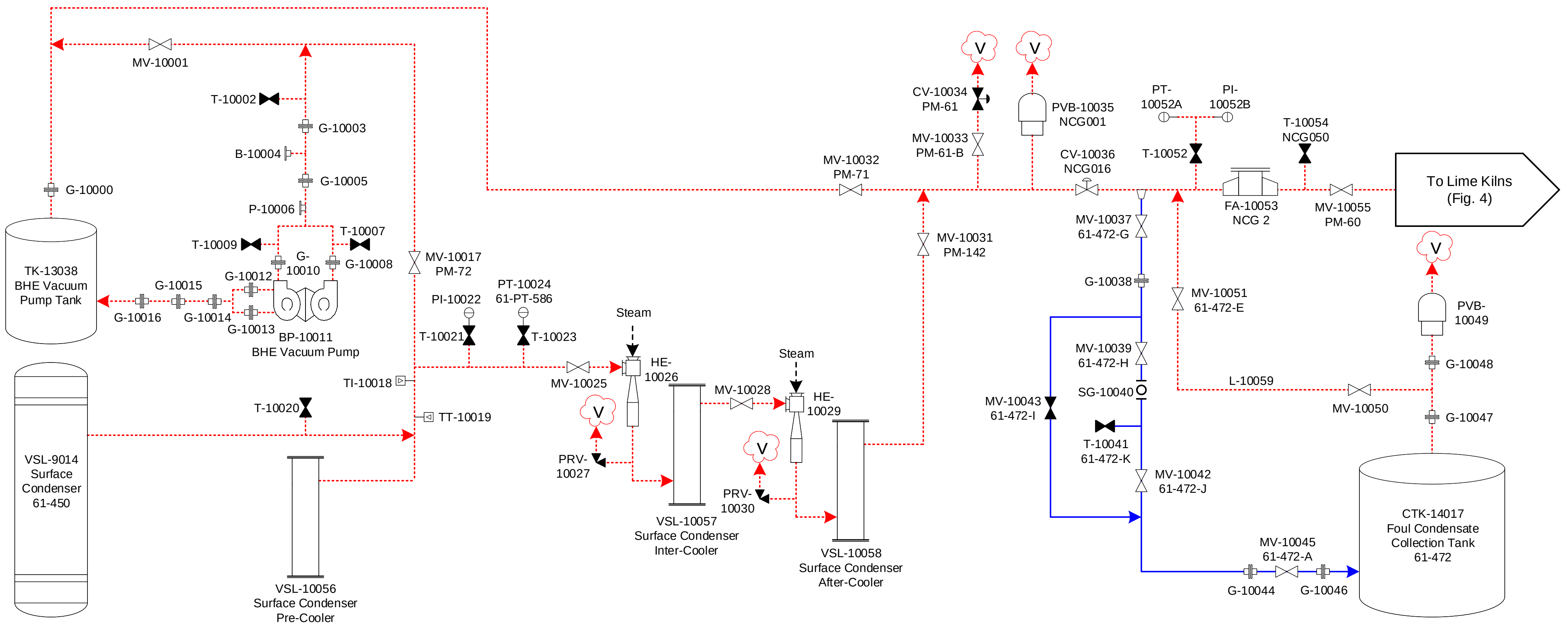
Georgia-Pacific Toledo LLC

LDAR Inspection and Testing Diagrams Evaporator LVHCs (1 of 2)

Rev. Date: January 2021

Figure 9

Monthly Visual: ____________ Annual Method 21: ____________



Vent Gases
Condensates
Liquor/Stock Lines
Process Lines

To Another Page and Indicated Equipment

From Another Page and Indicated Equipment

ENVIRONMENTAL 360

Georgia-Pacific Toledo LLC

LDAR Inspection and Testing Diagrams
Evaporator LVHCs (2 of 2)

Rev. Date:
January 2021

Figure 10

Fig. 10 Evaporator LVHCs (2 of 2)

Completed Date: Inspector Name:

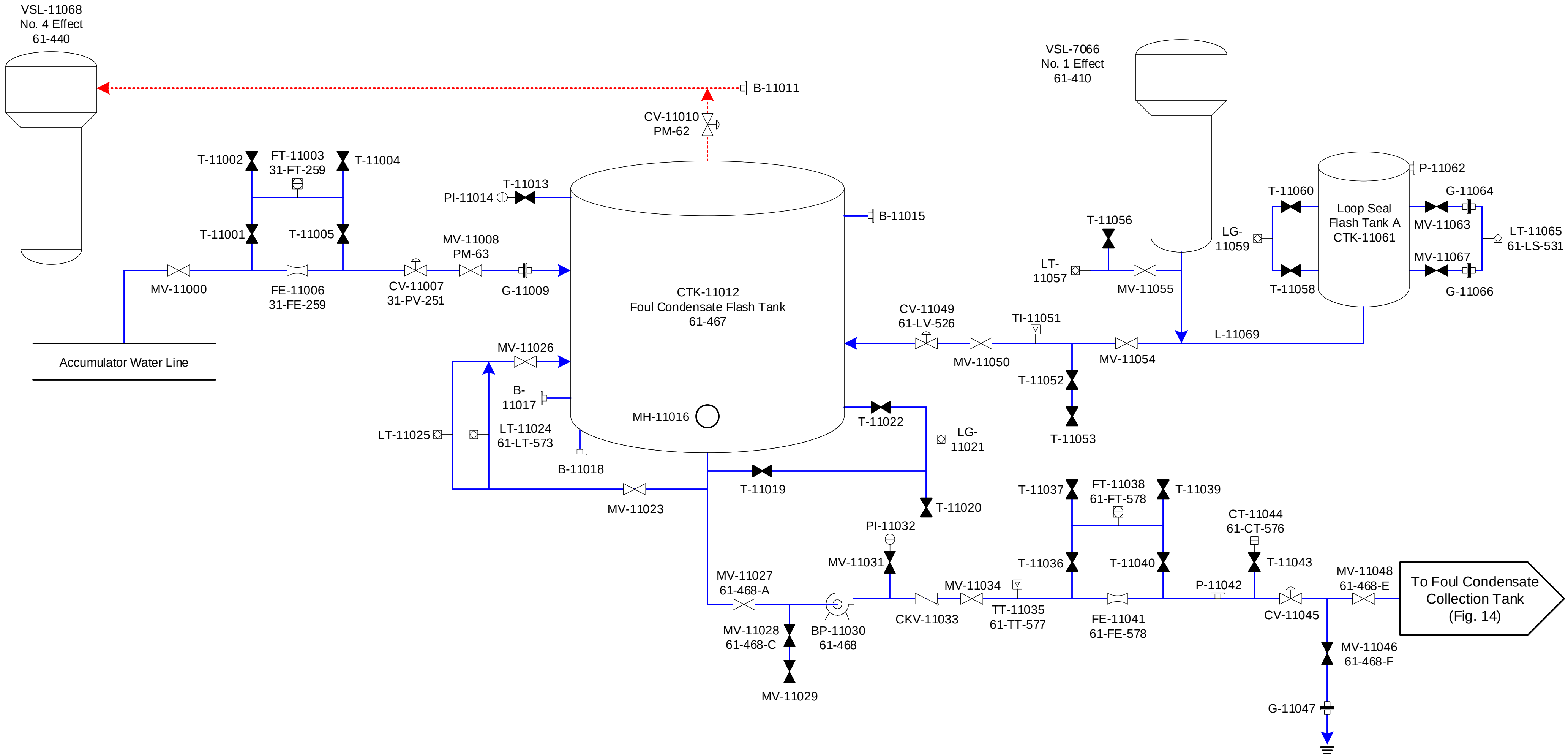
Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
10000	G			
10001	MV			
10002	T			
10003	G			
10004	B			
10005	G			
10006	P			
10007	T			
10008	G			
10009	T			
10010	G			
10011	BP			
10012	G			
10013	G			
10014	G			
10015	G			
10016	G			
10017	MV	PM-72		
10018	TI			
10019	TT			
10020	T			
10021	T			
10022	PI			
10023	T			
10024	PT	61-PT-586		
10025	MV			
10026	HE			
10027	PRV			
10028	MV			
10029	HE			
10030	PRV			

Monthly Visual: ______________ **Annual Method 21:** ______________

Fig. 10 Evaporator LVHCs (2 of 2)

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
10031	MV	PM-142		
10032	MV	PM-71		
10033	MV	PM-61-B		
10034	CV	PM-61		
10035	PVB	NCG 001		
10036	CV	NCG 016		
10037	MV	61-472-G		
10038	G			
10039	MV	61-472-H		
10040	SG			
10041	T	61-472-K		
10042	MV	61-472-J		
10043	MV	61-472-I		
10044	G			
10045	MV	61-472-A		
10046	G			
10047	G			
10048	G			
10049	PVB			
10050	MV			
10051	MV	61-472-E		
10052	T			
10052A	PT			
10052B	PI			
10053	FA	NCG 2		
10054	T	NCG 050		
10055	MV	PM-60		
10056	VSL			
10057	VSL			
10058	VSL			
10059	L			



Monthly Visual: ____________ Annual Method 21: ____________

Vent Gases		To Another Page and Indicated Equipment	
Condensates			
Liquor/Stock Lines		From Another Page and Indicated Equipment	
Process Lines			

ENVIRONMENTAL 360

Georgia-Pacific Toledo LLC

LDAR Inspection and Testing Diagrams
Foul Condensate Flash Tank

Rev. Date:
January 2021

Figure 11

Fig. 11 Foul Condensate Flash Tank

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
11000	MV			
11001	T			
11002	T			
11003	FT	31-FT-259		
11004	T			
11005	T			
11006	FE	31-FE-259		
11007	CV	31-PV-251		
11008	MV	PM-63		
11009	G			
11010	CV	PM-62		
11011	B			
11012	CTK	61-467		
11013	T			
11014	PI			
11015	B			
11016	MH			
11017	B			
11018	B			
11019	T			
11020	T			
11021	LG			
11022	T			
11023	MV			
11024	LT	61-LT-573		
11025	LT			
11026	MV			
11027	MV	61-468-A		
11028	MV	61-468-C		
11029	MV			
11030	BP	61-468		
11031	MV			
11032	PI			
11033	CKV			
11034	MV			

Fig. 11 Foul Condensate Flash Tank

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
11035	TT	61-TT-577		
11036	T			
11037	T			
11038	FT	61-FT-578		
11039	T			
11040	T			
11041	FE	61-FE-578		
11042	P			
11043	T			
11044	CT	61-CT-576		
11045	CV			
11046	MV	61-468-F		
11047	G			
11048	MV	61-468-E		
11049	CV	61-LV-526		
11050	MV			
11051	TI			
11052	T			
11053	T			
11054	MV			
11055	MV			
11056	T			
11057	LT			
11058	T			
11059	LG			
11060	T			
11061	CTK			
11062	P			
11063	MV			
11064	G			
11065	LT	61-LS-531		
11066	G			
11067	MV			
11068	VSL	61-440		
11069	L			

Monthly Visual: ______________ **Annual Method 21:** ________________

Fig. 12 Evaporators Foul Condensate

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
12000	MV			
12001	T			
12002	T			
12003	G			
12004	MV			
12005	G			
12006	MV			
12007	T			
12008	T			
12009	G			
12010	MV			
12011	MV			
12012	LT	61-LT-564		
12013	CV			
12014	T			
12015	MV			

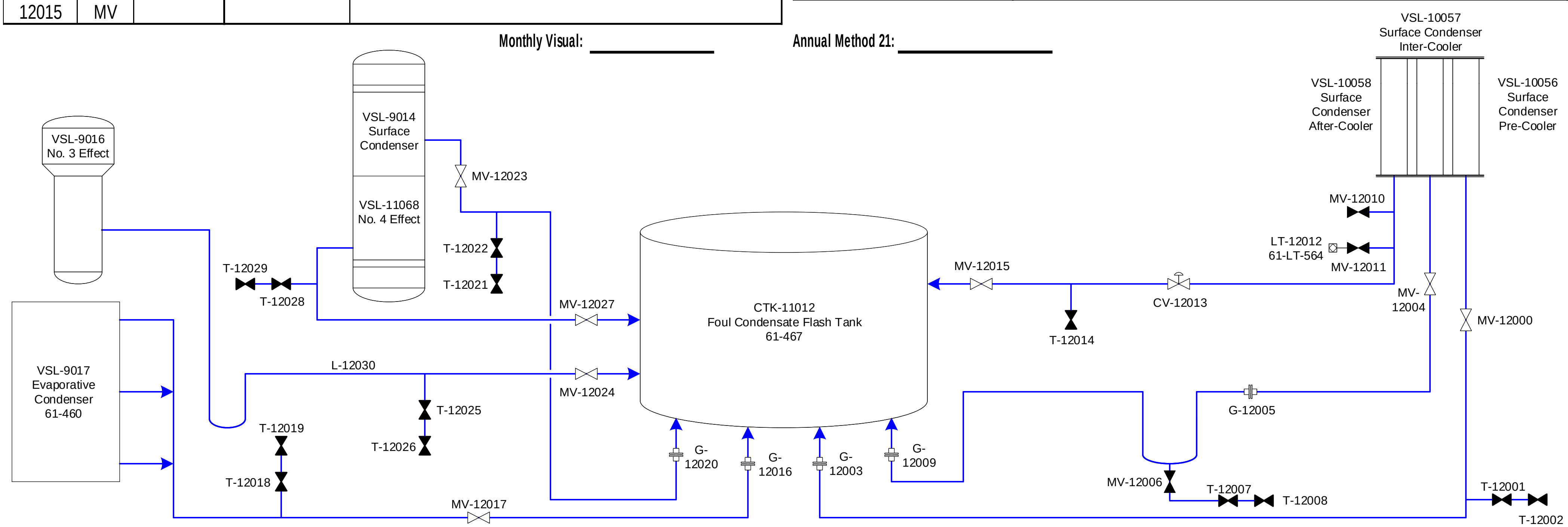
Fig. 12 Evaporators Foul Condensate

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
12016	G			
12017	MV			
12018	T			
12019	T			
12020	G			
12021	T			
12022	T			
12023	MV			
12024	MV			
12025	T			
12026	T			
12027	MV			
12028	T			
12029	T			
12030	L			

Monthly Visual: ____________

Annual Method 21: ____________



Vent Gases		To Another Page and Indicated Equipment	
Condensates		From Another Page and Indicated Equipment	
Liquor/Stock Lines			
Process Lines			

ENVIRONMENTAL360

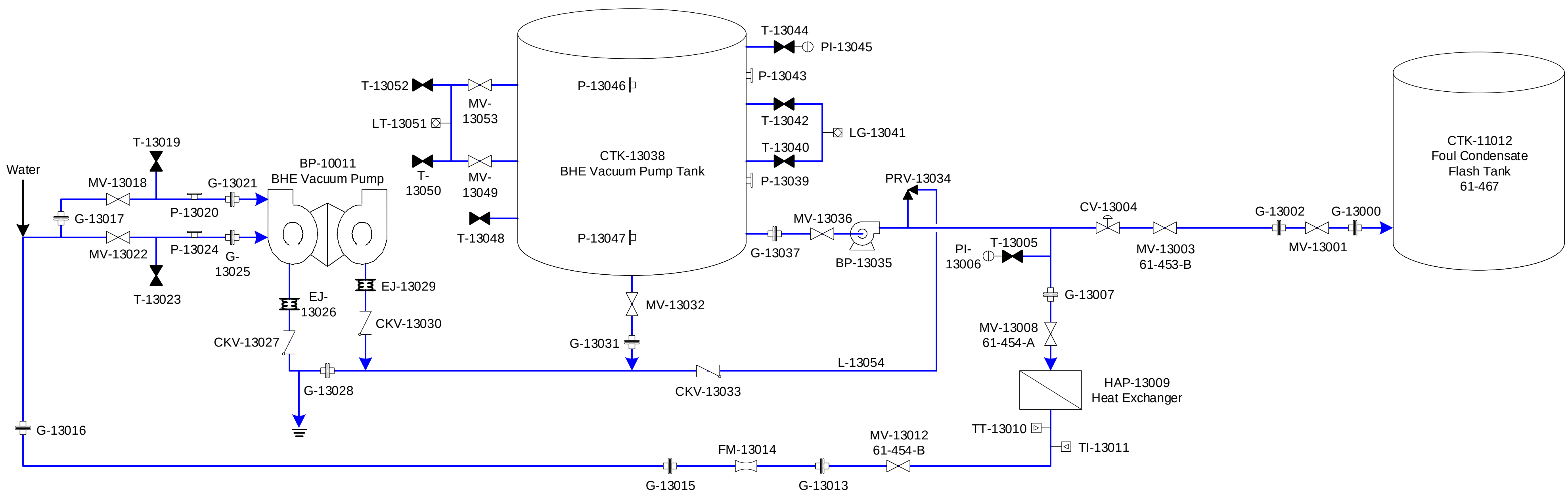
Georgia-Pacific Toledo LLC

LDAR Inspection and Testing Diagrams
Evaporators Foul Condensate

Rev. Date:
January 2021

Figure 12

Monthly Visual: ____________ Annual Method 21: ____________



Vent Gases / Condensates / Liquor/Stock Lines / Process Lines	To Another Page and Indicated Equipment / From Another Page and Indicated Equipment	Georgia-Pacific Toledo LLC	Rev. Date: January 2021
		LDAR Inspection and Testing Diagrams BHE Vacuum Pump Tank Foul Condensate	Figure 13

Fig. 13 BHE Vacuum Pump Tank Foul Condensate

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
13000	G			
13001	MV			
13002	G			
13003	MV	61-453-B		
13004	CV			
13005	T			
13006	PI			
13007	G			
13008	MV	61-454-A		
13009	HAP			
13010	TT			
13011	TI			
13012	MV	61-454-B		
13013	G			
13014	FM			
13015	G			
13016	G			
13017	G			
13018	MV			
13019	T			
13020	P			
13021	G			
13022	MV			
13023	T			
13024	P			
13025	G			
13026	EJ			

Monthly Visual: ________ **Annual Method 21:** ________

Fig. 13 BHE Vacuum Pump Tank Foul Condensate

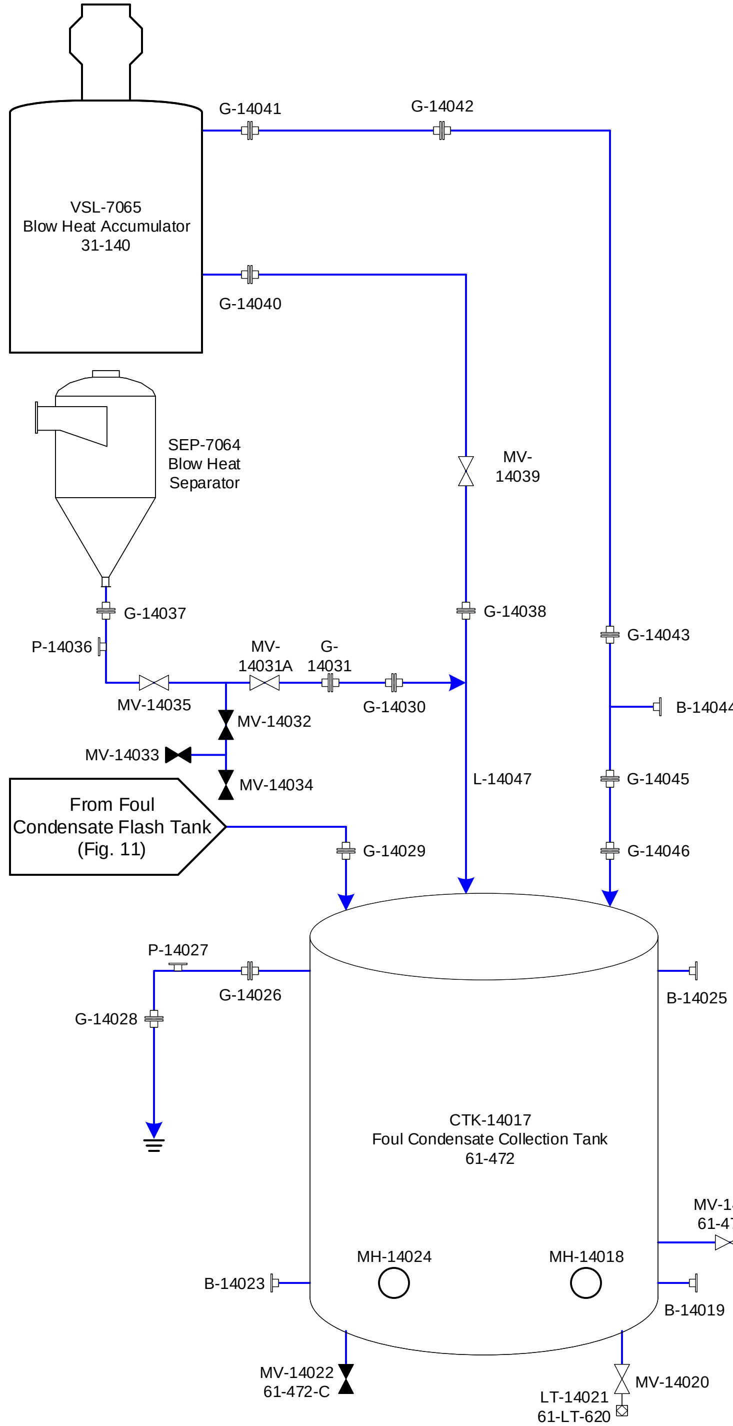
Completed Date: Inspector Name:

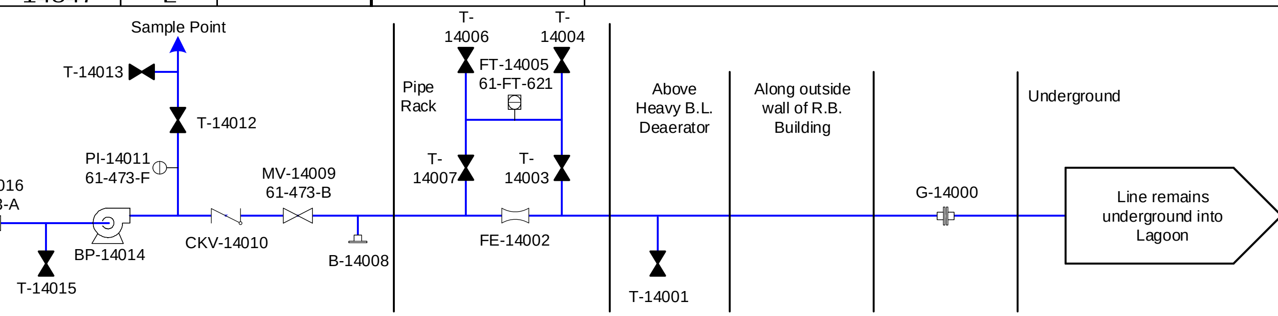
Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
13027	CKV			
13028	G			
13029	EJ			
13030	CKV			
13031	G			
13032	MV			
13033	CKV			
13034	PRV			
13035	BP			
13036	MV			
13037	G			
13038	CTK			
13039	P			
13040	T			
13041	LG			
13042	T			
13043	P			
13044	T			
13045	PI			
13046	P			
13047	P			
13048	T			
13049	MV			
13050	T			
13051	LT			
13052	T			
13053	MV			
13054	L			

Fig. 14 Foul Condensate Collection Tank

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
14000	G			
14001	T			
14002	FE			
14003	T			
14004	T			
14005	FT	61-FT-621		
14006	T			
14007	T			
14008	B			
14009	MV	61-473-B		
14010	CKV			
14011	PI	61-473-F		
14012	T			
14013	T			
14014	BP			
14015	T			
14016	MV	61-473-A		
14017	CTK	61-472		
14018	MH			
14019	B			
14020	MV			
14021	LT	61-LT-620		
14022	MV	61-472-C		
14023	B			
14024	MH			
14025	B			
14026	G			
14027	P			
14028	G			
14029	G			
14030	G			
14031	G			
14031A	MV			
14032	MV			
14033	MV			
14034	MV			
14035	MV			
14036	P			
14037	G			
14038	G			
14039	MV			
14040	G			
14041	G			
14042	G			
14043	G			
14044	B			
14045	G			
14046	G			
14047	L			





Monthly Visual: ____________ Annual Method 21: ____________

Vent Gases	To Another Page and Indicated Equipment
Condensates	From Another Page and Indicated Equipment
Liquor/Stock Lines	
Process Lines	

ENVIRONMENTAL 360

Georgia-Pacific Toledo LLC

LDAR Inspection and Testing Diagrams
Foul Condensate Collection Tank

Rev. Date: January 2021

Figure 14

Fig. 15 Turpentine Overflow Standpipe

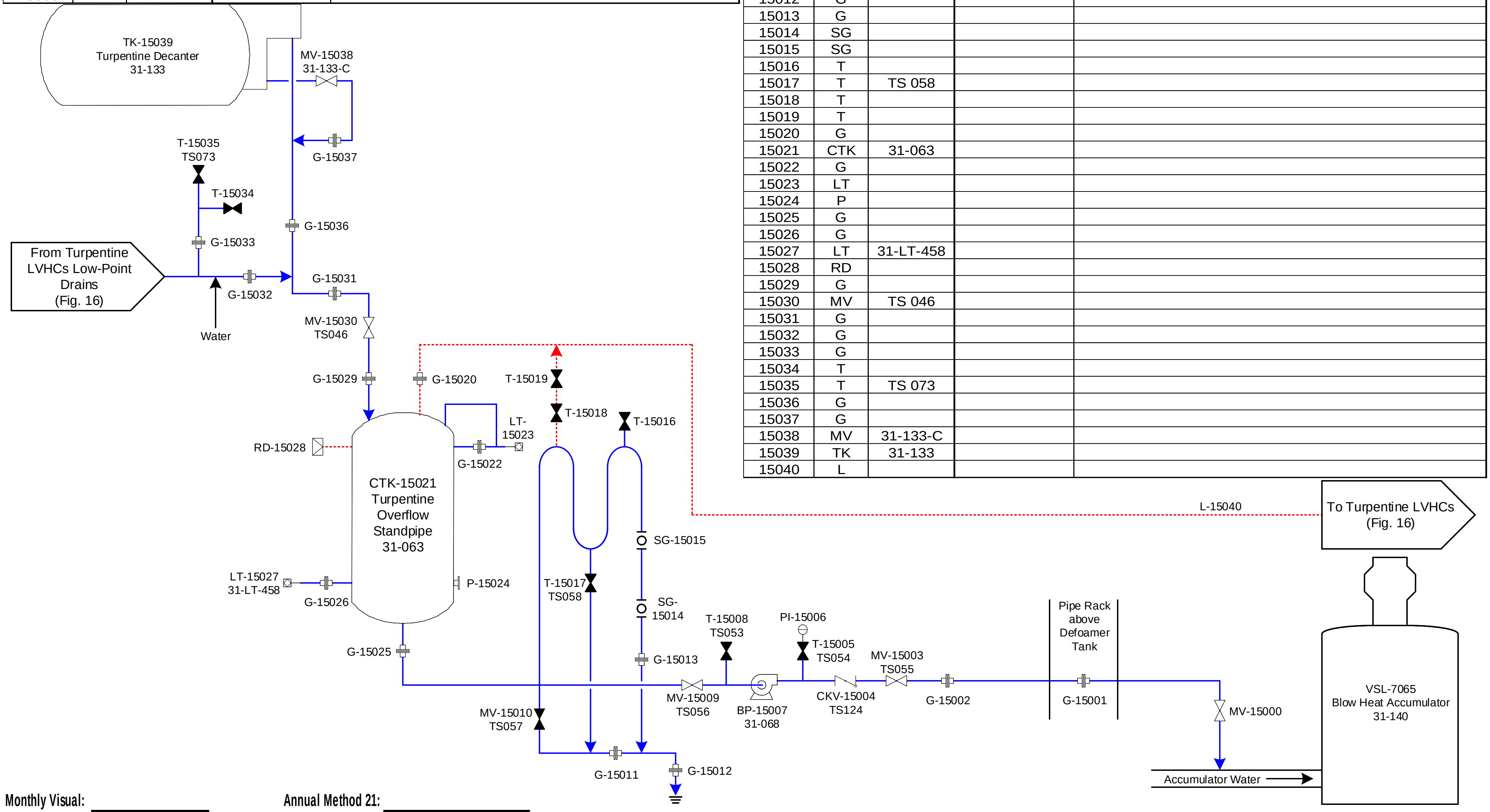
Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
15000	MV			
15001	G			
15002	G			
15003	MV	TS 055		
15004	CKV	TS 124		
15005	T	TS 054		
15006	PI			

Fig. 15 Turpentine Overflow Standpipe

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
15007	BP	31-068		
15008	T	TS 053		
15009	MV	TS 056		
15010	MV	TS 057		
15011	G			
15012	G			
15013	G			
15014	SG			
15015	SG			
15016	T			
15017	T	TS 058		
15018	T			
15019	T			
15020	G			
15021	CTK	31-063		
15022	G			
15023	LT			
15024	P			
15025	G			
15026	G			
15027	LT	31-LT-458		
15028	RD			
15029	G			
15030	MV	TS 046		
15031	G			
15032	G			
15033	G			
15034	T			
15035	T	TS 073		
15036	G			
15037	G			
15038	MV	31-133-C		
15039	TK	31-133		
15040	L			



Monthly Visual: ____________ Annual Method 21: ____________

Vent Gases	(red dotted line)
Condensates	(blue line)
Liquor/Stock Lines	(dark red line)
Process Lines	(black line)
To Another Page and Indicated Equipment	(arrow pointing right)
From Another Page and Indicated Equipment	(arrow pointing left)

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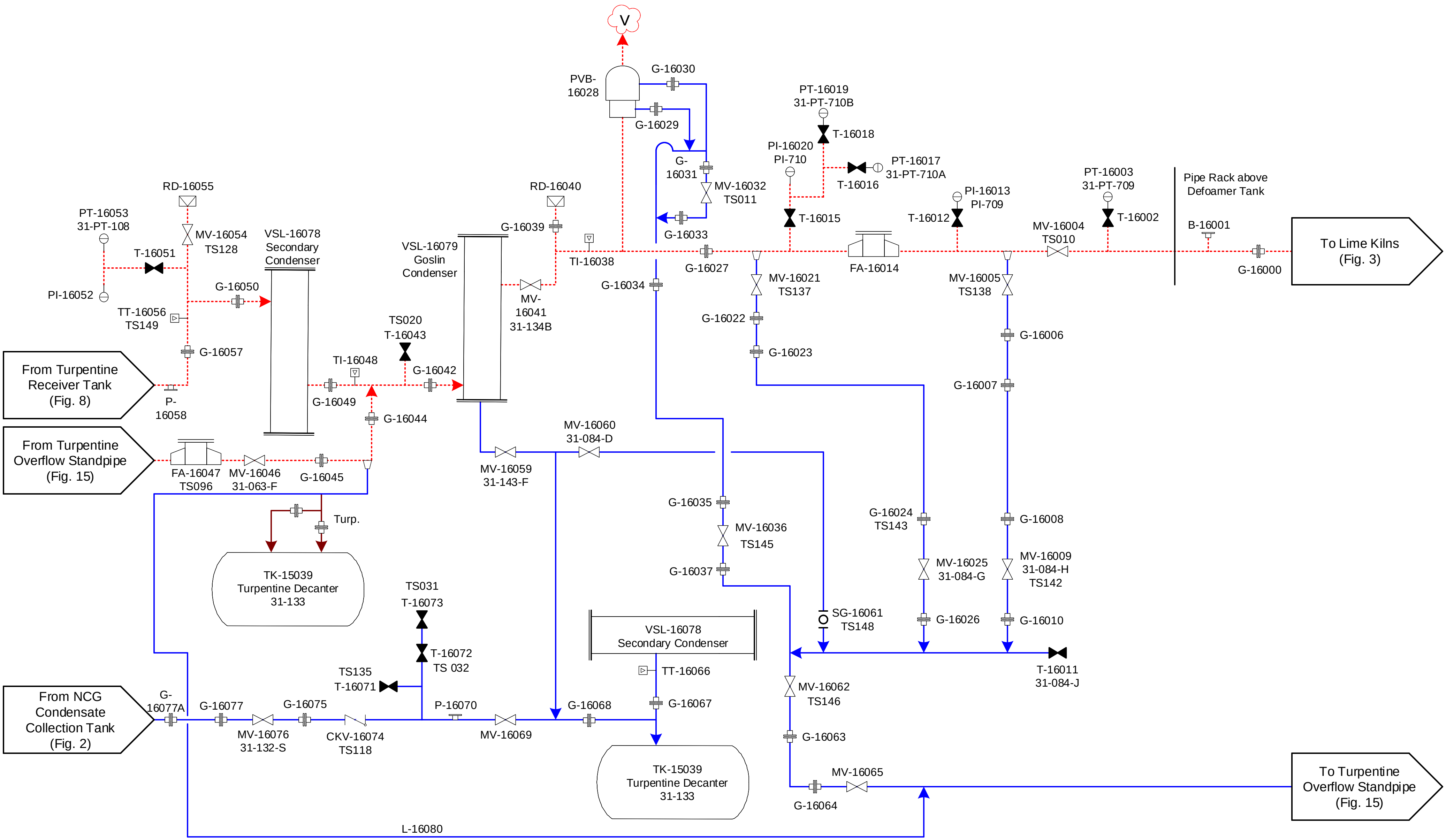
Georgia-Pacific Toledo LLC

LDAR Inspection and Testing Diagrams
Turpentine Overflow Standpipe

Rev. Date: January 2021

Figure 15

Monthly Visual: ____________ Annual Method 21: ____________



Vent Gases
Condensates
Liquor/Stock Lines
Process Lines

To Another Page and Indicated Equipment

From Another Page and Indicated Equipment

ENVIRONMENTAL 360

Georgia-Pacific Toledo LLC

LDAR Inspection and Testing Diagrams
Turpentine System

Rev. Date: January 2021

Figure 16

Fig. 16 Turpentine System

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
16000	G			
16001	B			
16002	T			
16003	PT	31-PT-709		
16004	MV	TS 010		
16005	MV	TS 138		
16006	G			
16007	G			
16008	G			
16009	MV	31-084-H		
16010	G			
16011	T	31-084-J		
16012	T			
16013	PI	PI-709		
16014	FA			
16015	T			
16016	T			
16017	PT	31-PT-710A		
16018	T			
16019	PT	31-PT-710B		
16020	PI	PI-710		
16021	MV	TS 137		
16022	G			
16023	G			
16024	G	TS 143		
16025	MV	31-084-G		
16026	G			
16027	G			
16028	PVB			
16029	G			
16030	G			
16031	G			
16032	MV	TS 011		
16033	G			
16034	G			
16035	G			
16036	MV	TS 145		
16037	G			
16038	TI			
16039	G			
16040	RD			

Monthly Visual: ____________ Annual Method 21: ____________

Fig. 16 Turpentine System

Completed Date: Inspector Name:

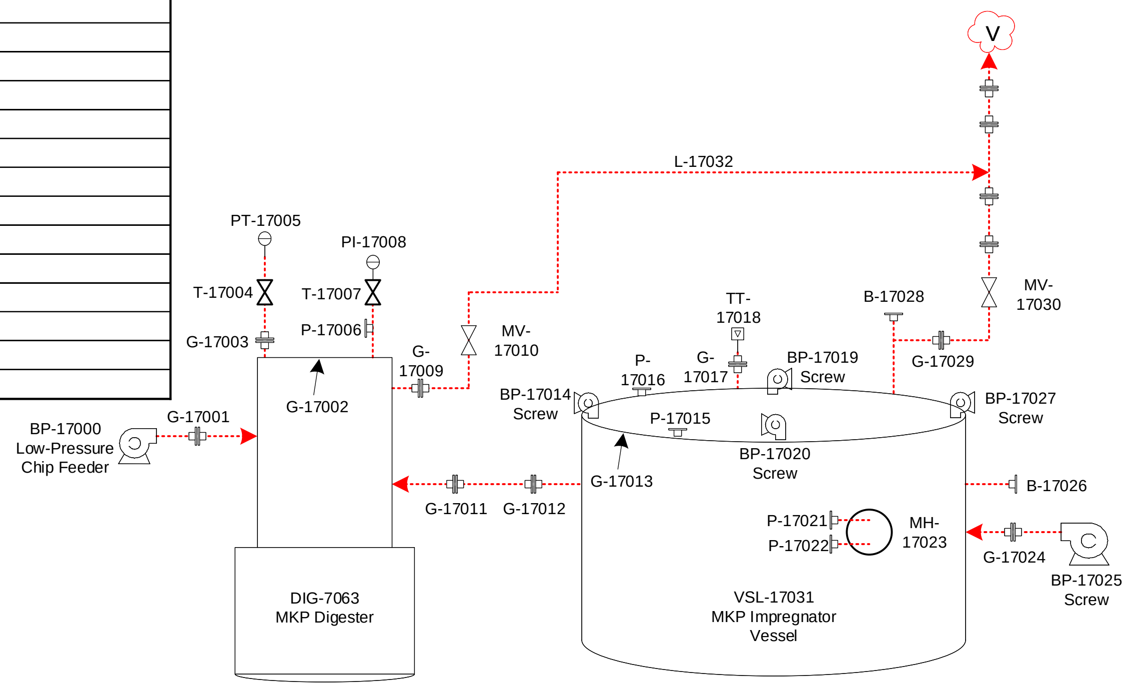
Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
16041	MV	31-134B		
16042	G			
16043	T	TS 020		
16044	G			
16045	G			
16046	MV	31-063-F		
16047	FA	TS 096		
16048	TI			
16049	G			
16050	G			
16051	T			
16052	PI			
16053	PT	31-PT-108		
16054	MV	TS 128		
16055	RD			
16056	TT	TS 149		
16057	G			
16058	P			
16059	MV	31-143-F		
16060	MV	31-084-D		
16061	SG	TS 148		
16062	MV	TS 146		
16063	G			
16064	G			
16065	MV			
16066	TT			
16067	G			
16068	G			
16069	MV			
16070	P			
16071	T	TS 135		
16072	T	TS 032		
16073	T	TS 031		
16074	CKV	TS 118		
16075	G			
16076	MV	31-132-S		
16077	G			
16077A	G			
16078	VSL			
16079	VSL			
16080	L			

Fig. 17 MKP Digester System Connections

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
17000	BP			
17001	G			
17002	G			
17003	G			
17004	T			
17005	PT			
17006	P			
17007	T			
17008	PI			
17009	G			
17010	MV			
17011	G			
17012	G			
17013	G			
17014	BP			
17015	P			
17016	P			
17017	G			
17018	TT			
17019	BP			
17020	BP			
17021	P			
17022	P			
17023	MH			
17024	G			
17025	BP			
17026	B			
17027	BP			
17028	B			
17029	G			
17030	MV			
17031	VSL	MKP I.V.		
17032	L			

Monthly Visual: ____________ Annual Method 21: ____________



Vent Gases
Condensates
Liquor/Stock Lines
Process Lines

To Another Page and Indicated Equipment
From Another Page and Indicated Equipment

ENVIRONMENTAL 360

Georgia-Pacific Toledo LLC

LDAR Inspection and Testing Diagrams
MKP Digester System Connections

Rev. Date: January 2021

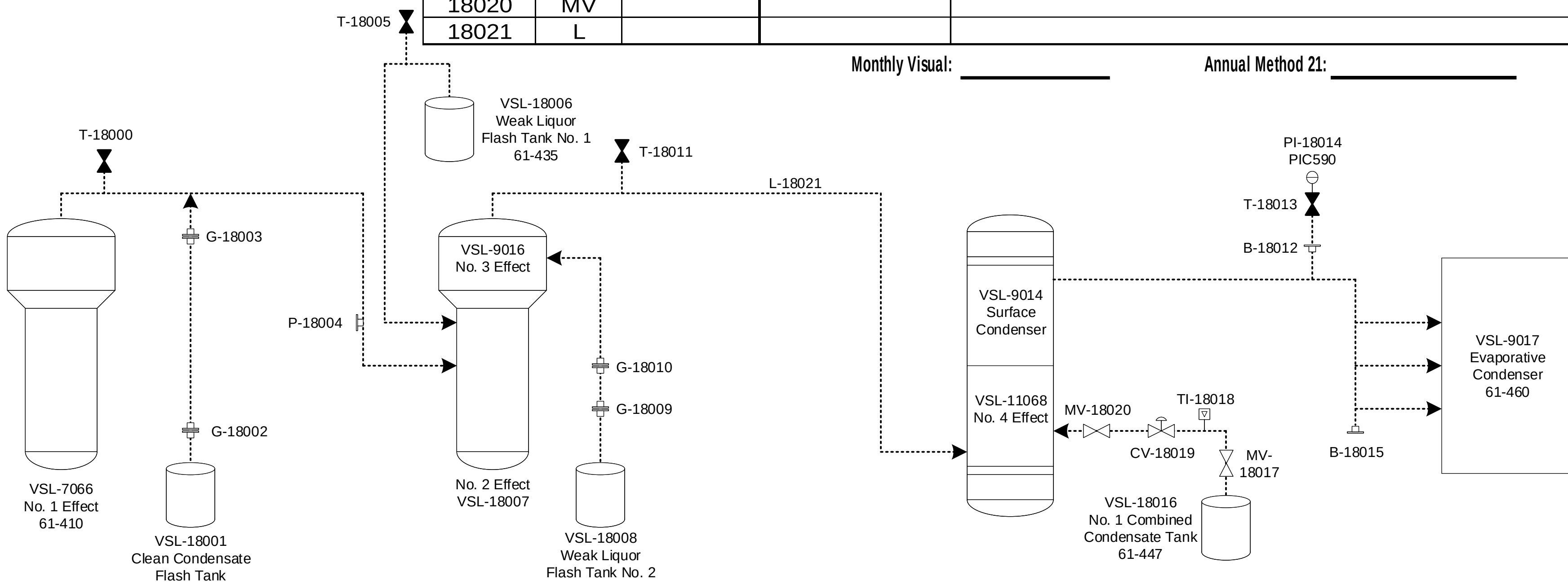
Figure 17

Fig. 18 Blow Heat Evaporators Vapor Lines

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
18000	T			
18001	VSL			
18002	G			
18003	G			
18004	P			
18005	T			
18006	VSL	61-435		
18007	VSL			
18008	VSL			
18009	G			
18010	G			
18011	T			
18012	B			
18013	T			
18014	PI	PIC590		
18015	B			
18016	VSL	61-447		
18017	MV			
18018	TI			
18019	CV			
18020	MV			
18021	L			

Monthly Visual: ________ Annual Method 21: ________



Vapor Lines	To Another Page and Indicated Equipment	
Condensates		
Liquor/Stock Lines	From Another Page and Indicated Equipment	
Process Lines		

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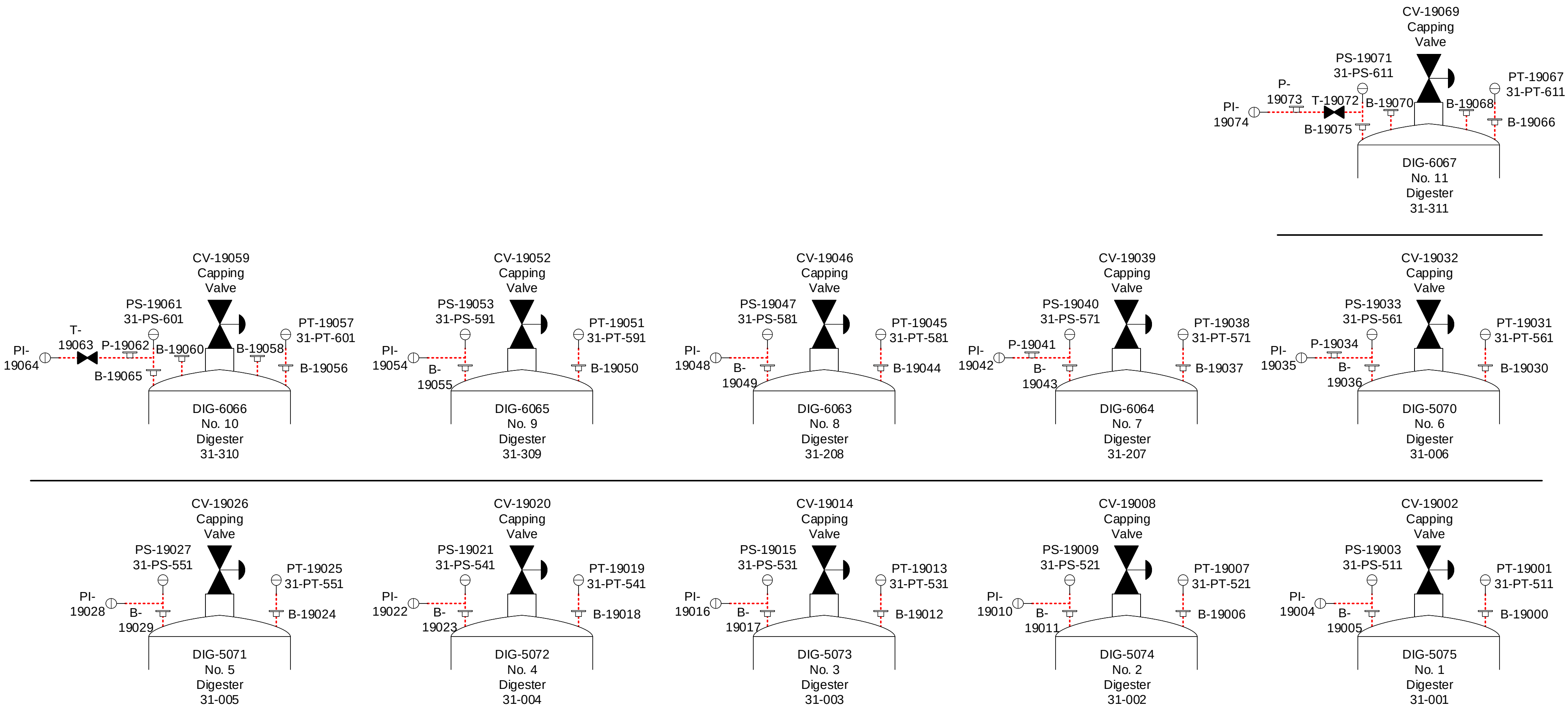
Georgia-Pacific Toledo LLC

LDAR Inspection and Testing Diagrams
Blow Heat Evaporators Vapor Lines

Rev. Date: January 2021

Figure 18

Monthly Visual: ____________ Annual Method 21: ______________



Vapor Lines	···········	To Another Page and Indicated Equipment
Condensates	(blue line)	
Liquor/Stock Lines	(red line)	From Another Page and Indicated Equipment
Process Lines	(black line)	

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Georgia-Pacific Toledo LLC

LDAR BMP Inspection Diagrams
3rd Floor Batch Digesters

Rev. Date: January 2021

Figure 19

Fig. 19 3rd Floor Batch Digesters

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
19000	B			
19001	PT	31-PT-511		
19002	CV			
19003	PS	31-PS-511		
19004	PI			
19005	B			
19006	B			
19007	PT	31-PT-521		
19008	CV			
19009	PS	31-PS-521		
19010	PI			
19011	B			
19012	B			
19013	PT	31-PT-531		
19014	CV			
19015	PS	31-PS-531		
19016	PI			
19017	B			
19018	B			
19019	PT	31-PT-541		
19020	CV			
19021	PS	31-PS-541		
19022	PI			
19023	B			
19024	B			
19025	PT	31-PT-551		
19026	CV			
19027	PS	31-PS-551		
19028	PI			
19029	B			
19030	B			
19031	PT	31-PT-561		
19032	CV			
19033	PS	31-PS-561		
19034	P			
19035	PI			
19036	B			
19037	B			

Monthly Visual: ______________ Annual Method 21: ________________

Fig. 19 3rd Floor Batch Digesters

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
19038	PT	31-PT-571		
19039	CV			
19040	PS	31-PS-571		
19041	P			
19042	PI			
19043	B			
19044	B			
19045	PT	31-PT-581		
19046	CV			
19047	PS	31-PS-581		
19048	PI			
19049	B			
19050	B			
19051	PT	31-PT-591		
19052	CV			
19053	PS	31-PS-591		
19054	PI			
19055	B			
19056	B			
19057	PT	31-PT-601		
19058	B			
19059	CV			
19060	B			
19061	PS	31-PS-601		
19062	P			
19063	T			
19064	PI			
19065	B			
19066	B			
19067	PT	31-PT-611		
19068	B			
19069	CV			
19070	B			
19071	PS	31-PS-611		
19072	T			
19073	P			
19074	PI			
19075	B			

Fig. 20 2nd Floor Batch Digesters No. 1-8

Completed Date: Inspector Name:

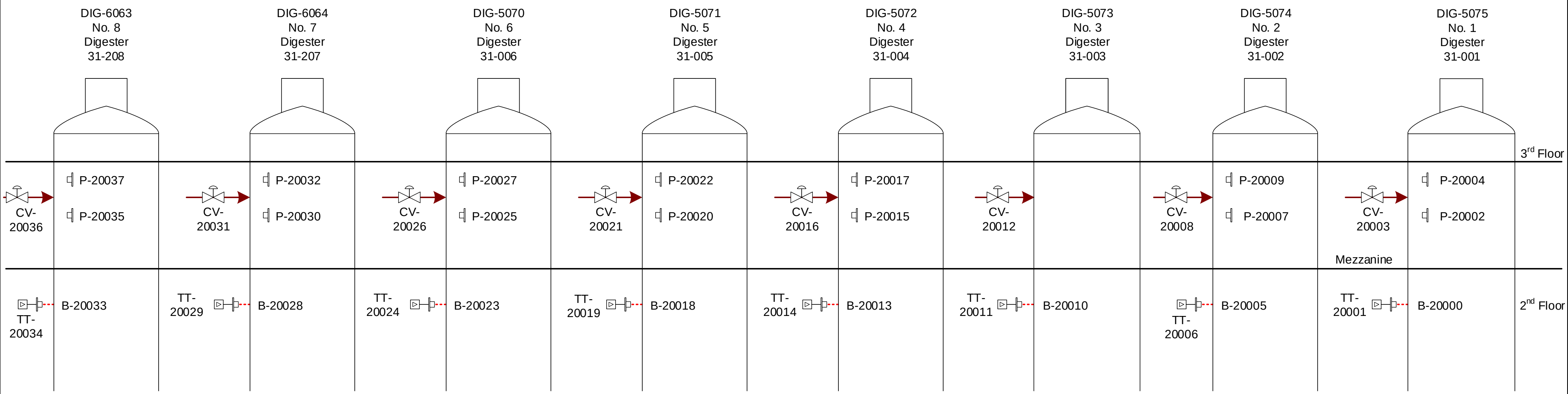
Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
20000	B			
20001	TT			
20002	P			
20003	CV			
20004	P			
20005	B			
20006	TT			
20007	P			
20008	CV			
20009	P			
20010	B			
20011	TT			
20012	CV			
20013	B			
20014	TT			
20015	P			
20016	CV			
20017	P			
20018	B			

Fig. 20 2nd Floor Batch Digesters No. 1-8

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
20019	TT			
20020	P			
20021	CV			
20022	P			
20023	B			
20024	TT			
20025	P			
20026	CV			
20027	P			
20028	B			
20029	TT			
20030	P			
20031	CV			
20032	P			
20033	B			
20034	TT			
20035	P			
20036	CV			
20037	P			

Monthly Visual: ____________ Annual Method 21: ____________



Vapor Lines	········	To Another Page and Indicated Equipment
Condensates	blue line	
Liquor/Stock Lines	red line	From Another Page and Indicated Equipment
Process Lines	black line	

ENVIRONMENTAL 360

Georgia-Pacific Toledo LLC

LDAR BMP Inspection Diagrams
2nd Floor Batch Digesters No. 1-8

Rev. Date: January 2021

Figure 20

Fig. 21 Ground Floor Batch Digesters No. 1-8

Completed Date: Inspector Name:

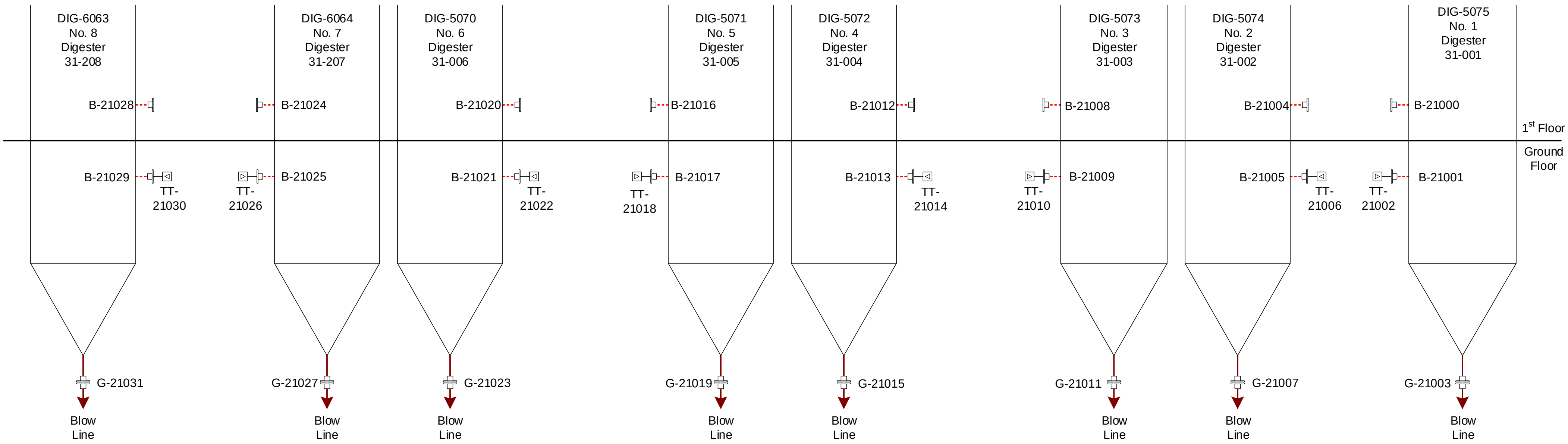
Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
21000	B			
21001	B			
21002	TT			
21003	G			
21004	B			
21005	B			
21006	TT			
21007	G			
21008	B			
21009	B			
21010	TT			
21011	G			
21012	B			
21013	B			
21014	TT			
21015	G			

Fig. 21 Ground Floor Batch Digesters No. 1-8

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
21016	B			
21017	B			
21018	TT			
21019	G			
21020	B			
21021	B			
21022	TT			
21023	G			
21024	B			
21025	B			
21026	TT			
21027	G			
21028	B			
21029	B			
21030	TT			
21031	G			

Monthly Visual: ______________ Annual Method 21: ______________



Georgia-Pacific Toledo LLC

LDAR BMP Inspection Diagrams
Ground Floor Batch Digesters No. 1-8

Rev. Date: January 2021

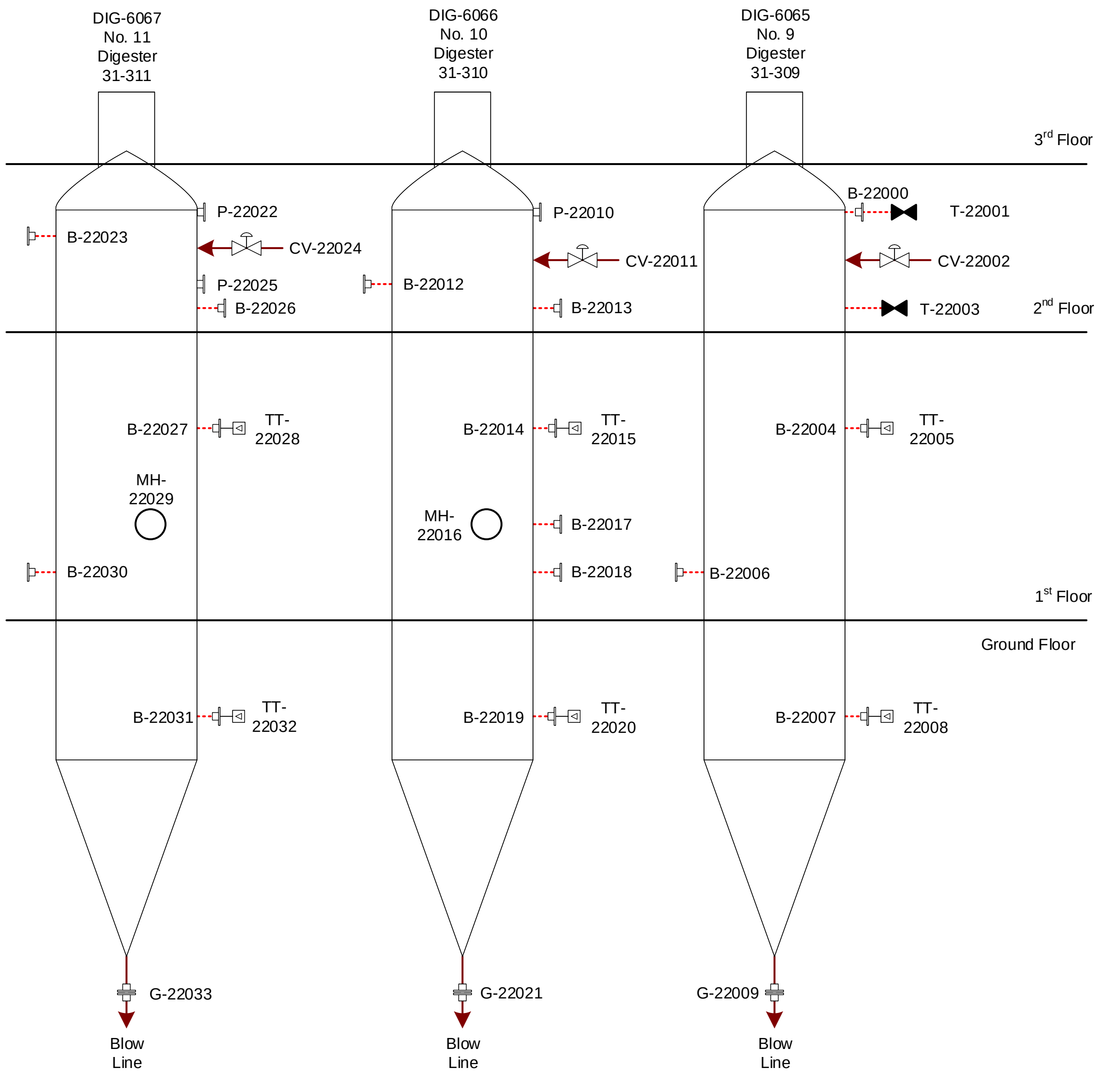
Figure 21

Fig. 22 Ground - 2nd Floor Batch Digesters No. 9-11

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
22000	B			
22001	T			
22002	CV			
22003	T			
22004	B			
22005	TT			
22006	B			
22007	B			
22008	TT			
22009	G			
22010	P			
22011	CV			
22012	B			
22013	B			
22014	B			
22015	TT			
22016	MH			
22017	B			
22018	B			
22019	B			
22020	TT			
22021	G			
22022	P			
22023	B			
22024	CV			
22025	P			
22026	B			
22027	B			
22028	TT			
22029	MH			
22030	B			
22031	B			
22032	TT			
22033	G			

Monthly Visual: ____________ **Annual Method 21:** ____________



Vapor Lines
Condensates
Liquor/Stock Lines
Process Lines

To Another Page and Indicated Equipment

From Another Page and Indicated Equipment

ENVIRONMENTAL 360

Georgia-Pacific Toledo LLC	Rev. Date: January 2021
LDAR BMP Inspection Diagrams Ground – 2nd Floor Batch Digesters No. 9-11	Figure 22

Fig. 23 3rd Floor Blow Tanks 1-3

Completed Date: Inspector Name:

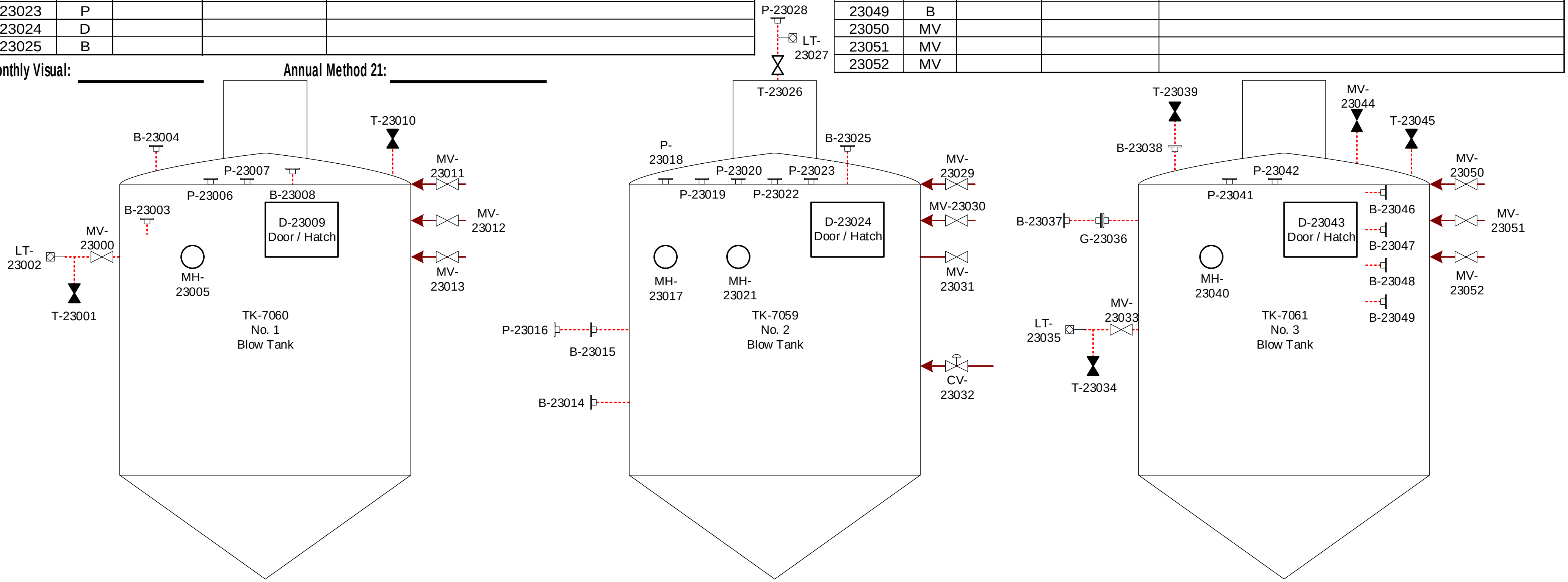
Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
23000	MV			
23001	T			
23002	LT			
23003	B			
23004	B			
23005	MH			
23006	P			
23007	P			
23008	B			
23009	D			
23010	T			
23011	MV			
23012	MV			
23013	MV			
23014	B			
23015	B			
23016	P			
23017	MH			
23018	P			
23019	P			
23020	P			
23021	MH			
23022	P			
23023	P			
23024	D			
23025	B			

Fig. 23 3rd Floor Blow Tanks 1-3

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
23026	T			
23027	LT			
23028	P			
23029	MV			
23030	MV			
23031	MV			
23032	CV			
23033	MV			
23034	T			
23035	LT			
23036	G			
23037	B			
23038	B			
23039	T			
23040	MH			
23041	P			
23042	P			
23043	D			
23044	MV			
23045	T			
23046	B			
23047	B			
23048	B			
23049	B			
23050	MV			
23051	MV			
23052	MV			

Monthly Visual: ____________ Annual Method 21: ____________



Vapor Lines		To Another Page and Indicated Equipment	
Condensates			
Liquor/Stock Lines		From Another Page and Indicated Equipment	
Process Lines			

ENVIRONMENTAL360

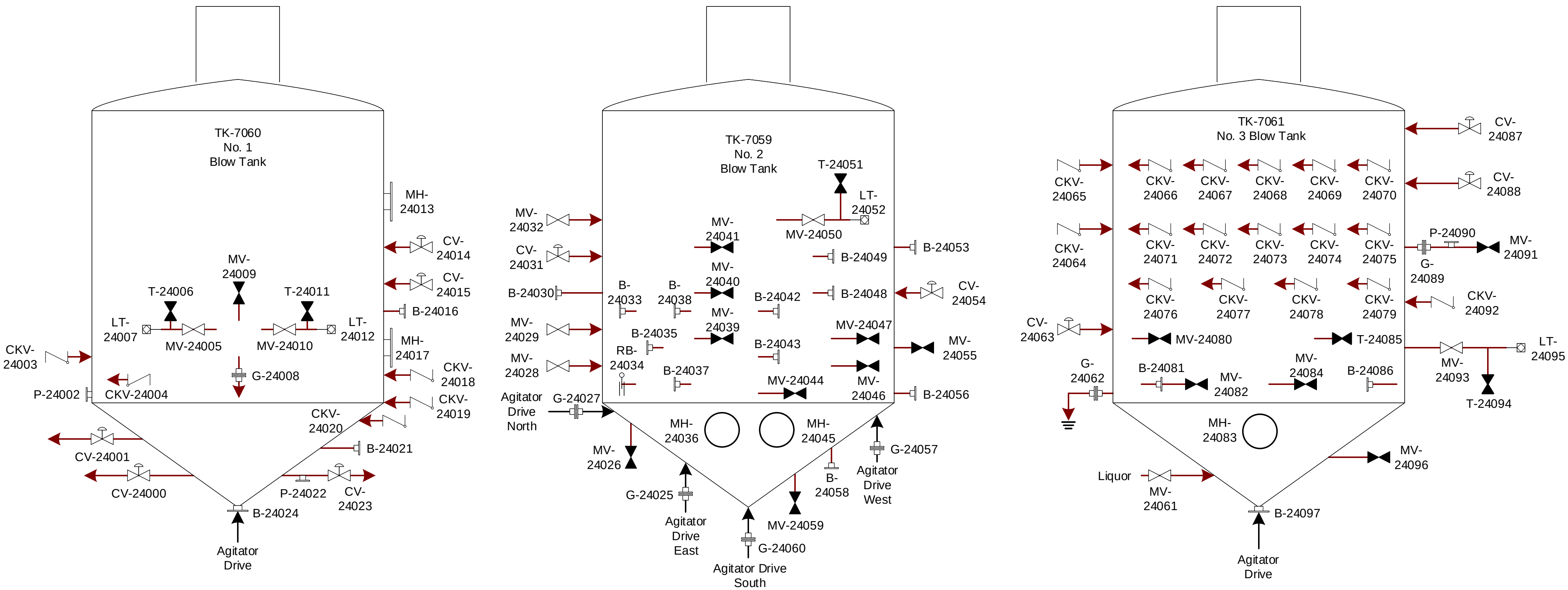
Georgia-Pacific Toledo LLC

LDAR BMP Inspection Diagrams
3rd Floor Blow Tanks 1-3

Rev. Date: January 2021

Figure 23

Monthly Visual: ____________ Annual Method 21: ____________



Vapor Lines	....
Condensates	——
Liquor/Stock Lines	——
Process Lines	——

To Another Page and Indicated Equipment

From Another Page and Indicated Equipment

ENVIRONMENTAL 360

Georgia-Pacific Toledo LLC

LDAR BMP Inspection Diagrams
Ground Floor Blow Tanks 1-3

Rev. Date: January 2021

Figure 24

Fig. 24 Ground Floor Blow Tanks 1-3

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
24000	CV			
24001	CV			
24002	P			
24003	CKV			
24004	CKV			
24005	MV			
24006	T			
24007	LT			
24008	G			
24009	MV			
24010	MV			
24011	T			
24012	LT			
24013	MH			
24014	CV			
24015	CV			
24016	B			
24017	MH			
24018	CKV			
24019	CKV			
24020	CKV			
24021	B			
24022	P			
24023	CV			
24024	B			
24025	G			
24026	MV			
24027	G			
24028	MV			
24029	MV			
24030	B			
24031	CV			
24032	MV			
24033	B			
24034	RB			
24035	B			
24036	MH			
24037	B			
24038	B			
24039	MV			
24040	MV			
24041	MV			
24042	B			
24043	B			
24044	MV			
24045	MH			
24046	MV			
24047	MV			
24048	B			

Monthly Visual: ____________ Annual Method 21: ____________

Fig. 24 Ground Floor Blow Tanks 1-3

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
24049	B			
24050	MV			
24051	T			
24052	LT			
24053	B			
24054	CV			
24055	MV			
24056	B			
24057	G			
24058	B			
24059	MV			
24060	G			
24061	MV			
24062	G			
24063	CV			
24064	CKV			
24065	CKV			
24066	CKV			
24067	CKV			
24068	CKV			
24069	CKV			
24070	CKV			
24071	CKV			
24072	CKV			
24073	CKV			
24074	CKV			
24075	CKV			
24076	CKV			
24077	CKV			
24078	CKV			
24079	CKV			
24080	MV			
24081	B			
24082	MV			
24083	MH			
24084	MV			
24085	T			
24086	B			
24087	CV			
24088	CV			
24089	G			
24090	P			
24091	MV			
24092	CKV			
24093	MV			
24094	T			
24095	LT			
24096	MV			
24097	B			

Monthly Visual: ______________ Annual Method 21: ______________

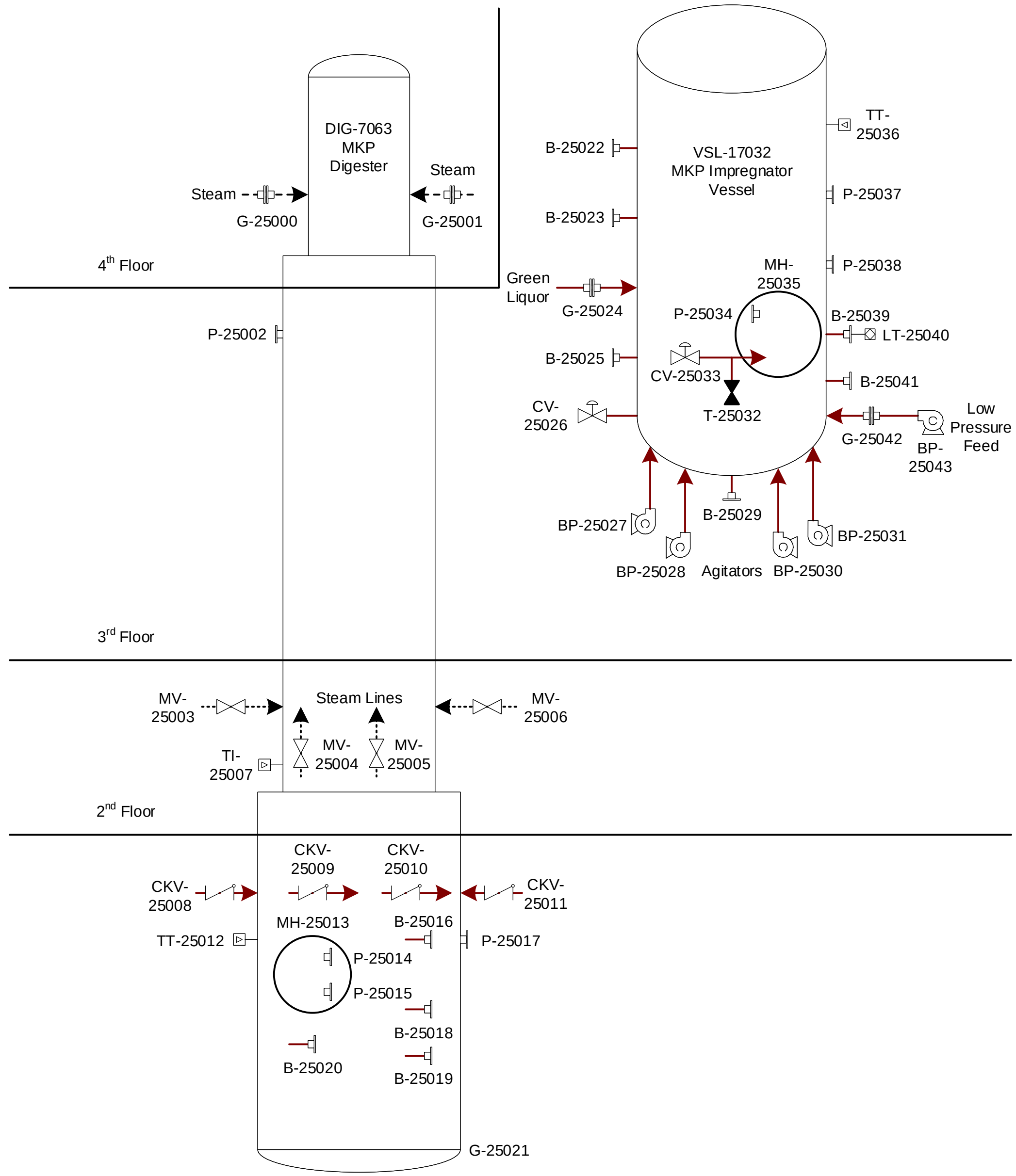


Fig. 25 MKP Digester and Impregnation Vessel

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
25000	G			
25001	G			
25002	P			
25003	MV			
25004	MV			
25005	MV			
25006	MV			
25007	TI			
25008	CKV			
25009	CKV			
25010	CKV			
25011	CKV			
25012	TT			
25013	MH			
25014	P			
25015	P			
25016	B			
25017	P			
25018	B			
25019	B			
25020	B			
25021	G			
25022	B			
25023	B			
25024	G			
25025	B			
25026	CV			
25027	BP			
25028	BP			
25029	B			
25030	BP			
25031	BP			
25032	T			
25033	CV			
25034	P			
25035	MH			
25036	TT			
25037	P			
25038	P			
25039	B			
25040	LT			
25041	B			
25042	G			
25043	BP			

Vapor Lines
Condensates
Liquor/Stock Lines
Process Lines

To Another Page and Indicated Equipment

From Another Page and Indicated Equipment

ENVIRONMENTAL 360

Georgia-Pacific Toledo LLC

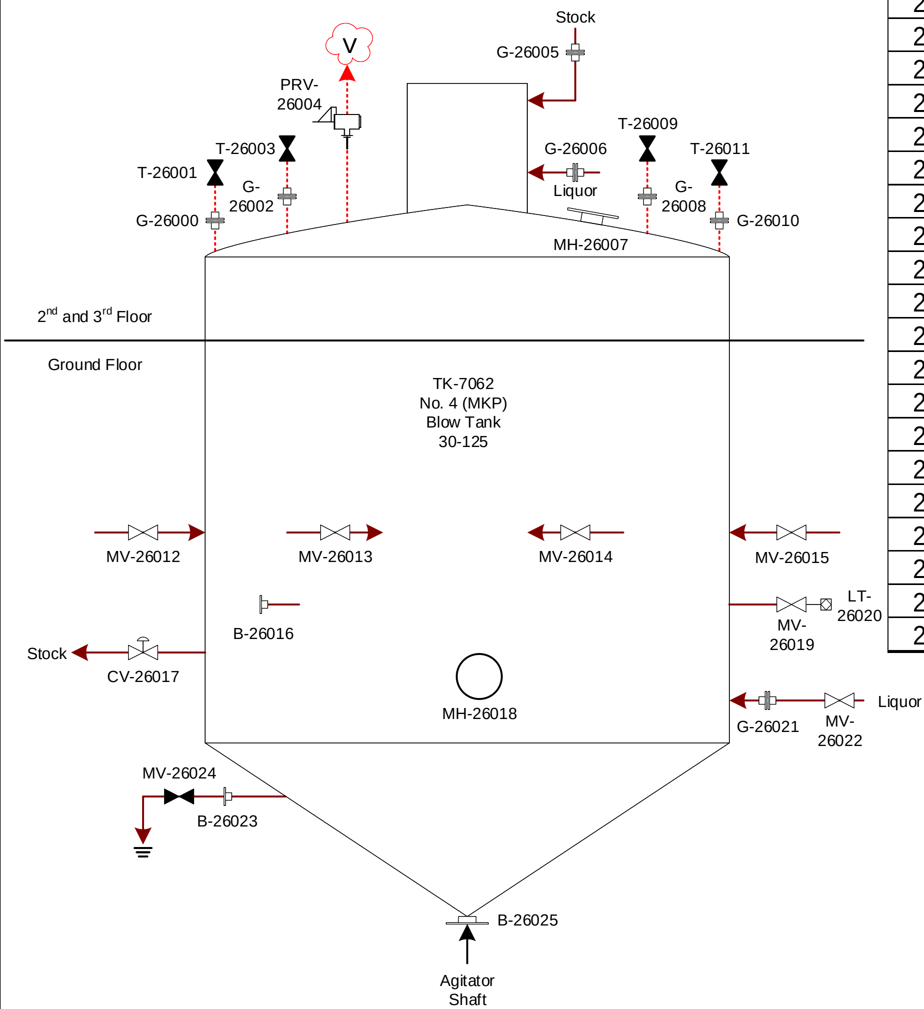
LDAR BMP Inspection Diagrams
MKP Digester & Impregnation Vessel

Rev. Date: January 2021

Figure 25

Fig. 26 No. 4 (MKP) Blow Tank

Completed Date: Inspector Name:



Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
26000	G			
26001	T			
26002	G			
26003	T			
26004	PRV			
26005	G			
26006	G			
26007	MH			
26008	G			
26009	T			
26010	G			
26011	T			
26012	MV			
26013	MV			
26014	MV			
26015	MV			
26016	B			
26017	CV			
26018	MH			
26019	MV			
26020	LT			
26021	G			
26022	MV			
26023	B			
26024	MV			
26025	B			

Monthly Visual: ____________ Annual Method 21: ____________

Vapor Lines	....
Condensates	(blue line)
Liquor/Stock Lines	(red line)
Process Lines	(black line)

To Another Page and Indicated Equipment

From Another Page and Indicated Equipment

ENVIRONMENTAL 360

Georgia-Pacific Toledo LLC

LDAR BMP Inspection Diagrams
No. 4 (MKP) Blow Tank

Rev. Date: January 2021

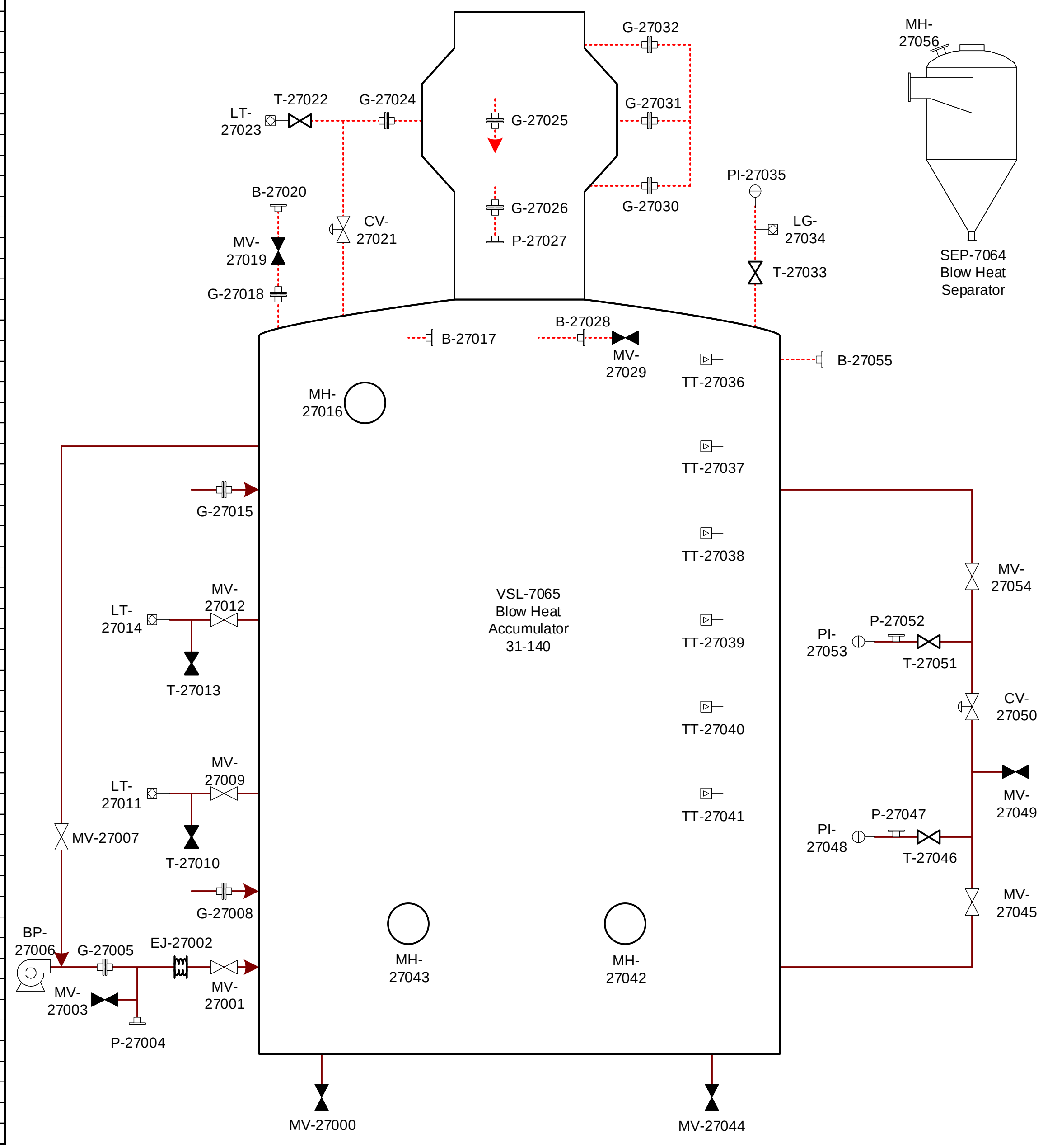
Figure 26

Fig. 27 Blow Heat Accumulator

Completed Date: Inspector Name:

Monthly Visual: ____________ Annual Method 21: ____________

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
27000	MV			
27001	MV			
27002	EJ			
27003	MV			
27004	P			
27005	G			
27006	BP			
27007	MV			
27008	G			
27009	MV			
27010	T			
27011	LT			
27012	MV			
27013	T			
27014	LT			
27015	G			
27016	MH			
27017	B			
27018	G			
27019	MV			
27020	B			
27021	CV			
27022	T			
27023	LT			
27024	G			
27025	G			
27026	G			
27027	P			
27028	B			
27029	MV			
27030	G			
27031	G			
27032	G			
27033	T			
27034	LG			
27035	PI			
27036	TT			
27037	TT			
27038	TT			
27039	TT			
27040	TT			
27041	TT			
27042	MH			
27043	MH			
27044	MV			
27045	MV			
27046	T			
27047	P			
27048	PI			
27049	MV			
27050	CV			
27051	T			
27052	P			
27053	PI			
27054	MV			
27055	B			
27056	MH			



Vapor Lines

Condensates

Liquor/Stock Lines

Process Lines

To Another Page and Indicated Equipment

From Another Page and Indicated Equipment

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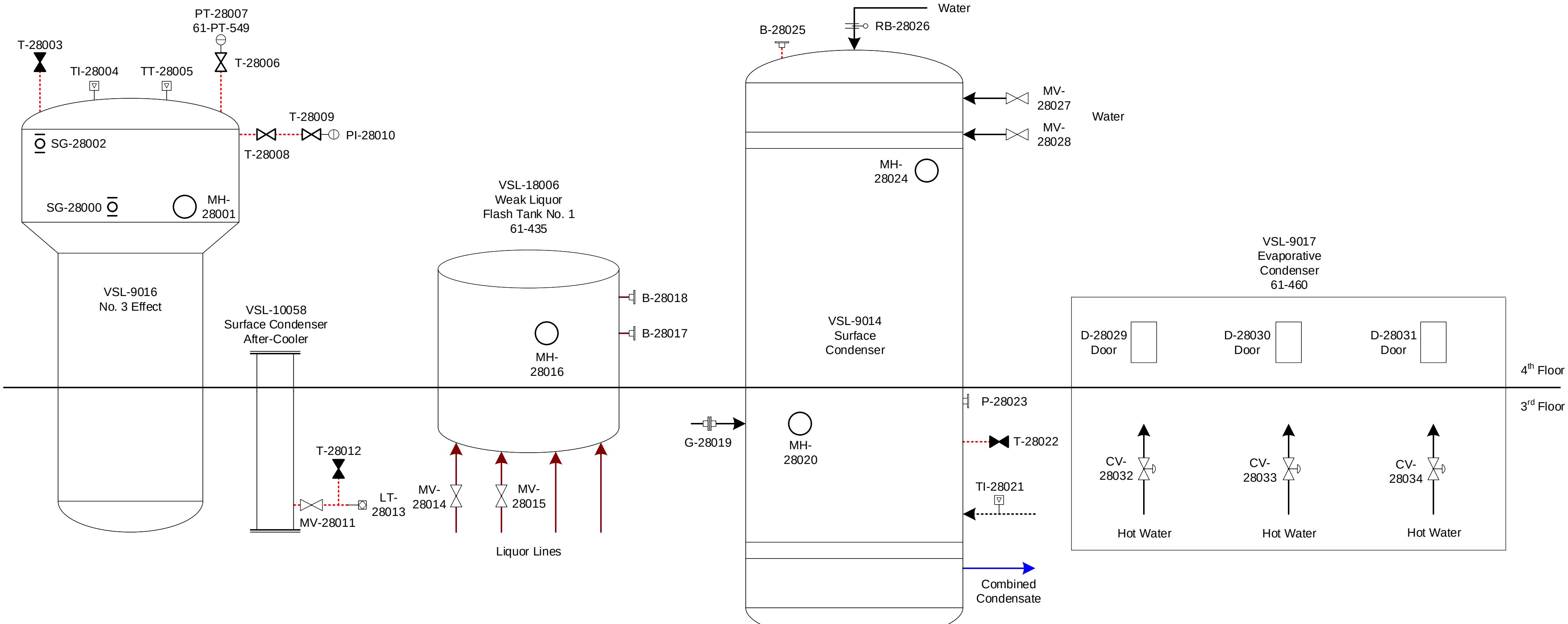
Georgia-Pacific Toledo LLC

LDAR BMP Inspection Diagrams
Blow Heat Accumulator

Rev. Date: January 2021

Figure 27



Monthly Visual: ____________ **Annual Method 21:** ____________

Vapor Lines	....
Condensates	(blue line)
Liquor/Stock Lines	(red line)
Process Lines	(black line)
To Another Page and Indicated Equipment	
From Another Page and Indicated Equipment	

ENVIRONMENTAL 360

Georgia-Pacific Toledo LLC

LDAR BMP Inspection Diagrams

Blow Heat Evaporators 4th & 3rd Floors

Rev. Date: January 2021

Figure 28

Fig. 28 Blow Heat Evaporators 4th & 3rd Floors

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
28000	SG			
28001	MH			
28002	SG			
28003	T			
28004	TI			
28005	TT			
28006	T			
28007	PT	61-PT-549		
28008	T			
28009	T			
28010	PI			
28011	MV			
28012	T			
28013	LT			
28014	MV			
28015	MV			
28016	MH			
28017	B			
28018	B			
28019	G			
28020	MH			
28021	TI			
28022	T			
28023	P			
28024	MH			
28025	B			
28026	RB			
28027	MV			
28028	MV			
28029	D			
28030	D			
28031	D			
28032	CV			
28033	CV			
28034	CV			

Monthly Visual: ______________ Annual Method 21: ________________

Fig. 29 Blow Heat Evaporators 2nd Floor

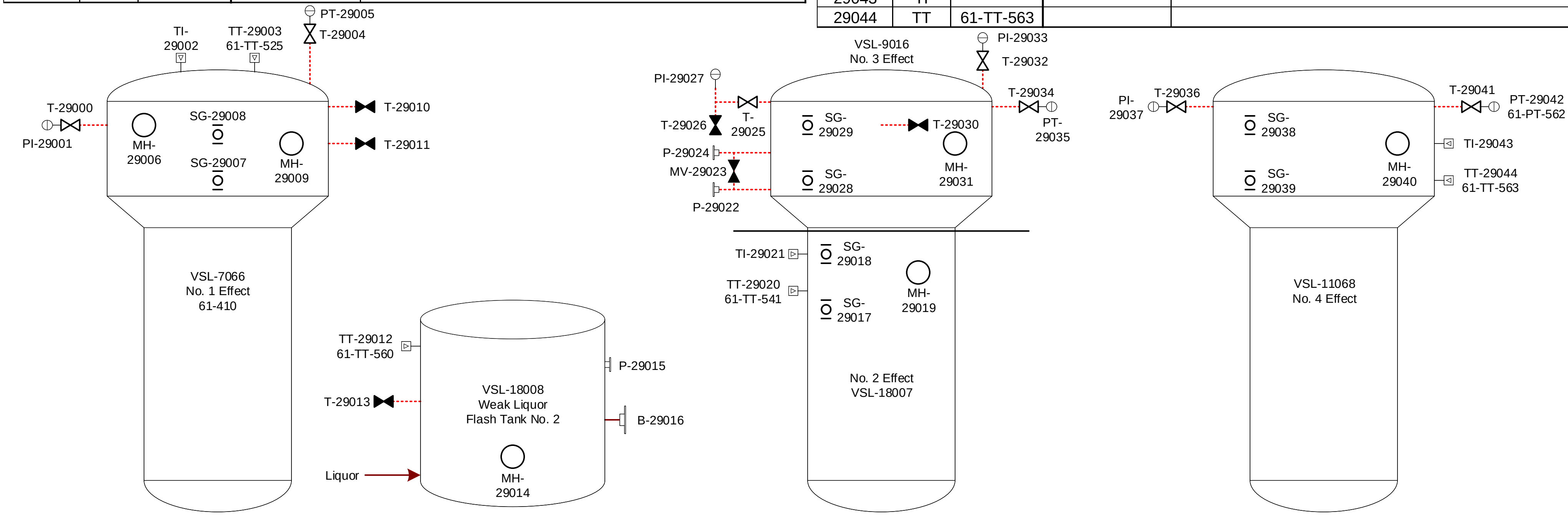
Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
29000	T			
29001	PI			
29002	TI			
29003	TT	61-TT-525		
29004	T			
29005	PT			
29006	MH			
29007	SG			
29008	SG			
29009	MH			
29010	T			
29011	T			
29012	TT	61-TT-560		
29013	T			
29014	MH			
29015	P			
29016	B			
29017	SG			
29018	SG			
29019	MH			
29020	TT	61-TT-541		
29021	TI			

Fig. 29 Blow Heat Evaporators 2nd Floor

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
29022	P			
29023	MV			
29024	P			
29025	T			
29026	T			
29027	PI			
29028	SG			
29029	SG			
29030	T			
29031	MH			
29032	T			
29033	PI			
29034	T			
29035	PT			
29036	T			
29037	PI			
29038	SG			
29039	SG			
29040	MH			
29041	T			
29042	PT	61-PT-562		
29043	TI			
29044	TT	61-TT-563		



Monthly Visual: ____________ Annual Method 21: ____________

Vapor Lines	········	To Another Page and Indicated Equipment	
Condensates	—— (blue)	From Another Page and Indicated Equipment	
Liquor/Stock Lines	—— (red)		
Process Lines	—— (black)		

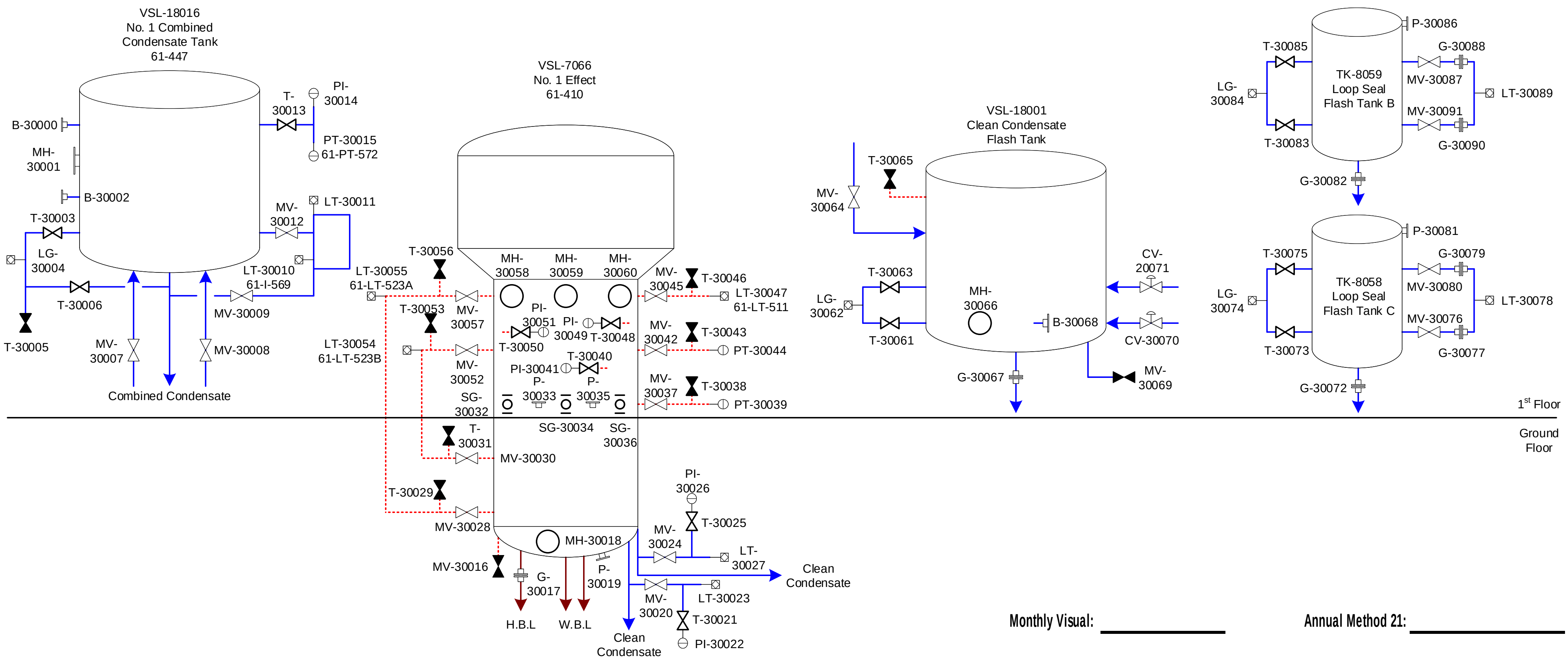
ENVIRONMENTAL 360

Georgia-Pacific Toledo LLC

LDAR BMP Inspection Diagrams
Blow Heat Evaporators 2nd Floor

Rev. Date: January 2021

Figure 29



Monthly Visual: ____________

Annual Method 21: ____________

Vapor Lines	....	To Another Page and Indicated Equipment	
Condensates		From Another Page and Indicated Equipment	
Liquor/Stock Lines			
Process Lines			

ENVIRONMENTAL 360

Georgia-Pacific Toledo LLC

LDAR BMP Inspection Diagrams
Blow Heat Evaporators 1st & Ground Floors
(1 of 2)

Rev. Date: January 2021

Figure 30

Fig. 30 Blow Heat Evaporators 1st & Ground Floor (1 of 2)

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
30000	B			
30001	MH			
30002	B			
30003	T			
30004	LG			
30005	T			
30006	T			
30007	MV			
30008	MV			
30009	MV			
30010	LT	61-I-569		
30011	LT			
30012	MV			
30013	T			
30014	PI			
30015	PT	61-PT-572		
30016	MV			
30017	G			
30018	MH			
30019	P			
30020	MV			
30021	T			
30022	PI			
30023	LT			
30024	MV			
30025	T			
30026	PI			
30027	LT			
30028	MV			
30029	T			
30030	MV			
30031	T			
30032	SG			
30033	P			
30034	SG			
30035	P			
30036	SG			
30037	MV			
30038	T			
30039	PT			
30040	T			
30041	PI			
30042	MV			
30043	T			
30044	PT			
30045	MV			

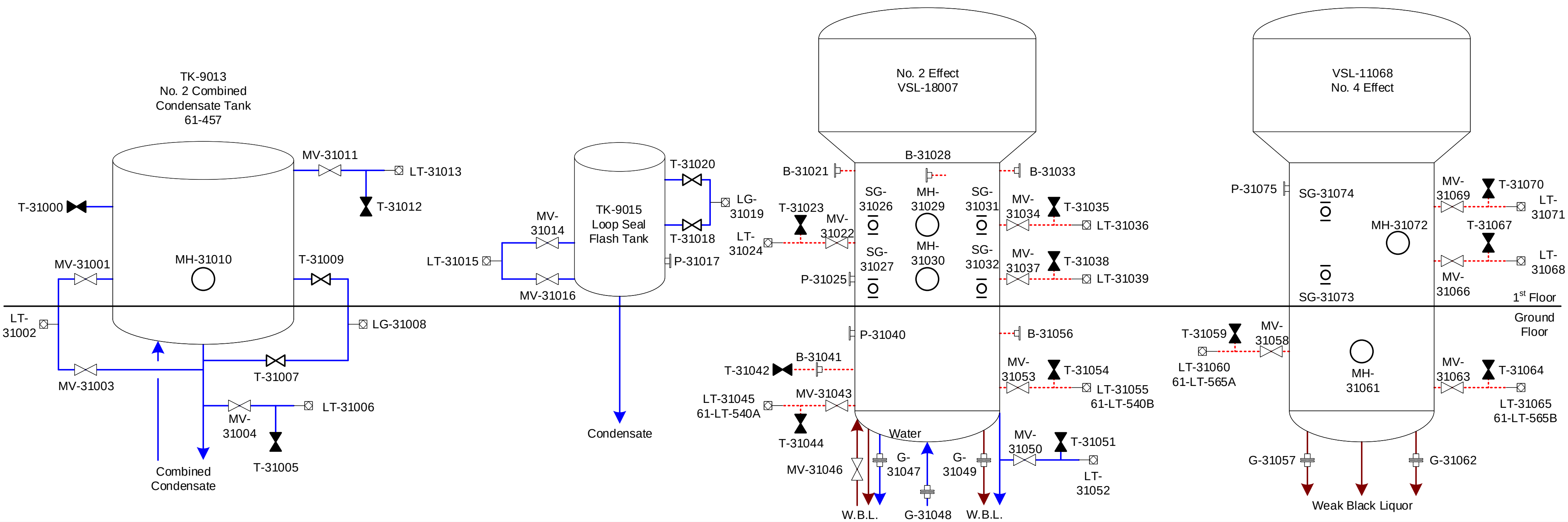
Fig. 30 Blow Heat Evaporators 1st & Ground Floor (1 of 2)

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
30046	T			
30047	LT	61-LT-511		
30048	T			
30049	PI			
30050	T			
30051	PI			
30052	MV			
30053	T			
30054	LT	61-LT-523B		
30055	LT	61-LT-523A		
30056	T			
30057	MV			
30058	MH			
30059	MH			
30060	MH			
30061	T			
30062	LG			
30063	T			
30064	MV			
30065	T			
30066	MH			
30067	G			
30068	B			
30069	MV			
30070	CV			
30071	CV			
30072	G			
30073	T			
30074	LG			
30075	T			
30076	MV			
30077	G			
30078	LT			
30079	G			
30080	MV			
30081	P			
30082	G			
30083	T			
30084	LG			
30085	T			
30086	P			
30087	MV			
30088	G			
30089	LT			
30090	G			
30091	MV			

Monthly Visual: __________ Annual Method 21: __________

Monthly Visual: ____________ Annual Method 21: ____________



Vapor Lines	....
Condensates	(blue line)
Liquor/Stock Lines	(red line)
Process Lines	(black line)

To Another Page and Indicated Equipment

From Another Page and Indicated Equipment

ENVIRONMENTAL 360

Georgia-Pacific Toledo LLC

LDAR BMP Inspection Diagrams
Blow Heat Evaporators 1st & Ground Floors
(2 of 2)

Rev. Date:
January 2021

Figure 31

Fig. 31 Blow Heat Evaporators 1st & Ground Floor (2 of 2)

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
31000	T			
31001	MV			
31002	LT			
31003	MV			
31004	MV			
31005	T			
31006	LT			
31007	T			
31008	LG			
31009	T			
31010	MH			
31011	MV			
31012	T			
31013	LT			
31014	MV			
31015	LT			
31016	MV			
31017	P			
31018	T			
31019	LG			
31020	T			
31021	B			
31022	MV			
31023	T			
31024	LT			
31025	P			
31026	SG			
31027	SG			
31028	B			
31029	MH			
31030	MH			
31031	SG			
31032	SG			
31033	B			
31034	MV			
31035	T			
31036	LT			
31037	MV			

Monthly Visual: ______ Annual Method 21: ______

Fig. 31 Blow Heat Evaporators 1st & Ground Floor (2 of 2)

Completed Date: Inspector Name:

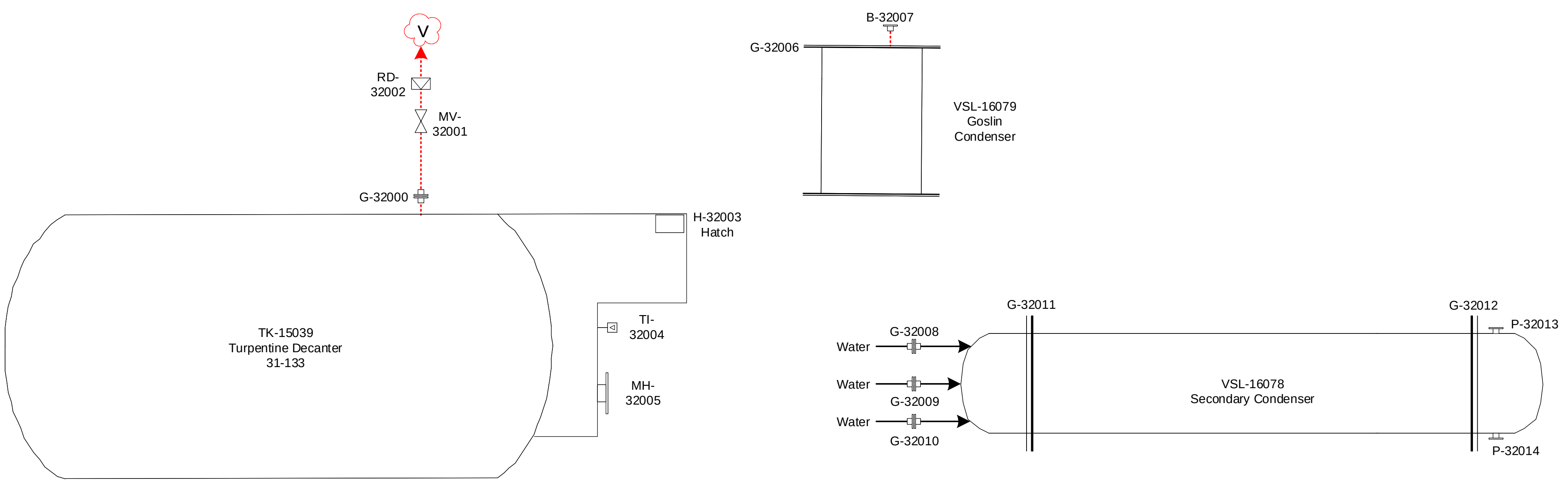
Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
31038	T			
31039	LT			
31040	P			
31041	B			
31042	T			
31043	MV			
31044	T			
31045	LT	61-LT-540A		
31046	MV			
31047	G			
31048	G			
31049	G			
31050	MV			
31051	T			
31052	LT			
31053	MV			
31054	T			
31055	LT	61-LT-540B		
31056	B			
31057	G			
31058	MV			
31059	T			
31060	LT	61-LT-565A		
31061	MH			
31062	G			
31063	MV			
31064	T			
31065	LT	61-LT-565B		
31066	MV			
31067	T			
31068	LT			
31069	MV			
31070	T			
31071	LT			
31072	MH			
31073	SG			
31074	SG			
31075	P			

Fig. 32 Turpentine Recovery System

Completed Date: Inspector Name:

Number	Type	Equip. Number	Is Component Free of Leaks or Defects? (Y or N)	Comments
32000	G			
32001	MV			
32002	RD			
32003	H			
32004	TI			
32005	MH			
32006	G			
32007	B			
32008	G			
32009	G			
32010	G			
32011	G			
32012	G			
32013	P			
32014	P			

Monthly Visual: ____________ Annual Method 21: ____________



Vapor Lines
Condensates
Liquor/Stock Lines
Process Lines

To Another Page and Indicated Equipment

From Another Page and Indicated Equipment

ENVIRONMENTAL 360

Georgia-Pacific Toledo LLC

LDAR BMP Inspection Diagrams
Turpentine Recovery System

Rev. Date: January 2021

Figure 32

APPENDIX B - EPA METHOD 21

METHOD 21 - DETERMINATION OF VOLATILE ORGANIC COMPOUND LEAKS

1.0 Scope and Application.

1.1 Analytes.

Analyte	CAS No.
Volatile Organic Compounds (VOC)	No CAS number assigned

1.2 Scope. This method is applicable for the determination of VOC leaks from process equipment. These sources include, but are not limited to, valves, flanges and other connections, pumps and compressors, pressure relief devices, process drains, open-ended valves, pump and compressor seal system degassing vents, accumulator vessel vents, agitator seals, and access door seals.

1.3 Data Quality Objectives. Adherence to the requirements of this method will enhance the quality of the data obtained from air pollutant sampling methods.

2.0 Summary of Method.

2.1 A portable instrument is used to detect VOC leaks from individual sources. The instrument detector type is not specified, but it must meet the specifications and performance criteria contained in Section 6.0. A leak definition concentration based on a reference compound is specified in each applicable regulation. This method is intended to locate and classify leaks only, and is not to be used as a direct measure of mass emission rate from individual sources.

3.0 Definitions.

3.1 *Calibration gas* means the VOC compound used to adjust the instrument meter reading to a known value. The calibration gas is usually the reference compound at a known concentration approximately equal to the leak definition concentration.

3.2 *Calibration precision* means the degree of agreement between measurements of the same known value, expressed as the relative percentage of the average difference between the meter readings and the known concentration to the known concentration.

3.3 *Leak definition concentration* means the local VOC concentration at the surface of a leak source that indicates that a VOC emission (leak) is present. The leak definition is an instrument meter reading based on a reference compound.

3.4 *No detectable emission* means a local VOC concentration at the surface of a leak source, adjusted for local VOC ambient concentration, that is less than 2.5 percent of the specified leak definition concentration. that indicates that a VOC emission (leak) is not present.

3.5 *Reference compound* means the VOC species selected as the instrument calibration basis for specification of the leak definition concentration. (For example, if a leak definition concentration is 10,000 ppm as methane, then any source emission that results in a local concentration that yields a meter reading of 10,000 on an instrument meter calibrated with methane would be classified as a leak. In this example, the leak definition concentration is 10,000 ppm and the reference compound is methane.)

3.6 *Response factor* means the ratio of the known concentration of a VOC compound to the observed meter reading when measured using an instrument calibrated with the reference compound specified in the applicable regulation.

3.7 *Response time* means the time interval from a step change in VOC concentration at the input of the sampling system to the time at which 90 percent of the corresponding final value is reached as displayed on the instrument readout meter.

4.0 Interferences. [Reserved]

5.0 Safety.

5.1 Disclaimer. This method may involve hazardous materials, operations, and equipment. This test method may not address all of the safety problems associated with its use. It is the responsibility of the user of this test method to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to performing this test method.

5.2 Hazardous Pollutants. Several of the compounds, leaks of which may be determined by this method, may be irritating or corrosive to tissues (*e.g.*, heptane) or may be toxic (*e.g.*, benzene, methyl alcohol). Nearly all are fire hazards. Compounds in emissions should be determined through familiarity with the source. Appropriate precautions can be found in reference documents, such as reference No. 4 in Section 16.0.

6.0 Equipment and Supplies.

A VOC monitoring instrument meeting the following specifications is required:

6.1 The VOC instrument detector shall respond to the compounds being processed. Detector types that may meet this requirement include, but are not limited to, catalytic oxidation, flame ionization, infrared absorption, and photoionization.

6.2 The instrument shall be capable of measuring the leak definition concentration specified in the regulation.

6.3 The scale of the instrument meter shall be readable to ±2.5 percent of the specified leak definition concentration.

6.4 The instrument shall be equipped with an electrically driven pump to ensure that a sample is provided to the detector at a constant flow rate. The nominal sample flow rate, as measured at the sample probe tip, shall be 0.10 to 3.0 l/min (0.004 to 0.1 ft^3/min) when the probe is fitted with a glass wool plug or filter that may be used to prevent plugging of the instrument.

6.5 The instrument shall be equipped with a probe or probe extension for sampling not to exceed 6.4 mm (1/4 in) in outside diameter, with a single end opening for admission of sample.

6.6 The instrument shall be intrinsically safe for operation in explosive atmospheres as defined by the National Electrical Code by the National Fire Prevention Association or other applicable regulatory code for operation in any explosive atmospheres that may be encountered in its use. The instrument shall, at a minimum, be intrinsically safe for Class 1, Division 1 conditions, and/or Class 2, Division 1 conditions, as appropriate, as defined by the example code. The instrument shall not be operated with any safety device, such as an exhaust flame arrestor, removed.

7.0 Reagents and Standards.

7.1 Two gas mixtures are required for instrument calibration and performance evaluation:

7.1.1 Zero Gas. Air, less than 10 parts per million by volume (ppmv) VOC.

7.1.2 Calibration Gas. For each organic species that is to be measured during individual source surveys, obtain or prepare a known standard in air at a concentration approximately equal to the applicable leak definition specified in the regulation.

7.2 Cylinder Gases. If cylinder calibration gas mixtures are used, they must be analyzed and certified by the manufacturer to be within 2 percent accuracy, and a shelf life must be specified. Cylinder standards must be either reanalyzed or replaced at the end of the specified shelf life.

7.3 Prepared Gases. Calibration gases may be prepared by the user according to any accepted gaseous preparation procedure that will yield a mixture accurate to within 2 percent. Prepared standards must be replaced each day of use unless it is demonstrated that degradation does not occur during storage.

7.4 Mixtures with non-Reference Compound Gases. Calibrations may be performed using a compound other than the reference compound. In this case, a conversion factor must be determined for the alternative compound such that the resulting meter readings during source surveys can be converted to reference compound results.

8.0 Sample Collection, Preservation, Storage, and Transport.

8.1 Instrument Performance Evaluation. Assemble and start up the instrument according to the manufacturer's instructions for recommended warmup period and preliminary adjustments.

8.1.1 Response Factor. A response factor must be determined for each compound that is to be measured, either by testing or from reference sources. The response factor tests are required before placing the analyzer into service, but do not have to be repeated at subsequent intervals.

8.1.1.1 Calibrate the instrument with the reference compound as specified in the applicable regulation. Introduce the calibration gas mixture to the analyzer and record the observed meter reading. Introduce zero gas until a stable reading is obtained. Make a total of three measurements by alternating between the calibration gas and zero gas. Calculate the response factor for each repetition and the average response factor.

8.1.1.2 The instrument response factors for each of the individual VOC to be measured shall be less than 10 unless otherwise specified in the applicable regulation. When no instrument is available that meets this specification when calibrated with the reference VOC specified in the applicable regulation, the available instrument may be calibrated with one of the VOC to be measured, or any other VOC, so long as the instrument then has a response factor of less than 10 for each of the individual VOC to be measured.

8.1.1.3 Alternatively, if response factors have been published for the compounds of interest for the instrument or detector type, the response factor determination is not required, and existing results may be referenced. Examples of published response factors for flame ionization and catalytic oxidation detectors are included in References 1-3 of Section 17.0.

8.1.2 Calibration Precision. The calibration precision test must be completed prior to placing the analyzer into service and at subsequent 3-month intervals or at the next use, whichever is later.

8.1.2.1 Make a total of three measurements by alternately using zero gas and the specified calibration gas. Record the meter readings. Calculate the average algebraic difference between the meter readings and the known value. Divide this average difference by the known calibration value and multiply by 100 to express the resulting calibration precision as a percentage.

8.1.2.2 The calibration precision shall be equal to or less than 10 percent of the calibration gas value.

8.1.3 Response Time. The response time test is required before placing the instrument into service. If a modification to the sample pumping system or flow configuration is made that would change the response time, a new test is required before further use.

8.1.3.1 Introduce zero gas into the instrument sample probe. When the meter reading has stabilized, switch quickly to the specified calibration gas. After switching, measure the time required to attain 90 percent of the final stable reading. Perform this test sequence three times and record the results. Calculate the average response time.

8.1.3.2 The instrument response time shall be equal to or less than 30 seconds. The instrument pump, dilution probe (if any), sample probe, and probe filter that will be used during testing shall all be in place during the response time determination.

8.2 Instrument Calibration. Calibrate the VOC monitoring instrument according to Section 10.0.

8.3 Individual Source Surveys.

8.3.1 Type I - Leak Definition Based on Concentration. Place the probe inlet at the surface of the component interface where leakage could occur. Move the probe along the interface periphery while observing the instrument readout. If an increased meter reading is observed, slowly sample the interface where leakage is indicated until the maximum meter reading is obtained. Leave the probe inlet at this maximum reading location for approximately two times the instrument response time. If the maximum observed meter reading is greater than the leak definition in the applicable regulation, record and report the results as specified in the regulation reporting requirements. Examples of the application of this general technique to specific equipment types are:

8.3.1.1 Valves. The most common source of leaks from valves is the seal between the stem and housing. Place the probe at the interface where the stem exits the packing gland and sample the stem circumference. Also, place the probe at the interface of the packing gland take-up flange seat and sample the periphery. In addition, survey valve housings of multipart assembly at the surface of all interfaces where a leak could occur.

8.3.1.2 Flanges and Other Connections. For welded flanges, place the probe at the outer edge of the flange-gasket interface and sample the circumference of the flange.

Sample other types of nonpermanent joints (such as threaded connections) with a similar traverse.

8.3.1.3 Pumps and Compressors. Conduct a circumferential traverse at the outer surface of the pump or compressor shaft and seal interface. If the source is a rotating shaft, position the probe inlet within 1 cm of the shaft-seal interface for the survey. If the housing configuration prevents a complete traverse of the shaft periphery, sample all accessible portions. Sample all other joints on the pump or compressor housing where leakage could occur.

8.3.1.4 Pressure Relief Devices. The configuration of most pressure relief devices prevents sampling at the sealing seat interface. For those devices equipped with an enclosed extension, or horn, place the probe inlet at approximately the center of the exhaust area to the atmosphere.

8.3.1.5 Process Drains. For open drains, place the probe inlet at approximately the center of the area open to the atmosphere. For covered drains, place the probe at the surface of the cover interface and conduct a peripheral traverse.

8.3.1.6 Open-ended Lines or Valves. Place the probe inlet at approximately the center of the opening to the atmosphere.

8.3.1.7 Seal System Degassing Vents and Accumulator Vents. Place the probe inlet at approximately the center of the opening to the atmosphere.

8.3.1.8 Access door seals. Place the probe inlet at the surface of the door seal interface and conduct a peripheral traverse.

8.3.2 Type II - "No Detectable Emission". Determine the local ambient VOC concentration around the source by moving the probe randomly upwind and downwind at a distance of one to two meters from the source. If an interference exists with this determination due to a nearby emission or leak, the local ambient concentration may be determined at distances closer to the source, but in no case shall the distance be less than 25 centimeters. Then move the probe inlet to the surface of the source and determine the concentration as outlined in Section 8.3.1. The difference between these concentrations determines whether there are no detectable emissions. Record and report the results as specified by the regulation. For those cases where the regulation requires a specific device installation, or that specified vents be ducted or piped to a control device, the existence of these conditions shall be visually confirmed. When the regulation also requires that no detectable emissions exist, visual observations and sampling surveys are required. Examples of this technique are:

8.3.2.1 Pump or Compressor Seals. If applicable, determine the type of shaft seal. Perform a survey of the local area ambient VOC concentration and determine if detectable emissions exist as described in Section 8.3.2.

8.3.2.2 Seal System Degassing Vents, Accumulator Vessel Vents, Pressure Relief Devices. If applicable, observe whether or not the applicable ducting or piping exists. Also, determine if any sources exist in the ducting or piping where emissions could occur upstream of the control device. If the required ducting or piping exists and there are no sources where the emissions could be vented to the atmosphere upstream of the control device, then it is presumed that no detectable emissions are present. If there are sources in the ducting or piping where emissions could be vented or sources where leaks could occur, the sampling surveys described in Section 8.3.2 shall be used to determine if detectable emissions exist.

8.3.3 Alternative Screening Procedure.

8.3.3.1 A screening procedure based on the formation of bubbles in a soap solution that is sprayed on a potential leak source may be used for those sources that do not have continuously moving parts, that do not have surface temperatures greater than the boiling point or less than the freezing point of the soap solution, that do not have open areas to the atmosphere that the soap solution cannot bridge, or that do not exhibit evidence of liquid leakage. Sources that have these conditions present must be surveyed using the instrument technique of Section 8.3.1 or 8.3.2.

8.3.3.2 Spray a soap solution over all potential leak sources. The soap solution may be a commercially available leak detection solution or may be prepared using concentrated detergent and water. A pressure sprayer or squeeze bottle may be used to dispense the solution. Observe the potential leak sites to determine if any bubbles are formed. If no bubbles are observed, the source is presumed to have no detectable emissions or leaks as applicable. If any bubbles are observed, the instrument techniques of Section 8.3.1 or 8.3.2 shall be used to determine if a leak exists, or if the source has detectable emissions, as applicable.

9.0 Quality Control.

Section	Quality Control Measure	Effect
8.1.2	Instrument calibration precision check	Ensure precision and accuracy, respectively,
10.0	Instrument calibration	of instrument response to standard

10.0 Calibration and Standardization.

10.1 Calibrate the VOC monitoring instrument as follows. After the appropriate warmup period and zero internal calibration procedure, introduce the calibration gas into the instrument sample probe. Adjust the instrument meter readout to correspond to the calibration gas value.

NOTE: If the meter readout cannot be adjusted to the proper value, a malfunction of the analyzer is indicated and corrective actions are necessary before use.

11.0 Analytical Procedures. [Reserved]

12.0 Data Analyses and Calculations. [Reserved]

13.0 Method Performance. [Reserved]

14.0 Pollution Prevention. [Reserved]

15.0 Waste Management. [Reserved]

16.0 References.

1. Dubose, D.A., and G.E. Harris. Response Factors of VOC Analyzers at a Meter Reading of 10,000 ppmv for Selected Organic Compounds. U.S. Environmental Protection Agency, Research Triangle Park, NC. Publication No. EPA 600/2-81051. September 1981.

2. Brown, G.E., *et al*. Response Factors of VOC Analyzers Calibrated with Methane for Selected Organic Compounds. U.S. Environmental Protection Agency, Research Triangle Park, NC. Publication No. EPA 600/2-81-022. May 1981.

3. DuBose, D.A. *et al*. Response of Portable VOC Analyzers to Chemical Mixtures. U.S. Environmental

Protection Agency, Research Triangle Park, NC. Publication No. EPA 600/2-81-110. September 1981.

4. Handbook of Hazardous Materials: Fire, Safety, Health. Alliance of American Insurers. Schaumberg, IL. 1983.

17.0 Tables, Diagrams, Flowcharts, and Validation Data.

[Reserved]

APPENDIX C - 40 CFR 63 SUBPART S

ELECTRONIC CODE OF FEDERAL REGULATIONS

e-CFR data is current as of July 28, 2015

Title 40 → Chapter I → Subchapter C → Part 63 → Subpart S

Title 40: Protection of Environment
PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

Subpart S—National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry

Contents

Source: 63 FR 18617, Apr. 15, 1998, unless otherwise noted.

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§63.440 Applicability.

(a) The provisions of this subpart apply to the owner or operator of processes that produce pulp, paper, or paperboard; that are located at a plant site that is a major source as defined in §63.2 of subpart A of this part; and that use the following processes and materials:

(1) Kraft, soda, sulfite, or semi-chemical pulping processes using wood; or

(2) Mechanical pulping processes using wood; or

(3) Any process using secondary or non-wood fibers.

(b) The affected source to which the existing sourceprovisions of this subpart apply is as follows:

(1) For the processes specified in paragraph (a)(1) of this section, the affected source is the total of all HAP emission points in the pulping and bleaching systems; or

(2) For the processes specified in paragraphs (a)(2) or (a)(3) of this section, the affected source is the total of all HAP emission points in the bleaching system.

(c) The new source provisions of this subpart apply to the total of all HAP emission points at new or existing sources as follows:

(1) Each affected source defined in paragraph (b)(1) of this section that commences construction or reconstruction after December 17, 1993;

(2) Each pulping system or bleaching system for the processes specified in paragraph (a)(1) of this section that commences construction or reconstruction after December 17, 1993;

(3) Each additional pulping or bleaching line at the processes specified in paragraph (a)(1) of this section, that commences construction after December 17, 1993;

(4) Each affected source defined in paragraph (b)(2) of this section that commences construction or reconstruction after March 8, 1996; or

(5) Each additional bleaching line at the processes specified in paragraphs (a)(2) or (a)(3) of this section, that commences construction after March 8, 1996.

(d) Each existing source shall achieve compliance no later than April 16, 2001, except as provided in paragraphs (d)(1) through (d)(3) of this section.

(1) Each kraft pulping system shall achieve compliance with the pulping system provisions of §63.443 for the equipment listed in §63.443(a)(1)(ii) through (a)(1)(v) as expeditiously as practicable, but in no event later than April 17, 2006 and the owners and operators shall establish dates, update dates, and report the dates for the milestones specified in §63.455(b).

(2) Each dissolving-grade bleaching system at either kraft or sulfite pulping mills shall achieve compliance with the bleach plant provisions of §63.445 of this subpart as expeditiously as practicable, but in no event later than 3 years after the promulgation of the revised effluent limitation guidelines and standards under 40 CFR 430.14 through 430.17 and 40 CFR 430.44 through 430.47.

(3) Each bleaching system complying with the Voluntary Advanced Technology Incentives Program for Effluent Limitation Guidelines in 40 CFR 430.24, shall comply with the requirements specified in either paragraph (d)(3)(i) or (d)(3)(ii) of this section for the effluent limitation guidelines and standards in 40 CFR 430.24.

(i) Comply with the bleach plant provisions of §63.445 of this subpart as expeditiously as practicable, but in no event later than April 16, 2001.

(ii) Comply with paragraphs (d)(3)(ii)(A), (d)(3)(ii)(B), and (d)(3)(ii)(C) of this section.

(A) The owner or operator of a bleaching system shall comply with the bleach plant provisions of §63.445 of this subpart as expeditiously as practicable, but in no event later than April 15, 2004.

(B) The owner or operator of a bleaching system shall comply with the requirements specified in either paragraph (d)(3)(ii)(B)(*1*) or (d)(3)(ii)(B)(*2*) of this section.

(*1*) Not increase the application rate of chlorine or hypochlorite in kilograms (kg) of bleaching agent per megagram of ODP, in the bleaching system above the average daily rates used over the three months prior to June 15, 1998 until the requirements of paragraph (d)(3)(ii)(A) of this section are met and record application rates as specified in §63.454(c).

(*2*) Comply with enforceable effluent limitations guidelines for 2,3,7,8-tetrachloro-dibenzo-p-dioxin and adsorbable organic halides at least as stringent as the baseline BAT levels set out in 40 CFR 430.24(a)(1) as expeditiously as possible, but in no event later than April 16, 2001.

(C) Owners and operators shall establish dates, update dates, and report the dates for the milestones specified in §63.455(b).

(e) Each new source, specified as the total of all HAP emission points for the sources specified in paragraph (c) of this section, shall achieve compliance upon start-up or June 15, 1998, whichever is later, as provided in §63.6(b) of subpart A of this part.

(f) Each owner or operator of an affected source with affected process equipment shared by more than one type of pulping process, shall comply with the applicable requirement in this subpart that achieves the maximum degree of reduction in HAP emissions.

(g) Each owner or operator of an affected source specified in paragraphs (a) through (c) of this section must comply with the requirements of subpart A—General Provisions of this part, as indicated in table 1 to this subpart.

[63 FR 18617, Apr. 15, 1998, as amended at 63 FR 71389, Dec. 28, 1998]

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§63.441 Definitions.

All terms used in this subpart shall have the meaning given them in the CAA, in subpart A of this part, and in this section as follows:

Acid condensate storage tank means any storage tank containing cooking acid following the sulfur dioxide gas fortification process.

Affirmative defense means, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

Black liquor means spent cooking liquor that has been separated from the pulp produced by the kraft, soda, or semi-chemical pulping process.

Bleaching means brightening of pulp by the addition of oxidizing chemicals or reducing chemicals.

Bleaching line means a group of bleaching stages arranged in series such that bleaching of the pulp progresses as the pulp moves from one stage to the next.

Bleaching stage means all process equipment associated with a discrete step of chemical application and removal in the bleaching process including chemical and steam mixers, bleaching towers, washers, seal (filtrate) tanks, vacuum pumps, and any other equipment serving the same function as those previously listed.

Bleaching system means all process equipment after high-density pulp storage prior to the first application of oxidizing chemicals or reducing chemicals following the pulping system, up to and including the final bleaching stage.

Boiler means any enclosed combustion device that extracts useful energy in the form of steam. A boiler is not considered a thermal oxidizer.

Chip steamer means a vessel used for the purpose of preheating or pretreating wood chips prior to the digester, using flash steam from the digester or live steam.

Closed-vent system means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and, if necessary, flow-inducing devices that transport gas or vapor from an emission point to a control device.

Combustion device means an individual unit of equipment, including but not limited to, a thermal oxidizer, lime kiln, recovery furnace, process heater, or boiler, used for the thermal oxidation of organic hazardous air pollutant vapors.

Decker system means all equipment used to thicken the pulp slurry or reduce its liquid content after the pulp washing system and prior to high-density pulp storage. The decker system includes decker vents, filtrate tanks, associated vacuum pumps, and any other equipment serving the same function as those previously listed.

Digester system means each continuous digester or each batch digester used for the chemical treatment of wood or non-wood fibers. The digester system equipment includes associated flash tank(s), blow tank(s), chip steamer(s) not using fresh steam, blow heat recovery accumulator(s), relief gas condenser(s), prehydrolysis unit(s) preceding the pulp washing system, and any other equipment serving the same function as those previously listed. The digester system includes any of the liquid streams or condensates associated with batch or continuous digester relief, blow, or flash steam processes.

Emission point means any part of a stationary source that emits hazardous air pollutants regulated under this subpart, including emissions from individual process vents, stacks, open pieces of process equipment, equipment leaks, wastewater and condensate collection and treatment system units, and those emissions that could reasonably be conveyed through a stack, chimney, or duct where such emissions first reach the environment.

Evaporator system means all equipment associated with increasing the solids content and/or concentrating spent cooking liquor from the pulp washing system including pre-evaporators, multi-effect evaporators, concentrators, and vacuum systems, as well as associated condensers, hotwells, and condensate streams, and any other equipment serving the same function as those previously listed.

Flow indicator means any device that indicates gas or liquid flow in an enclosed system.

HAP means a hazardous air pollutant as defined in §63.2 of subpart A of this part.

High volume, low concentration or HVLC collection system means the gas collection and transport system used to convey gases from the HVLC system to a control device.

High volume, low concentration or HVLC system means the collection of equipment including the pulp washing, knotter, screen, decker, and oxygen delignification systems, weak liquor storage tanks, and any other equipment serving the same function as those previously listed.

Knotter system means equipment where knots, oversized material, or pieces of uncooked wood are removed from the pulp slurry after the digester system and prior to the pulp washing system. The knotter system equipment includes the knotter, knot drainer tanks, ancillary tanks, and any other equipment serving the same function as those previously listed.

Kraft pulping means a chemical pulping process that uses a mixture of sodium hydroxide and sodium sulfide as the cooking liquor.

Lime kiln means an enclosed combustion device used to calcine lime mud, which consists primarily of calcium carbonate, into calcium oxide.

Low volume, high concentration or LVHC collection system means the gas collection and transport system used to convey gases from the LVHC system to a control device.

Low volume, high concentration or LVHC system means the collection of equipment including the digester, turpentine recovery, evaporator, steam stripper systems, and any other equipment serving the same function as those previously listed.

Mechanical pulping means a pulping process that only uses mechanical and thermo-mechanical processes to reduce wood to a fibrous mass. The mechanical pulping processes include, but are not limited to, stone groundwood, pressurized groundwood, refiner mechanical, thermal refiner mechanical, thermo-mechanical, and tandem thermo-mechanical.

Non-wood pulping means the production of pulp from fiber sources other than trees. The non-wood fiber sources include, but are not limited to, bagasse, cereal straw, cotton, flax straw, hemp, jute, kenaf, and leaf fibers.

Oven-dried pulp or ODP means a pulp sample at zero percent moisture content by weight. Pulp samples for applicability or compliance determinations for both the pulping and bleaching systems shall be unbleached pulp. For purposes of complying with mass emission limits in this subpart, megagram of ODP shall be measured to represent the amount of pulp entering and processed by the equipment system under the specified mass limit. For equipment that does not process pulp, megagram of ODP shall be measured to represent the amount of pulp that was processed to produce the gas and liquid streams.

Oxygen delignification system means the equipment that uses oxygen to remove lignin from pulp after high-density stock storage and prior to the bleaching system. The oxygen delignification system equipment includes the blow tank, washers, filtrate tanks, any interstage pulp storage tanks, and any other equipment serving the same function as those previously listed.

Primary fuel means the fuel that provides the principal heat input to the combustion device. To be considered primary, the fuel must be able to sustain operation of the combustion device without the addition of other fuels.

Process wastewater treatment system means a collection of equipment, a process, or specific technique that removes or destroys the HAPs in a process wastewater stream. Examples include, but are not limited to, a steam stripping unit, wastewater thermal oxidizer, or biological treatment unit.

Pulp washing system means all equipment used to wash pulp and separate spent cooking chemicals following the digester system and prior to the bleaching system, oxygen delignification system, or paper machine system (at unbleached mills). The pulp washing system equipment includes vacuum drum washers, diffusion washers, rotary pressure washers, horizontal belt filters, intermediate stock chests, and their associated vacuum pumps, filtrate tanks, foam breakers or tanks, and any other equipment serving the same function as those previously listed. The pulp washing system does not include deckers, screens, knotters, stock chests, or pulp storage tanks following the last stage of pulp washing.

Pulping line means a group of equipment arranged in series such that the wood chips are digested and the resulting pulp progresses through a sequence of steps that may include knotting, refining, washing, thickening, blending, storing, oxygen delignification, and any other equipment serving the same function as those previously listed.

Pulping process condensates means any HAP-containing liquid that results from contact of water with organic compounds in the pulping process. Examples of process condensates include digester system condensates, turpentine recovery system condensates, evaporator system condensates, LVHC system condensates, HVLC system condensates, and any other condensates from equipment serving the same function as those previously listed. Liquid streams that are intended for byproduct recovery are not considered process condensate streams.

Pulping system means all process equipment, beginning with the digester system, and up to and including the last piece of pulp conditioning equipment prior to the bleaching system, including treatment with ozone, oxygen, or peroxide before the first application of a chemical bleaching agent intended to brighten pulp. The pulping system includes pulping process condensates and can include multiple pulping lines.

Recovery furnace means an enclosed combustion device where concentrated spent liquor is burned to recover sodium and sulfur, produce steam, and dispose of unwanted dissolved wood components in the liquor.

Screen system means equipment in which oversized particles are removed from the pulp slurry prior to the bleaching or papermaking system washed stock storage.

Secondary fiber pulping means a pulping process that converts a fibrous material, that has previously undergone a manufacturing process, into pulp stock through the addition of water and mechanical energy. The mill then uses that pulp as the raw material in another manufactured product. These mills may also utilize chemical, heat, and mechanical processes to remove ink particles from the fiber stock.

Semi-chemical pulping means a pulping process that combines both chemical and mechanical pulping processes. The semi-chemical pulping process produces intermediate yields ranging from 55 to 90 percent.

Soda pulping means a chemical pulping process that uses sodium hydroxide as the active chemical in the cooking liquor.

Spent liquor means process liquid generated from the separation of cooking liquor from pulp by the pulp washing system containing dissolved organic wood materials and residual cooking compounds.

Steam stripper system means a column (including associated stripper feed tanks, condensers, or heat exchangers) used to remove compounds from wastewater or condensates using steam. The steam stripper system also contains all equipment associated with a methanol rectification process including rectifiers, condensers, decanters, storage tanks, and any other equipment serving the same function as those previously listed.

Strong liquor storage tanks means all storage tanks containing liquor that has been concentrated in preparation for combustion or oxidation in the recovery process.

Sulfite pulping means a chemical pulping process that uses a mixture of sulfurous acid and bisulfite ion as the cooking liquor.

Temperature monitoring device means a piece of equipment used to monitor temperature and having an accuracy of ±1.0 percent of the temperature being monitored expressed in degrees Celsius or ±0.5 degrees Celsius ((°deg;C), whichever is greater.

Thermal oxidizer means an enclosed device that destroys organic compounds by thermal oxidation.

Turpentine recovery system means all equipment associated with recovering turpentine from digester system gases including condensers, decanters, storage tanks, and any other equipment serving the same function as those previously listed. The turpentine recovery system includes any liquid streams associated with the turpentine recovery process such as turpentine decanter underflow. Liquid streams that are intended for byproduct recovery are not considered turpentine recovery system condensate streams.

Weak liquor storage tank means any storage tank except washer filtrate tanks containing spent liquor recovered from the pulping process and prior to the evaporator system.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17563, Apr. 12, 1999; 77 FR 55710, Sept. 11, 2012]

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§63.442 [Reserved]

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§63.443 Standards for the pulping system at kraft, soda, and semi-chemical processes.

(a) The owner or operator of each pulping system using the kraft process subject to the requirements of this subpart shall control the total HAP emissions from the following equipment systems, as specified in paragraphs (c) and (d) of this section.

(1) At existing affected sources, the total HAP emissions from the following equipment systems shall be controlled:

(i) Each LVHC system;

(ii) Each knotter or screen system with total HAP mass emission rates greater than or equal to the rates specified in paragraphs (a)(1)(ii)(A) or (a)(1)(ii)(B) of this section or the combined rate specified in paragraph (a)(1)(ii)(C) of this section.

(A) Each knotter system with emissions of 0.05 kilograms or more of total HAP per megagram of ODP (0.1 pounds per ton).

(B) Each screen system with emissions of 0.10 kilograms or more of total HAP per megagram of ODP (0.2 pounds per ton).

(C) Each knotter and screen system with emissions of 0.15 kilograms or more of total HAP per megagram of ODP (0.3 pounds per ton).

(iii) Each pulp washing system;

(iv) Each decker system that:

(A) Uses any process water other than fresh water or paper machine white water; or

(B) Uses any process water with a total HAP concentration greater than 400 parts per million by weight; and

(v) Each oxygen delignification system.

(2) At new affected sources, the total HAP emissions from the equipment systems listed in paragraphs (a)(1)(i), (a)(1)(iii), and (a)(1)(v) of this section and the following equipment systems shall be controlled:

(i) Each knotter system;

(ii) Each screen system;

(iii) Each decker system; and

(iv) Each weak liquor storage tank.

(b) The owner or operator of each pulping system using a semi-chemical or soda process subject to the requirements of this subpart shall control the total HAP emissions from the following equipment systems as specified in paragraphs (c) and (d) of this section.

(1) At each existing affected source, the total HAP emissions from each LVHC system shall be controlled.

(2) At each new affected source, the total HAP emissions from each LVHC system and each pulp washing system shall be controlled.

(c) Equipment systems listed in paragraphs (a) and (b) of this section shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements specified in paragraph (d) of this section. The enclosures and closed-vent system shall meet the requirements specified in §63.450.

(d) The control device used to reduce total HAP emissions from each equipment system listed in paragraphs (a) and (b) of this section shall:

(1) Reduce total HAP emissions by 98 percent or more by weight; or

(2) Reduce the total HAP concentration at the outlet of the thermal oxidizer to 20 parts per million or less by volume, corrected to 10 percent oxygen on a dry basis; or

(3) Reduce total HAP emissions using a thermal oxidizer designed and operated at a minimum temperature of 871 °C (1600 °F) and a minimum residence time of 0.75 seconds; or

(4) Reduce total HAP emissions using one of the following:

(i) A boiler, lime kiln, or recovery furnace by introducing the HAP emission stream with the primary fuel or into the flame zone; or

(ii) A boiler or recovery furnace with a heat input capacity greater than or equal to 44 megawatts (150 million British thermal units per hour) by introducing the HAP emission stream with the combustion air.

(e) Periods of excess emissions reported under §63.455 shall not be a violation of §63.443(c) and (d) provided that the time of excess emissions divided by the total process operating time in a semi-annual reporting period does not exceed the following levels:

(1) One percent for control devices used to reduce the total HAP emissions from the LVHC system; and

(2) Four percent for control devices used to reduce the total HAP emissions from the HVLC system; and

(3) Four percent for control devices used to reduce the total HAP emissions from both the LVHC and HVLC systems.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17563, Apr. 12, 1999; 66 FR 80762, Dec. 22, 2000; 77 FR 55710, Sept. 11, 2012]

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§63.444 Standards for the pulping system at sulfite processes.

(a) The owner or operator of each sulfite process subject to the requirements of this subpart shall control the total HAP emissions from the following equipment systems as specified in paragraphs (b) and (c) of this section.

(1) At existing sulfite affected sources, the total HAP emissions from the following equipment systems shall be controlled:

(i) Each digester system vent;

(ii) Each evaporator system vent; and

(iii) Each pulp washing system.

(2) At new affected sources, the total HAP emissions from the equipment systems listed in paragraph (a)(1) of this section and the following equipment shall be controlled:

(i) Each weak liquor storage tank;

(ii) Each strong liquor storage tank; and

(iii) Each acid condensate storage tank.

(b) Equipment listed in paragraph (a) of this section shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements specified in paragraph (c) of this section. The enclosures and closed-vent system shall meet the requirements specified in §63.450. Emissions from equipment listed in paragraph (a) of this section that is not necessary to be reduced to meet paragraph (c) of this section is not required to be routed to a control device.

(c) The total HAP emissions from both the equipment systems listed in paragraph (a) of this section and the vents, wastewater, and condensate streams from the control device used to reduce HAP emissions, shall be controlled as follows.

(1) Each calcium-based or sodium-based sulfite pulping process shall:

(i) Emit no more than 0.44 kilograms of total HAP or methanol per megagram (0.89 pounds per ton) of ODP; or

(ii) Remove 92 percent or more by weight of the total HAP or methanol.

(2) Each magnesium-based or ammonium-based sulfite pulping process shall:

(i) Emit no more than 1.1 kilograms of total HAP or methanol per megagram (2.2 pounds per ton) of ODP; or

(ii) Remove 87 percent or more by weight of the total HAP or methanol.

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§63.445 Standards for the bleaching system.

(a) Each bleaching system that does not use any chlorine or chlorinated compounds for bleaching is exempt from the requirements of this section. Owners or operators of the following bleaching systems shall meet all the provisions of this section:

(1) Bleaching systems that use chlorine;

(2) Bleaching systems bleaching pulp from kraft, sulfite, or soda pulping processes that use any chlorinated compounds; or

(3) Bleaching systems bleaching pulp from mechanical pulping processes using wood or from any process using secondary or non-wood fibers, that use chlorine dioxide.

(b) The equipment at each bleaching stage, of the bleaching systems listed in paragraph (a) of this section, where chlorinated compounds are introduced shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements specified in paragraph (c) of this section. The enclosures and closed-vent system shall meet the requirements specified in §63.450. If process modifications are used to achieve compliance with the emission limits specified in paragraphs (c)(2) or (c)(3), enclosures and closed-vent systems are not required, unless appropriate.

(c) The control device used to reduce chlorinated HAP emissions (not including chloroform) from the equipment specified in paragraph (b) of this section shall:

(1) Reduce the total chlorinated HAP mass in the vent stream entering the control device by 99 percent or more by weight;

(2) Achieve a treatment device outlet concentration of 10 parts per million or less by volume of total chlorinated HAP; or

(3) Achieve a treatment device outlet mass emission rate of 0.001 kg of total chlorinated HAP mass per megagram (0.002 pounds per ton) of ODP.

(d) The owner or operator of each bleaching system subject to paragraph (a)(2) of this section shall comply with paragraph (d)(1) or (d)(2) of this section to reduce chloroform air emissions to the atmosphere, except the owner or operator of each bleaching system complying with extended compliance under §63.440(d)(3)(ii) shall comply with paragraph (d)(1) of this section.

(1) Comply with the following applicable effluent limitation guidelines and standards specified in 40 CFR part 430:

(i) Dissolving-grade kraft bleaching systems and lines, 40 CFR 430.14 through 430.17;

(ii) Paper-grade kraft and soda bleaching systems and lines, 40 CFR 430.24(a)(1) and (e), and 40 CFR 430.26 (a) and (c);

(iii) Dissolving-grade sulfite bleaching systems and lines, 40 CFR 430.44 through 430.47; or

(iv) Paper-grade sulfite bleaching systems and lines, 40 CFR 430.54(a) and (c), and 430.56(a) and (c).

(2) Use no hypochlorite or chlorine for bleaching in the bleaching system or line.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17563, Apr. 12, 1999]

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§63.446 Standards for kraft pulping process condensates.

(a) The requirements of this section apply to owners or operators of kraft processes subject to the requirements of this subpart.

(b) The pulping process condensates from the following equipment systems shall be treated to meet the requirements specified in paragraphs (c), (d), and (e) of this section:

(1) Each digester system;

(2) Each turpentine recovery system;

(3) Each evaporator system condensate from:

(i) The vapors from each stage where weak liquor is introduced (feed stages); and

(ii) Each evaporator vacuum system for each stage where weak liquor is introduced (feed stages).

(4) Each HVLC collection system; and

(5) Each LVHC collection system.

(c) One of the following combinations of HAP-containing pulping process condensates generated, produced, or associated with the equipment systems listed in paragraph (b) of this section shall be subject to the requirements of paragraphs (d) and (e) of this section:

(1) All pulping process condensates from the equipment systems specified in paragraphs (b)(1) through (b)(5) of this section.

(2) The combined pulping process condensates from the equipment systems specified in paragraphs (b)(4) and (b)(5) of this section, plus pulping process condensate stream(s) that in total contain at least 65 percent of the total HAP mass from the pulping process condensates from equipment systems listed in paragraphs (b)(1) through (b)(3) of this section.

(3) The pulping process condensates from equipment systems listed in paragraphs (b)(1) through (b)(5) of this section that in total contain a total HAP mass of 3.6 kilograms or more of total HAP per megagram (7.2 pounds per ton) of ODP for mills that do not perform

bleaching or 5.5 kilograms or more of total HAP per megagram (11.1 pounds per ton) of ODP for mills that perform bleaching.

(d) The pulping process condensates from the equipment systems listed in paragraph (b) of this section shall be conveyed in a closed collection system that is designed and operated to meet the requirements specified in paragraphs (d)(1) and (d)(2) of this section.

(1) Each closed collection system shall meet the individual drain system requirements specified in §§63.960, 63.961, and 63.962 of subpart RR of this part, except for closed vent systems and control devices shall be designed and operated in accordance with §§63.443(d) and 63.450, instead of in accordance with §63.693 as specified in §63.962 (a)(3)(ii), (b)(3)(ii)(A), and (b)(5)(iii); and

(2) If a condensate tank is used in the closed collection system, the tank shall meet the following requirements:

(i) The fixed roof and all openings (e.g., access hatches, sampling ports, gauge wells) shall be designed and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million above background, and vented into a closed-vent system that meets the requirements in §63.450 and routed to a control device that meets the requirements in §63.443(d); and

(ii) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that the tank contains pulping process condensates or any HAP removed from a pulping process condensate stream except when it is necessary to use the opening for sampling, removal, or for equipment inspection, maintenance, or repair.

(e) Each pulping process condensate from the equipment systems listed in paragraph (b) of this section shall be treated according to one of the following options:

(1) Recycle the pulping process condensate to an equipment system specified in §63.443(a) meeting the requirements specified in §63.443(c) and (d); or

(2) Discharge the pulping process condensate below the liquid surface of a biological treatment system and treat the pulping process condensates to meet the requirements specified in paragraph (e)(3), (4), or (5) of this section, and total HAP shall be measured as specified in §63.457(g); or

(3) Treat the pulping process condensates to reduce or destroy the total HAPs by at least 92 percent or more by weight; or

(4) At mills that do not perform bleaching, treat the pulping process condensates to remove 3.3 kilograms or more of total HAP per megagram (6.6 pounds per ton) of ODP, or achieve a total HAP concentration of 210 parts per million or less by weight at the outlet of the control device; or

(5) At mills that perform bleaching, treat the pulping process condensates to remove 5.1 kilograms or more of total HAP per megagram (10.2 pounds per ton) of ODP, or achieve a total HAP concentration of 330 parts per million or less by weight at the outlet of the control device.

(f) Each HAP removed from a pulping process condensate stream during treatment and handling under paragraphs (d) or (e) of this section, except for those treated according to paragraph (e)(2) of this section, shall be controlled as specified in §63.443(c) and (d).

(g) For each control device (e.g., steam stripper system or other equipment serving the same function) used to treat pulping process condensates to comply with the requirements specified in paragraphs (e)(3) through (5) of this section, periods of excess emissions reported under §63.455 shall not be a violation of paragraphs (d), (e)(3) through (5), and (f) of this section provided that the time of excess emissions divided by the total process operating time in a semi-annual reporting period does not exceed 10 percent. The 10 percent excess emissions allowance does not apply to treatment of pulping process condensates according to paragraph (e)(2) of this section (e.g., the biological wastewater treatment system used to treat multiple (primarily non-condensate) wastewater streams to comply with the Clean Water Act).

(h) Each owner or operator of a new or existing affected source subject to the requirements of this section shall evaluate all new or modified pulping process condensates or changes in the annual bleached or non-bleached ODP used to comply with paragraph (i) of this section, to determine if they meet the applicable requirements of this section.

(i) For the purposes of meeting the requirements in paragraph (c)(2) or (3) or paragraph (e)(4) or (5) of this section at mills producing both bleached and unbleached pulp products, owners and operators may meet a prorated mass standard that is calculated by prorating the applicable mass standards (kilograms of total HAP per megagram of ODP) for bleached and unbleached mills specified in paragraph (c)(2) or (3) or paragraph (e)(4) or (5) of this section by the ratio of annual megagrams of bleached and unbleached ODP.

[63 FR 18617, Apr. 15, 1998; 63 FR 42239, Aug. 7, 1998, as amended at 63 FR 49459, Sept. 16, 1998; 64 FR 17563, Apr. 12, 1999; 65 FR 80762, Dec. 22, 2000; 77 FR 55711, Sept. 11, 2012]

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§63.447 Clean condensate alternative.

As an alternative to the requirements specified in §63.443(a)(1)(ii) through (a)(1)(v) for the control of HAP emissions from pulping systems using the kraft process, an owner or operator must demonstrate to the satisfaction of the Administrator, by meeting all the requirements below, that the total HAP emissions reductions achieved by this clean condensate alternative technology are equal to or greater than the total HAP emission reductions that would have been achieved by compliance with §63.443(a)(1)(ii) through (a)(1)(v).

(a) For the purposes of this section only the following additional definitions apply.

(1) *Clean condensate alternative affected source* means the total of all HAP emission points in the pulping, bleaching, causticizing, and papermaking systems (exclusive of HAP emissions attributable to additives to paper machines and HAP emission points in the LVHC system).

(2) *Causticizing system* means all equipment associated with converting sodium carbonate into active sodium hydroxide. The equipment includes smelt dissolving tanks, lime mud washers and storage tanks, white and mud liquor clarifiers and storage tanks, slakers, slaker grit washers, lime kilns, green liquor clarifiers and storage tanks, and dreg washers ending with the white liquor storage tanks prior to the digester system, and any other equipment serving the same function as those previously listed.

(3) *Papermaking system* means all equipment used to convert pulp into paper, paperboard, or market pulp, including the stock storage and preparation systems, the paper or paperboard machines, and the paper machine white water system, broke recovery systems, and the systems involved in calendering, drying, on-machine coating, slitting, winding, and cutting.

(b) Each owner or operator shall install and operate a clean condensate alternative technology with a continuous monitoring system to reduce total HAP emissions by treating and reducing HAP concentrations in the pulping process water used within the clean condensate alternative affected source.

(c) Each owner or operator shall calculate HAP emissions on a kilogram per megagram of ODP basis and measure HAP emissions according to the appropriate procedures contained in §63.457.

(d) Each owner or operator shall determine the baseline HAP emissions for each equipment system and the total of all equipment systems in the clean condensate alternative affected source based on the following:

(1) Process and air pollution control equipment installed and operating on December 17, 1993, and

(2) Compliance with the following requirements that affect the level of HAP emissions from the clean condensate alternative affected source:

(i) The pulping process condensates requirements in §63.446;

(ii) The applicable effluent limitation guidelines and standards in 40 CFR part 430, subparts A, B, D, and E; and

(iii) All other applicable requirements of local, State, or Federal agencies or statutes.

(e) Each owner or operator shall determine the following HAP emission reductions from the baseline HAP emissions determined in paragraph (d) of this section for each equipment system and the total of all equipment systems in the clean condensate alternative affected source:

(1) The HAP emission reduction occurring by complying with the requirements of §63.443(a)(1)(ii) through (a)(1)(v); and

(2) The HAP emissions reduction occurring by complying with the clean condensate alternative technology.

(f) For the purposes of all requirements in this section, each owner or operator may use as an alternative, individual equipment systems (instead of total of all equipment systems) within the clean condensate alternative affected source to determine emissions and reductions to demonstrate equal or greater than the reductions that would have been achieved by compliance with §63.443(a)(1)(ii) through (a)(1)(v).

(g) The initial and updates to the control strategy report specified in §63.455(b) shall include to the extent possible the following information:

(1) A detailed description of:

(i) The equipment systems and emission points that comprise the clean condensate alternative affected source;

(ii) The air pollution control technologies that would be used to meet the requirements of §63.443(a)(1)(ii) through (a)(1)(v); and

(iii) The clean condensate alternative technology to be used.

(2) Estimates and basis for the estimates of total HAP emissions and emission reductions to fulfill the requirements of paragraphs (d), (e), and (f) of this section.

(h) Each owner or operator shall report to the Administrator by the applicable compliance date specified in §63.440(d) or (e) the rationale, calculations, test procedures, and data documentation used to demonstrate compliance with all the requirements of this section.

[63 FR 18617, Apr. 15, 1998; 63 FR 42239, Aug. 7, 1998, as amended at 64 FR 17563, Apr. 12, 1999]

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§§63.448-63.449 [Reserved]

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§63.450 Standards for enclosures and closed-vent systems.

(a) Each enclosure and closed-vent system specified in §§63.443(c), 63.444(b), and 63.445(b) for capturing and transporting vent streams that contain HAP shall meet the requirements specified in paragraphs (b) through (d) of this section.

(b) Each enclosure shall maintain negative pressure at each enclosure or hood opening as demonstrated by the procedures specified in §63.457(e). Each enclosure or hood opening closed during the initial performance test specified in §63.457(a) shall be maintained in the same closed and sealed position as during the performance test at all times except when necessary to use the opening for sampling, inspection, maintenance, or repairs.

(c) Each component of the closed-vent system used to comply with §§63.443(c), 63.444(b), and 63.445(b) that is operated at positive pressure and located prior to a control device shall be designed for and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million by volume above background, as measured by the procedures specified in §63.457(d).

(d) Each bypass line in the closed-vent system that could divert vent streams containing HAP to the atmosphere without meeting the emission limitations in §§63.443, 63.444, or 63.445 shall comply with either of the following requirements:

(1) On each bypass line, the owner or operator shall install, calibrate, maintain, and operate according to the manufacturer's specifications a flow indicator that is capable of taking periodic readings as frequently as specified in §63.454(e). The flow indicator shall be installed in the bypass line in such a way as to indicate flow in the bypass line; or

(2) For bypass line valves that are not computer controlled, the owner or operator shall maintain the bypass line valve in the closed position with a car seal or a seal placed on the valve or closure mechanism in such a way that valve or closure mechanism cannot be opened without breaking the seal.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17563, Apr. 12, 1999; 68 FR 37348, June 23, 2003]

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§§63.451-63.452 [Reserved]

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§63.453 Monitoring requirements.

(a) Each owner or operator subject to the standards specified in §§63.443(c) and (d), 63.444(b) and (c), 63.445(b) and (c), 63.446(c), (d), and (e), 63.447(b) or §63.450(d), shall install, calibrate, certify, operate, and maintain according to the manufacturer's specifications, a continuous monitoring system (CMS, as defined in §63.2 of this part) as specified in paragraphs (b) through (m) of this section, except as allowed in paragraph (m) of this section. The CMS shall include a continuous recorder.

(b) A CMS shall be operated to measure the temperature in the firebox or in the ductwork immediately downstream of the firebox and before any substantial heat exchange occurs for each thermal oxidizer used to comply with the requirements of §63.443(d)(1) through (d)(3). Owners and operators complying with the HAP concentration requirements in §63.443(d)(2) may install a CMS to monitor the thermal oxidizer outlet total HAP or methanol concentration, as an alternative to monitoring thermal oxidizer operating temperature.

(c) A CMS shall be operated to measure the following parameters for each gas scrubber used to comply with the bleaching system requirements of §63.445(c) or the sulfite pulping system requirements of §63.444(c).

(1) The pH or the oxidation/reduction potential of the gas scrubber effluent;

(2) The gas scrubber vent gas inlet flow rate; and

(3) The gas scrubber liquid influent flow rate.

(d) As an option to the requirements specified in paragraph (c) of this section, a CMS shall be operated to measure the chlorine outlet concentration of each gas scrubber used to comply with the bleaching system outlet concentration requirement specified in §63.445(c)(2).

(e) The owner or operator of a bleaching system complying with 40 CFR 430.24, shall monitor the chlorine and hypochlorite application rates, in kg of bleaching agent per megagram of ODP, of the bleaching system during the extended compliance period specified in §63.440(d)(3).

(f) A CMS shall be operated to measure the gas scrubber parameters specified in paragraphs (c)(1) through (c)(3) of this section or those site specific parameters determined according to the procedures specified in paragraph (n) of this section to comply with the sulfite pulping system requirements specified in §63.444(c).

(g) A CMS shall be operated to measure the following parameters for each steam stripper used to comply with the treatment requirements in §63.446(e) (3), (4), or (5):

(1) The process wastewater feed rate;

(2) The steam feed rate; and

(3) The process wastewater column feed temperature.

(h) As an option to the requirements specified in paragraph (g) of this section, a CMS shall be operated to measure the methanol outlet concentration to comply with the steam stripper outlet concentration requirement specified in §63.446 (e)(4) or (e)(5).

(i) A CMS shall be operated to measure the appropriate parameters determined according to the procedures specified in paragraph (n) of this section to comply with the condensate applicability requirements specified in §63.446(c).

(j) Each owner or operator using an open biological treatment system to comply with §63.446(e)(2) shall perform the daily monitoring procedures specified in either paragraph (j)(1) or (2) of this section and shall conduct a performance test each quarter using the procedures specified in paragraph (j)(3) of this section.

(1) Comply with the monitoring and sampling requirements specified in paragraphs (j)(1)(i) and (ii) of this section.

(i) On a daily basis, monitor the following parameters for each open biological treatment unit:

(A) Composite daily sample of outlet soluble BOD_5 concentration to monitor for maximum daily and maximum monthly average;

(B) Mixed liquor volatile suspended solids;

(C) Horsepower of aerator unit(s);

(D) Inlet liquid flow; and

(E) Liquid temperature.

(ii) If the Inlet and Outlet Concentration Measurement Procedure (Procedure 3) in appendix C of this part is used to determine the fraction of HAP compounds degraded in the biological treatment system as specified in §63.457(l), conduct the sampling and archival requirements specified in paragraphs (j)(1)(ii)(A) and (B) of this section.

(A) Obtain daily inlet and outlet liquid grab samples from each biological treatment unit to have HAP data available to perform quarterly performance tests specified in paragraph (j)(3) of this section and the compliance tests specified in paragraph (p) of this section.

(B) Store the samples as specified in §63.457(n) until after the results of the soluble BOD_5 test required in paragraph (j)(1)(i)(A) of this section are obtained. The storage requirement is needed since the soluble BOD_5 test requires 5 days or more to obtain results. If the results of the soluble BOD_5 test are outside of the range established during the initial performance test, then the archive sample shall be used to perform the mass removal or percent reduction determinations.

(2) As an alternative to the monitoring requirements of paragraph (j)(1) of this section, conduct daily monitoring of the site-specific parameters established according to the procedures specified in paragraph (n) of this section.

(3) Conduct a performance test as specified in §63.457(l) within 45 days after the beginning of each quarter and meet the applicable emission limit in §63.446(e)(2).

(i) The performance test conducted in the first quarter (annually) shall be performed for total HAP as specified in §63.457(g) and meet the percent reduction or mass removal emission limit specified in §63.446(e)(2).

(ii) The remaining quarterly performance tests shall be performed as specified in paragraph (j)(3)(i) of this section except owners or operators may use the applicable methanol procedure in §63.457(l)(1) or (2) and the value of r determined during the first quarter test instead of measuring the additional HAP to determine a new value of r.

(k) Each enclosure and closed-vent system used to comply with §63.450(a) shall comply with the requirements specified in paragraphs (k)(1) through (k)(6) of this section.

(1) For each enclosure opening, a visual inspection of the closure mechanism specified in §63.450(b) shall be performed at least once every 30 days to ensure the opening is maintained in the closed position and sealed.

(2) Each closed-vent system required by §63.450(a) shall be visually inspected every 30 days and at other times as requested by the Administrator. The visual inspection shall include inspection of ductwork, piping, enclosures, and connections to covers for visible evidence of defects.

(3) For positive pressure closed-vent systems or portions of closed-vent systems, demonstrate no detectable leaks as specified in §63.450(c) measured initially and annually by the procedures in §63.457(d).

(4) Demonstrate initially and annually that each enclosure opening is maintained at negative pressure as specified in §63.457(e).

(5) The valve or closure mechanism specified in §63.450(d)(2) shall be inspected at least once every 30 days to ensure that the valve is maintained in the closed position and the emission point gas stream is not diverted through the bypass line.

(6) If an inspection required by paragraphs (k)(1) through (k)(5) of this section identifies visible defects in ductwork, piping, enclosures or connections to covers required by §63.450, or if an instrument reading of 500 parts per million by volume or greater above background is measured, or if enclosure openings are not maintained at negative pressure, then the following corrective actions shall be taken as soon as practicable.

(i) A first effort to repair or correct the closed-vent system shall be made as soon as practicable but no later than 5 calendar days after the problem is identified.

(ii) The repair or corrective action shall be completed no later than 15 calendar days after the problem is identified. Delay of repair or corrective action is allowed if the repair or corrective action is technically infeasible without a process unit shutdown or if the owner or operator determines that the emissions resulting from immediate repair would be greater than the emissions likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next process unit shutdown.

(l) Each pulping process condensate closed collection system used to comply with §63.446(d) shall comply with the requirements specified in paragraphs (l)(1) through (l)(3) of this section.

(1) Each pulping process condensate closed collection system shall be visually inspected every 30 days and shall comply with the inspection and monitoring requirements specified in §63.964 of subpart RR of this part, except:

(i) Owners or operators shall comply with the recordkeeping requirements of §63.454 instead of the requirements specified in §63.964(a)(1)(vi) and (b)(3) of subpart RR of this part.

(ii) Owners or operators shall comply with the inspection and monitoring requirements for closed-vent systems and control devices specified in paragraphs (a) and (k) of this section instead of the requirements specified in §63.964(a)(2) of subpart RR of this part.

(2) Each condensate tank used in the closed collection system shall be operated with no detectable leaks as specified in §63.446(d)(2)(i) measured initially and annually by the procedures specified in §63.457(d).

(3) If an inspection required by this section identifies visible defects in the closed collection system, or if an instrument reading of 500 parts per million or greater above background is measured, then corrective actions specified in §63.964(b) of subpart RR of this part shall be taken.

(m) Each owner or operator using a control device, technique or an alternative parameter other than those specified in paragraphs (b) through (l) of this section shall install a CMS and establish appropriate operating parameters to be monitored that demonstrate, to the Administrator's satisfaction, continuous compliance with the applicable control requirements.

(n) To establish or reestablish the value for each operating parameter required to be monitored under paragraphs (b) through (j), (l), and (m) of this section or to establish appropriate parameters for paragraphs (f), (i), (j)(2), and (m) of this section, each owner or operator shall use the following procedures:

(1) During the initial performance test required in §63.457(a) or any subsequent performance test, continuously record the operating parameter;

(2) Determinations shall be based on the control performance and parameter data monitored during the performance test, supplemented if necessary by engineering assessments and the manufacturer's recommendations;

(3) The owner or operator shall provide for the Administrator's approval the rationale for selecting the monitoring parameters necessary to comply with paragraphs (f), (i), and (m) of this section; and

(4) Provide for the Administrator's approval the rationale for the selected operating parameter value, and monitoring frequency, and averaging time. Include all data and calculations used to develop the value and a description of why the value, monitoring frequency, and averaging time demonstrate continuous compliance with the applicable emission standard.

(o) Each owner or operator of a control device subject to the monitoring provisions of this section shall operate the control device in a manner consistent with the minimum or maximum (as appropriate) operating parameter value or procedure required to be monitored under paragraphs (a) through (n) of this section and established under this subpart. Except as provided in paragraph (p) of this section, §63.443(e), or §63.446(g), operation of the control device below minimum operating parameter values or above maximum operating parameter values established under this subpart or failure to perform procedures required by this subpart shall constitute a violation of the applicable emission standard of this subpart and be reported as a period of excess emissions.

(p) The procedures of this paragraph apply to each owner or operator of an open biological treatment system complying with paragraph (j) of this section whenever a monitoring parameter excursion occurs, and the owner or operator chooses to conduct a performance test to demonstrate compliance with the applicable emission limit. A monitoring parameter excursion occurs whenever the monitoring parameters specified in paragraphs (j)(1)(i)(A) through (C) of this section or any of the monitoring parameters specified in paragraph (j)(2) of this section are below minimum operating parameter values or above maximum operating parameter values established in paragraph (n) of this section.

(1) As soon as practical after the beginning of the monitoring parameter excursion, the following requirements shall be met:

(i) Before the steps in paragraph (p)(1)(ii) or (iii) of this section are performed, all sampling and measurements necessary to meet the requirements in paragraph (p)(2) of this section shall be conducted.

(ii) Steps shall be taken to repair or adjust the operation of the process to end the parameter excursion period.

(iii) Steps shall be taken to minimize total HAP emissions to the atmosphere during the parameter excursion period.

(2) A parameter excursion is not a violation of the applicable emission standard if the results of the performance test conducted using the procedures in this paragraph demonstrate compliance with the applicable emission limit in §63.446(e)(2).

(i) Conduct a performance test as specified in §63.457 using the monitoring data specified in paragraph (j)(1) or (2) of this section that coincides with the time of the parameter excursion. No maintenance or changes shall be made to the open biological treatment system after the beginning of a parameter excursion that would influence the results of the performance test.

(ii) If the results of the performance test specified in paragraph (p)(2)(i) of this section demonstrate compliance with the applicable emission limit in §63.446(e)(2), then the parameter excursion is not a violation of the applicable emission limit.

(iii) If the results of the performance test specified in paragraph (p)(2)(i) of this section do not demonstrate compliance with the applicable emission limit in §63.446(e)(2) because the total HAP mass entering the open biological treatment system is below the level needed to demonstrate compliance with the applicable emission limit in §63.446(e)(2), then the owner or operator shall perform the following comparisons:

(A) If the value of f_{bio} (MeOH) determined during the performance test specified in paragraph (p)(2)(i) of this section is within the range of values established during the initial and subsequent performance tests approved by the Administrator, then the parameter excursion is not a violation of the applicable standard.

(B) If the value of f_{bio} (MeOH) determined during the performance test specified in paragraph (p)(2)(i) of this section is not within the range of values established during the initial and subsequent performance tests approved by the Administrator, then the parameter excursion is a violation of the applicable standard.

(iv) The results of the performance test specified in paragraph (p)(2)(i) of this section shall be recorded as specified in §63.454(f).

(3) If an owner or operator determines that performing the required procedures under paragraph (p)(2) of this section for a nonthoroughly mixed open biological system would expose a worker to dangerous, hazardous, or otherwise unsafe conditions, all of the following procedures shall be performed:

(i) Calculate the mass removal or percent reduction value using the procedures specified in §63.457(l) except the value for f_{bio} (MeOH) shall be determined using the procedures in appendix E to this part.

(ii) Repeat the procedures in paragraph (p)(3)(i) of this section for every day until the unsafe conditions have passed.

(iii) A parameter excursion is a violation of the standard if the percent reduction or mass removal determined in paragraph (p)(3)(i) of this section is less than the percent reduction or mass removal standards specified in §63.446(e)(2), as appropriate, unless the value of f_{bio} (MeOH) determined using the procedures in appendix E of this section, as specified in paragraph (p)(3)(i), is within the range of f_{bio} (MeOH) values established during the initial and subsequent performance tests previously approved by the Administrator.

(iv) The determination that there is a condition that exposes a worker to dangerous, hazardous, or otherwise unsafe conditions shall be documented according to requirements in §63.454(e) and reporting in §63.455(f).

(v) The requirements of paragraphs (p)(1) and (2) of this section shall be performed and met as soon as practical but no later than 24 hours after the conditions have passed that exposed a worker to dangerous, hazardous, or otherwise unsafe conditions.

(q) At all times, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17563, Apr. 12, 1999; 65 FR 80762, Dec. 22, 2000; 77 FR 55711, Sept. 11, 2012]

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§63.454 Recordkeeping requirements.

(a) The owner or operator of each affected source subject to the requirements of this subpart shall comply with the recordkeeping requirements of §63.10, as shown in Table 1 of this subpart, and the requirements specified in paragraphs (b) through (g) of this section for the monitoring parameters specified in §63.453.

(b) For each applicable enclosure opening, closed-vent system, and closed collection system, the owner or operator shall prepare and maintain a site-specific inspection plan including a drawing or schematic of the components of applicable affected equipment and shall record the following information for each inspection:

(1) Date of inspection;

(2) The equipment type and identification;

(3) Results of negative pressure tests for enclosures;

(4) Results of leak detection tests;

(5) The nature of the defect or leak and the method of detection (i.e., visual inspection or instrument detection);

(6) The date the defect or leak was detected and the date of each attempt to repair the defect or leak;

(7) Repair methods applied in each attempt to repair the defect or leak;

(8) The reason for the delay if the defect or leak is not repaired within 15 days after discovery;

(9) The expected date of successful repair of the defect or leak if the repair is not completed within 15 days;

(10) The date of successful repair of the defect or leak;

(11) The position and duration of opening of bypass line valves and the condition of any valve seals; and

(12) The duration of the use of bypass valves on computer controlled valves.

(c) The owner or operator of a bleaching system complying with §63.440(d)(3)(ii)(B) shall record the daily average chlorine and hypochlorite application rates, in kg of bleaching agent per megagram of ODP, of the bleaching system until the requirements specified in §63.440(d)(3)(ii)(A) are met.

(d) The owner or operator shall record the CMS parameters specified in §63.453 and meet the requirements specified in paragraph (a) of this section for any new affected process equipment or pulping process condensate stream that becomes subject to the standards in this subpart due to a process change or modification.

(e) The owner or operator shall set the flow indicator on each bypass line specified in §63.450(d)(1) to provide a record of the presence of gas stream flow in the bypass line at least once every 15 minutes.

(f) The owner or operator of an open biological treatment system complying with §63.453(p) shall prepare a written record specifying the results of the performance test specified in §63.453(p)(2).

(g) *Recordkeeping of malfunctions.* The owner or operator must maintain the following records of malfunctions:

(1) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment.

(2) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.453(q), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

[63 FR 18617, Apr. 15, 1998, as amended at 65 FR 80763, Dec. 22, 2000; 68 FR 37348, June 23, 2003; 77 FR 55711, Sept. 11, 2012]

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§63.455 Reporting requirements.

(a) Each owner or operator of a source subject to this subpart shall comply with the reporting requirements of subpart A of this part as specified in table 1 and all the following requirements in this section. The initial notification report specified under §63.9(b)(2) of subpart A of this part shall be submitted by April 15, 1999.

(b) Each owner or operator of a kraft pulping system specified in §63.440(d)(1) or a bleaching system specified in §63.440(d)(3)(ii) shall submit, with the initial notification report specified under §63.9(b)(2) of subpart A of this part and paragraph (a) of this section and update every two years thereafter, a non-binding control strategy report containing, at a minimum, the information specified in paragraphs (b)(1) through (b)(3) of this section in addition to the information required in §63.9(b)(2) of subpart A of this part.

(1) A description of the emission controls or process modifications selected for compliance with the control requirements in this standard.

(2) A compliance schedule, including the dates by which each step toward compliance will be reached for each emission point or sets of emission points. At a minimum, the list of dates shall include:

(i) The date by which the major study(s) for determining the compliance strategy will be completed;

(ii) The date by which contracts for emission controls or process modifications will be awarded, or the date by which orders will be issued for the purchase of major components to accomplish emission controls or process changes;

(iii) The date by which on-site construction, installation of emission control equipment, or a process change is to be initiated;

(iv) The date by which on-site construction, installation of emissions control equipment, or a process change is to be completed;

(v) The date by which final compliance is to be achieved;

(vi) For compliance with paragraph §63.440(d)(3)(ii), the tentative dates by which compliance with effluent limitation guidelines and standards intermediate pollutant load effluent reductions and as available, all the dates for the best available technology's milestones reported in the National Pollutant Discharge Elimination System authorized under section 402 of the Clean Water Act and for the best professional milestones in the Voluntary Advanced Technology Incentives Program under 40 CFR 430.24 (b)(2); and

(vii) The date by which the final compliance tests will be performed.

(3) Until compliance is achieved, revisions or updates shall be made to the control strategy report required by paragraph (b) of this section indicating the progress made towards completing the installation of the emission controls or process modifications during the 2-year period.

(c) The owner or operator of each bleaching system complying with §63.440(d)(3)(ii)(B) shall certify in the report specified under §63.10(e)(3) of subpart A of this part that the daily application rates of chlorine and hypochlorite for that bleaching system have not increased as specified in §63.440(d)(3)(ii)(B) until the requirements of §63.440(d)(3)(ii)(A) are met.

(d) The owner or operator shall meet the requirements specified in paragraph (a) of this section upon startup of any new affected process equipment or pulping process condensate stream that becomes subject to the standards of this subpart due to a process change or modification.

(e) If the owner or operator uses the results of the performance test required in §63.453(p)(2) to revise the approved values or ranges of the monitoring parameters specified in §63.453(j)(1) or (2), the owner or operator shall submit an initial notification of the subsequent performance test to the Administrator as soon as practicable, but no later than 15 days, before the performance test required in §63.453(p)(2) is scheduled to be conducted. The owner or operator shall notify the Administrator as soon as practicable, but no later than 24 hours, before the performance test is scheduled to be conducted to confirm the exact date and time of the performance test.

(f) To comply with the open biological treatment system monitoring provisions of §63.453(p)(3), the owner or operator shall notify the Administrator as soon as practicable of the onset of the dangerous, hazardous, or otherwise unsafe conditions that did not allow a compliance determination to be conducted using the sampling and test procedures in §63.457(l). The notification shall occur no later than 24 hours after the onset of the dangerous, hazardous, or otherwise unsafe conditions and shall include the specific reason(s) that the sampling and test procedures in §63.457(l) could not be performed.

(g) *Malfunction reporting requirements.* If a malfunction occurred during the reporting period, the report must include the number, duration and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.453(q), including actions taken to correct a malfunction.

(h) The owner or operator must submit performance test reports as specified in paragraphs (h)(1) through (4) of this section.

(1) The owner or operator of an affected source shall report the results of the performance test before the close of business on the 60th day following the completion of the performance test, unless approved otherwise in writing by the Administrator. A performance test is "completed" when field sample collection is terminated. Unless otherwise approved by the Administrator in writing, results of a performance test shall include the analysis of samples, determination of emissions and raw data. A complete test report must include the purpose of the test; a brief process description; a complete unit description, including a description of feed streams and control devices; sampling site description; pollutants measured; description of sampling and analysis procedures and any modifications to standard procedures; quality assurance procedures; record of operating conditions, including operating parameters for which limits are being set, during the test; record of preparation of standards; record of calibrations; raw data sheets for field sampling; raw data sheets for field and laboratory analyses; chain-of-custody documentation; explanation of laboratory data qualifiers; example calculations of all applicable stack gas parameters, emission rates, percent reduction rates, and analytical results, as applicable; and any other information required by the test method and the Administrator.

(2) Within 60 days after the date of completing each performance test (defined in §63.2) as required by this subpart, the owner or operator must submit the results of the performance tests, including any associated fuel analyses, required by this subpart to the EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through the EPA's Central Data Exchange (CDX) (*http://www.epa.gov/cdx*). Performance test data must be submitted in the file format generated through use of the EPA's Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/index.html*). Only data collected using test methods on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk, flash drive or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to the EPA via CDX as described earlier in this paragraph. At the discretion of the delegated authority, the owner or operator must also submit these reports, including the CBI, to the delegated authority in the format specified by the delegated authority. For any performance test conducted using test methods that are not listed on the ERT Web site, the owner or operator must submit the results of the performance test to the Administrator at the appropriate address listed in §63.13.

(3) Within 60 days after the date of completing each CEMS performance evaluation test as defined in §63.2, the owner or operator must submit relative accuracy test audit (RATA) data to the EPA's CDX by using CEDRI in accordance with paragraph (2) of this section. Only RATA pollutants that can be documented with the ERT (as listed on the ERT Web site) are subject to this requirement. For any performance evaluations with no corresponding RATA pollutants listed on the ERT Web site, the owner or operator must submit the results of the performance evaluation to the Administrator at the appropriate address listed in §63.13.

(4) All reports required by this subpart not subject to the requirements in paragraphs (h)(2) and (3) of this section must be sent to the Administrator at the appropriate address listed in §63.13. The Administrator or the delegated authority may request a report in any form suitable for the specific case (e.g., by commonly used electronic media such as Excel spreadsheet, on CD or hard copy). The Administrator retains the right to require submittal of reports subject to paragraphs (h)(2) and (3) of this section in paper format

[63 FR 18617, Apr. 15, 1998, as amended at 65 FR 80763, Dec. 22, 2000; 77 FR 55711, Sept. 11, 2012]

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§63.456 Affirmative defense for violation of emission standards during malfunction.

In response to an action to enforce the standards set forth in §§63.443(c) and (d), 63.444(b) and (c), 63.445(b) and (c), 63.446(c), (d), and (e), 63.447(b) or §63.450(d), the owner or operator may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at 40 CFR 63.2. Appropriate penalties may be assessed, however, if the owner or operator fails to meet the burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

(a) To establish the affirmative defense in any action to enforce such a standard, the owner or operator must timely meet the reporting requirements in paragraph (b) of this section, and must prove by a preponderance of evidence that:

(1) The violation:

(i) Was caused by a sudden, infrequent, and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner, and

(ii) Could not have been prevented through careful planning, proper design or better operation and maintenance practices; and

(iii) Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and

(iv) Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and

(2) Repairs were made as expeditiously as possible when a violation occurred. Off-shift and overtime labor were used, to the extent practicable to make these repairs; and

(3) The frequency, amount and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and

(4) If the violation resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

(5) All possible steps were taken to minimize the impact of the violation on ambient air quality, the environment and human health; and

(6) All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and

(7) All of the actions in response to the violation were documented by properly signed, contemporaneous operating logs; and

(8) At all times, the affected source was operated in a manner consistent with good practices for minimizing emissions; and

(9) A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the violation resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.

(b) *Report.* The owner or operator seeking to assert an affirmative defense shall submit a written report to the Administrator with all necessary supporting documentation, that it has met the requirements set forth in paragraph (a) of this section. This affirmative defense report shall be included in the first periodic compliance, deviation report or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance, deviation report or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second compliance, deviation report or excess emission report due after the initial occurrence of the violation of the relevant standard.

[77 FR 55712, Sept. 11, 2012]

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§63.457 Test methods and procedures.

(a) *Performance tests.* Initial and repeat performance tests are required for the emissions sources specified in paragraphs (a)(1) and (2) of this section, except for emission sources controlled by a combustion device that is designed and operated as specified in §63.443(d)(3) or (4).

(1) Conduct an initial performance test for all emission sources subject to the limitations in §§63.443, 63.444, 63.445, 63.446, and 63.447.

(2) Conduct repeat performance tests at five-year intervals for all emission sources subject to the limitations in §§63.443, 63.444, and 63.445. The first of the 5-year repeat tests must be conducted by September 7, 2015, and thereafter within 60 months from the date of the previous performance test. Five-year repeat testing is not required for the following:

(i) Knotter or screen systems with HAP emission rates below the criteria specified in §63.443(a)(1)(ii).

(ii) Decker systems using fresh water or paper machine white water, or decker systems using process water with a total HAP concentration less than 400 parts per million by weight as specified in §63.443(a)(1)(iv).

(b) *Vent sampling port locations and gas stream properties.* For purposes of selecting vent sampling port locations and determining vent gas stream properties, required in §§63.443, 63.444, 63.445, and 63.447, each owner or operator shall comply with the applicable procedures in paragraphs (b)(1) through (b)(6) of this section.

(1) Method 1 or 1A of part 60, appendix A-1, as appropriate, shall be used for selection of the sampling site as follows:

(i) To sample for vent gas concentrations and volumetric flow rates, the sampling site shall be located prior to dilution of the vent gas stream and prior to release to the atmosphere;

(ii) For determining compliance with percent reduction requirements, sampling sites shall be located prior to the inlet of the control device and at the outlet of the control device; measurements shall be performed simultaneously at the two sampling sites; and

(iii) For determining compliance with concentration limits or mass emission rate limits, the sampling site shall be located at the outlet of the control device.

(2) No traverse site selection method is needed for vents smaller than 0.10 meter (4.0 inches) in diameter.

(3) The vent gas volumetric flow rate shall be determined using Method 2, 2A, 2C, or 2D of part 60, appendix A-1, as appropriate.

(4) The moisture content of the vent gas shall be measured using Method 4 of part 60, appendix A-3.

(5) To determine vent gas concentrations, the owner or operator shall conduct a minimum of three test runs that are representative of normal conditions and average the resulting pollutant concentrations using the following procedures.

(i) Method 308 in Appendix A of this part; Method 320 in Appendix A of this part; Method 18 in appendix A-6 of part 60; ASTM D6420-99 (Reapproved 2004) (incorporated by reference in §63.14(b)(28) of subpart A of this part); or ASTM D6348-03 (incorporated by reference in §63.14(b)(54) of subpart A of this part) shall be used to determine the methanol concentration. If ASTM D6348-03 is used, the conditions specified in paragraphs (b)(5)(i)(A) though (b)(5)(i)(B) must be met.

(A) The test plan preparation and implementation in the Annexes to ASTM D6348-03, sections A1 through A8 are required.

(B) In ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent (%) R must be determined for each target analyte (Equation A5.5 of ASTM D6348-03). In order for the test data to be acceptable for a compound, %R must be between 70 and 130 percent. If the %R value does not meet this criterion for a target compound, the test data is not acceptable for that compound and the test must be repeated for that analyte following adjustment of the sampling or analytical procedure before the retest. The %R value for each compound must be reported in the test report, and all field measurements must be corrected with the calculated %R value for that compound using the following equation: Reported Result = Measured Concentration in the Stack × 100)/%R.

(ii) Except for the modifications specified in paragraphs (b)(5)(ii)(A) through (b)(5)(ii)(K) of this section, Method 26A of part 60, appendix A-8 shall be used to determine chlorine concentration in the vent stream.

(A) *Probe/sampling line.* A separate probe is not required. The sampling line shall be an appropriate length of 0.64 cm (0.25 in) OD Teflon® tubing. The sample inlet end of the sampling line shall be inserted into the stack in such a way as to not entrain liquid condensation from the vent gases. The other end shall be connected to the impingers. The length of the tubing may vary from one sampling site to another, but shall be as short as possible in each situation. If sampling is conducted in sunlight, opaque tubing shall be used. Alternatively, if transparent tubing is used, it shall be covered with opaque tape.

(B) *Impinger train.* Three 30 milliliter (ml) capacity midget impingers shall be connected in series to the sampling line. The impingers shall have regular tapered stems. Silica gel shall be placed in the third impinger as a desiccant. All impinger train connectors shall be glass and/or Teflon®.

(C) *Critical orifice.* The critical orifice shall have a flow rate of 200 to 250 ml/min and shall be followed by a vacuum pump capable of providing a vacuum of 640 millimeters of mercury (mm Hg). A 45 millimeter diameter in-line Teflon 0.8 micrometer filter shall follow the impingers to protect the critical orifice and vacuum pump.

(D) The following are necessary for the analysis apparatus:

(*1*) Wash bottle filled with deionized water;

(*2*) 25 or 50 ml graduated burette and stand;

(*3*) Magnetic stirring apparatus and stir bar;

(*4*) Calibrated pH Meter;

(*5*) 150-250 ml beaker or flask; and

(*6*) A 5 ml pipette.

(E) The procedures listed in paragraphs (b)(5)(ii)(E)(*1*) through (b)(5)(ii)(E)(*7*) of this section shall be used to prepare the reagents.

(*1*) To prepare the 1 molarity (M) potassium dihydrogen phosphate solution, dissolve 13.61 grams (g) of potassium dihydrogen phosphate in water and dilute to 100 ml.

(*2*) To prepare the 1 M sodium hydroxide solution (NaOH), dissolve 4.0 g of sodium hydroxide in water and dilute to 100 ml.

(*3*) To prepare the buffered 2 percent potassium iodide solution, dissolve 20 g of potassium iodide in 900 ml water. Add 50 ml of the 1 M potassium dihydrogen phosphate solution and 30 ml of the 1 M sodium hydroxide solution. While stirring solution, measure the pH of solution electrometrically and add the 1 M sodium hydroxide solution to bring pH to between 6.95 and 7.05.

(*4*) To prepare the 0.1 normality (N) sodium thiosulfate solution, dissolve 25 g of sodium thiosulfate, pentahydrate, in 800 ml of freshly boiled and cooled distilled water in a 1-liter volumetric flask. Dilute to volume. To prepare the 0.01 N sodium thiosulfate solution, add 10.0 ml standardized 0.1 N sodium thiosulfate solution to a 100 ml volumetric flask, and dilute to volume with water.

(*5*) To standardize the 0.1 N sodium thiosulfate solution, dissolve 3.249 g of anhydrous potassium bi-iodate, primary standard quality, or 3.567 g potassium iodate dried at 103 =/−2 degrees Centigrade for 1 hour, in distilled water and dilute to 1000 ml to yield a 0.1000 N solution. Store in a glass-stoppered bottle. To 80 ml distilled water, add, with constant stirring, 1 ml concentrated sulfuric acid, 10.00 ml 0.1000 N anhydrous potassium bi-iodate, and 1 g potassium iodide. Titrate immediately with 0.1 n sodium thiosulfate titrant until the yellow color of the liberated iodine is almost discharged. Add 1 ml starch indicator solution and continue titrating until the blue color disappears. The normality of the sodium thiosulfate solution is inversely proportional to the ml of sodium thiosulfate solution consumed:

$$\frac{\text{Normality of}}{\textit{Sodium Thiosulfate}} = \frac{1}{\text{ml Sodium Thiosulfate Consumed}}$$

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(*6*) To prepare the starch indicator solution, add a small amount of cold water to 5 g starch and grind in a mortar to obtain a thin paste. Pour paste into 1 L of boiling distilled water, stir, and let settle overnight. Use clear supernate for starch indicator solution.

(*7*) To prepare the 10 percent sulfuric acid solution, add 10 ml of concentrated sulfuric acid to 80 ml water in a 100 ml volumetric flask. Dilute to volume.

(F) The procedures specified in paragraphs (b)(5)(ii)(F)(*1*) through (b)(5)(ii)(F)(*5*) of this section shall be used to perform the sampling.

(*1*) *Preparation of collection train.* Measure 20 ml buffered potassium iodide solution into each of the first two impingers and connect probe, impingers, filter, critical orifice, and pump. The sampling line and the impingers shall be shielded from sunlight.

(*2*) *Leak and flow check procedure.* Plug sampling line inlet tip and turn on pump. If a flow of bubbles is visible in either of the liquid impingers, tighten fittings and adjust connections and impingers. A leakage rate not in excess of 2 percent of the sampling rate is acceptable. Carefully remove the plug from the end of the probe. Check the flow rate at the probe inlet with a bubble tube flow meter. The flow should be comparable or slightly less than the flow rate of the critical orifice with the impingers off-line. Record the flow and turn off the pump.

(*3*) *Sample collection.* Insert the sampling line into the stack and secure it with the tip slightly lower than the port height. Start the pump, recording the time. End the sampling after 60 minutes, or after yellow color is observed in the second in-line impinger. Record time and remove the tubing from the vent. Recheck flow rate at sampling line inlet and turn off pump. If the flow rate has changed significantly, redo sampling with fresh capture solution. A slight variation (less than 5 percent) in flow may be averaged. With the inlet end of the line elevated above the impingers, add about 5 ml water into the inlet tip to rinse the line into the first impinger.

(*4*) *Sample analysis.* Fill the burette with 0.01 N sodium thiosulfate solution to the zero mark. Combine the contents of the impingers in the beaker or flask. Stir the solution and titrate with thiosulfate until the solution is colorless. Record the volume of the first endpoint (TN, ml). Add 5 ml of the 10 percent sulfuric acid solution, and continue the titration until the contents of the flask are again colorless. Record the total volume of titrant required to go through the first and to the second endpoint (TA, ml). If the volume of neutral titer is less than 0.5 ml, repeat the testing for a longer period of time. It is important that sufficient lighting be present to clearly see the endpoints, which are determined when the solution turns from pale yellow to colorless. A lighted stirring plate and a white background are useful for this purpose.

(*5*) *Interferences.* Known interfering agents of this method are sulfur dioxide and hydrogen peroxide. Sulfur dioxide, which is used to reduce oxidant residuals in some bleaching systems, reduces formed iodine to iodide in the capture solution. It is therefore a negative interference for chlorine, and in some cases could result in erroneous negative chlorine concentrations. Any agent capable of reducing iodine to iodide could interfere in this manner. A chromium trioxide impregnated filter will capture sulfur dioxide and pass chlorine and chlorine dioxide. Hydrogen peroxide, which is commonly used as a bleaching agent in modern bleaching systems, reacts with iodide to form iodine and thus can cause a positive interference in the chlorine measurement. Due to the chemistry involved, the precision of the chlorine analysis will decrease as the ratio of chlorine dioxide to chlorine increases. Slightly negative calculated concentrations of chlorine may occur when sampling a vent gas with high concentrations of chlorine dioxide and very low concentrations of chlorine.

(G) The following calculation shall be performed to determine the corrected sampling flow rate:

$$S_C = S_U\left(\frac{BP - PW}{760}\right)\left(\frac{293}{273 + t}\right)$$

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Where:

S_C = Corrected (dry standard) sampling flow rate, liters per minute;

S_U = Uncorrected sampling flow rate, L/min;

BP=Barometric pressure at time of sampling;

PW=Saturated partial pressure of water vapor, mm Hg at temperature; and

t=Ambient temperature, °C.

(H) The following calculation shall be performed to determine the moles of chlorine in the sample:

$$Cl_2 Moles = 1/8000\left(5\,T_N - T_A\right) \times N_{Thio}$$

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Where:

T_N = Volume neutral titer, ml;

T_A = Volume acid titer (total), ml; and

N_{Thio} = Normality of sodium thiosulfate titrant.

(I) The following calculation shall be performed to determine the concentration of chlorine in the sample:

$$Cl_2 ppmv = \frac{3005\left(5\,T_N - T_A\right) \times N_{Thio}}{S_C \times t_S}$$

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Where:

S_C = Corrected (dry standard) sampling flow rate, liters per minute;

t_S = Time sampled, minutes;

T_N = Volume neutral titer, ml;

T_A = Volume acid titer (total), ml; and

N_{Thio} = Normality of sodium thiosulfate titrant.

(J) The following calculation shall be performed to determine the moles of chlorine dioxide in the sample:

$$C1O_2\,Moles = 1/4000\left(T_A - T_N\right) \times N_{Thio}$$

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Where:

T_A = Volume acid titer (total), ml;

T_N = Volume neutral titer, ml; and

N_{Thio} = Normality of sodium thiosulfate titrant.

(K) The following calculation shall be performed to determine the concentration of chlorine dioxide in the sample:

$$C1O_2\ ppmv = \frac{6010\left(T_A - T_N\right) \times N_{Thio}}{S_C \times t_S}$$

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Where:

S_C = Corrected (dry standard) sampling flow rate, liters per minute;

t_S = Time sampled, minutes;

T_A = Volume acid titer (total), ml;

T_N = Volume neutral titer, ml; and

N_{Thio} = Normality of sodium thiosulfate titrant.

(iii) Any other method that measures the total HAP or methanol concentration that has been demonstrated to the Administrator's satisfaction.

(6) The minimum sampling time for each of the three test runs shall be 1 hour in which either an integrated sample or four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time, such as 15 minute intervals during the test run.

(c) *Liquid sampling locations and properties.* For purposes of selecting liquid sampling locations and for determining properties of liquid streams such as wastewaters, process waters, and condensates required in §§63.444, 63.446, and 63.447, the owner or operator shall comply with the following procedures:

(1) Samples shall be collected using the sampling procedures of the test method listed in paragraph (c)(3) of this section selected to determine liquid stream HAP concentrations;

(i) Where feasible, samples shall be taken from an enclosed pipe prior to the liquid stream being exposed to the atmosphere; and

(ii) When sampling from an enclosed pipe is not feasible, samples shall be collected in a manner to minimize exposure of the sample to the atmosphere and loss of HAP compounds prior to sampling.

(2) The volumetric flow rate of the entering and exiting liquid streams shall be determined using the inlet and outlet flow meters or other methods demonstrated to the Administrator's satisfaction. The volumetric flow rate measurements to determine actual mass removal shall be taken at the same time as the concentration measurements.

(3) The owner or operator shall conduct a minimum of three test runs that are representative of normal conditions and average the resulting pollutant concentrations. The minimum sampling time for each test run shall be 1 hour and the grab or composite samples shall be taken at approximately equally spaced intervals over the 1-hour test run period. The owner or operator shall use one of the following procedures to determine total HAP or methanol concentration:

(i) Method 305 in Appendix A of this part, adjusted using the following equation:

$$\overline{C} = \sum_{i=1}^{n} C_i / fm_i$$

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Where:

$\overline{C}$ = Pollutant concentration for the liquid stream, parts per million by weight.

C_i = Measured concentration of pollutant i in the liquid stream sample determined using Method 305, parts per million by weight.

fm_i = Pollutant-specific constant that adjusts concentration measured by Method 305 to actual liquid concentration; the fm for methanol is 0.85. Additional pollutant fm values can be found in table 34, subpart G of this part.

n=Number of individual pollutants, i, summed to calculate total HAP.

(ii) For determining methanol concentrations, NCASI Method DI/MEOH-94.03. This test method is incorporated by reference in §63.14(f)(1) of subpart A of this part.

(iii) Any other method that measures total HAP concentration that has been demonstrated to the Administrator's satisfaction.

(4) To determine soluble BOD_5 in the effluent stream from an open biological treatment unit used to comply with §§63.446(e)(2) and 63.453(j), the owner or operator shall use Method 405.1 of part 136 of this chapter with the following modifications:

(i) Filter the sample through the filter paper, into an Erlenmeyer flask by applying a vacuum to the flask sidearm. Minimize the time for which vacuum is applied to prevent stripping of volatile organics from the sample. Replace filter paper as often as needed in order to maintain filter times of less than approximately 30 seconds per filter paper. No rinsing of sample container or filter bowl into the Erlenmeyer flask is allowed.

(ii) Perform Method 405.1 on the filtrate obtained in paragraph (c)(4) of this section. Dilution water shall be seeded with 1 milliliter of final effluent per liter of dilution water. Dilution ratios may require adjustment to reflect the lower oxygen demand of the filtered sample in comparison to the total BOD_5. Three BOD bottles and different dilutions shall be used for each sample.

(5) If the test method used to determine HAP concentration indicates that a specific HAP is not detectable, the value determined as the minimum measurement level (MML) of the selected test method for the specific HAP shall be used in the compliance demonstration calculations. To determine the MML for a specific HAP using one of the test methods specified in paragraph (c)(3) of this section, one of the

procedures specified in paragraphs (c)(5)(i) and (ii) of this section shall be performed. The MML for a particular HAP must be determined only if the HAP is not detected in the normal working range of the method.

(i) To determine the MML for a specific HAP, the following procedures shall be performed each time the method is set up. Set up is defined as the first time the analytical apparatus is placed in operation, after any shut down of 6 months or more, or any time a major component of the analytical apparatus is replaced.

(A) Select a concentration value for the specific HAP in question to represent the MML. The value of the MML selected shall not be below the calibration standard of the selected test method.

(B) Measure the concentration of the specific HAP in a minimum of three replicate samples using the selected test method. All replicate samples shall be run through the entire analytical procedure. The samples must contain the specific HAP at the selected MML concentration and should be representative of the liquid streams to be analyzed in the compliance demonstration. Spiking of the liquid samples with a known concentration of the target HAP may be necessary to ensure that the HAP concentration in the three replicate samples is at the selected MML. The concentration of the HAP in the spiked sample must be within 50 percent of the proposed MML for the demonstration to be valid. As an alternative to spiking, a field sample above the MML may be diluted to produce a HAP concentration at the MML. To be a valid demonstration, the diluted sample must have a HAP concentration within 20 percent of the proposed MML, and the field sample must not be diluted by more than a factor of five.

(C) Calculate the relative standard deviation (RSD) and the upper confidence limit at the 95 percent confidence level using the measured HAP concentrations determined in paragraph (c)(5)(i)(B) of this section. If the upper confidence limit of the RSD is less than 30 percent, then the selected MML is acceptable. If the upper confidence limit of the RSD is greater than or equal to 30 percent, then the selected MML is too low, and the procedures specified in paragraphs (c)(5)(i)(A) through (C) of this section must be repeated.

(ii) Provide for the Administrator's approval the selected value of the MML for a specific HAP and the rationale for selecting the MML including all data and calculations used to determine the MML. The approved MML must be used in all applicable compliance demonstration calculations.

(6) When using the MML determined using the procedures in paragraph (c)(5)(ii) of this section or when using the MML determined using the procedures in paragraph (c)(5)(i), except during set up, the analytical laboratory conducting the analysis must perform and meet the following quality assurance procedures each time a set of samples is analyzed to determine compliance.

(i) Using the selected test method, analyze in triplicate the concentration of the specific HAP in a representative sample. The sample must contain the specific HAP at a concentration that is within a factor of two of the MML. If there are no samples in the set being analyzed that contain the specific HAP at an appropriate concentration, then a sample below the MML may be spiked to produce the appropriate concentration, or a sample at a higher level may be diluted. After spiking, the sample must contain the specific HAP within 50 percent of the MML. If dilution is used instead, the diluted sample must contain the specific HAP within 20 percent of the MML and must not be diluted by more than a factor of five.

(ii) Calculate the RSD using the measured HAP concentrations determined in paragraph (c)(6)(i) of this section. If the RSD is less than 20 percent, then the laboratory is performing acceptably.

(d) *Detectable leak procedures.* To measure detectable leaks for closed-vent systems as specified in §63.450 or for pulping process wastewater collection systems as specified in §63.446(d)(2)(i), the owner or operator shall comply with the following:

(1) Method 21, of part 60, appendix A-7; and

(2) The instrument specified in Method 21 shall be calibrated before use according to the procedures specified in Method 21 on each day that leak checks are performed. The following calibration gases shall be used:

(i) Zero air (less than 10 parts per million by volume of hydrocarbon in air); and

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 parts per million by volume methane or n-hexane.

(e) *Negative pressure procedures.* To demonstrate negative pressure at process equipment enclosure openings as specified in §63.450(b), the owner or operator shall use one of the following procedures:

(1) An anemometer to demonstrate flow into the enclosure opening;

(2) Measure the static pressure across the opening;

(3) Smoke tubes to demonstrate flow into the enclosure opening; or

(4) Any other industrial ventilation test method demonstrated to the Administrator's satisfaction.

(f) *HAP concentration measurements.* For purposes of complying with the requirements in §§63.443, 63.444, and 63.447, the owner or operator shall measure the total HAP concentration as one of the following:

(1) As the sum of all individual HAPs; or

(2) As methanol.

(g) *Condensate HAP concentration measurement.* For purposes of complying with the kraft pulping condensate requirements in §63.446, the owner or operator shall measure the total HAP concentration as methanol. For biological treatment systems complying with §63.446(e)(2), the owner or operator shall measure total HAP as acetaldehyde, methanol, methyl ethyl ketone, and propionaldehyde and follow the procedures in §63.457(l)(1) or (2).

(h) *Bleaching HAP concentration measurement.* For purposes of complying with the bleaching system requirements in §63.445, the owner or operator shall measure the total HAP concentration as the sum of all individual chlorinated HAPs or as chlorine.

(i) *Vent gas stream calculations.* To demonstrate compliance with the mass emission rate, mass emission rate per megagram of ODP, and percent reduction requirements for vent gas streams specified in §§63.443, 63.444, 63.445, and 63.447, the owner or operator shall use the following:

(1) The total HAP mass emission rate shall be calculated using the following equation:

$$E = K_2 \left[\sum_{j=1}^{n} C_j M_j \right] Q_s$$

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Where:

E=Mass emission rate of total HAP from the sampled vent, kilograms per hour.

K_2 = Constant, 2.494×10^{-6} (parts per million by volume)$^{-1}$ (gram-mole per standard cubic meter) (kilogram/gram) (minutes/hour), where standard temperature for (gram-mole per standard cubic meter) is 20 °C.

C_j = Concentration on a dry basis of pollutant j in parts per million by volume as measured by the test methods specified in paragraph (b) of this section.

M_j = Molecular weight of pollutant j, gram/gram-mole.

Q_s = Vent gas stream flow rate (dry standard cubic meter per minute) at a temperature of 20 °C as indicated in paragraph (b) of this section.

n=Number of individual pollutants, i, summed to calculate total HAP.

(2) The total HAP mass emission rate per megagram of ODP shall be calculated using the following equation:

$$F = \frac{E}{P}$$

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Where:

F=Mass emission rate of total HAP from the sampled vent, in kilograms per megagram of ODP.

E=Mass emission rate of total HAP from the sampled vent, in kilograms per hour determined as specified in paragraph (i)(1) of this section.

P=The production rate of pulp during the sampling period, in megagrams of ODP per hour.

(3) The total HAP percent reduction shall be calculated using the following equation:

$$R = \frac{E_i - E_o}{E_i} (100)$$

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Where:

R=Efficiency of control device, percent.

Ei=Inlet mass emission rate of total HAP from the sampled vent, in kilograms of pollutant per hour, determined as specified in paragraph (i)(1) of this section.

E_o = Outlet mass emission rate of total HAP from the sampled vent, in kilograms of pollutant per hour, determined as specified in paragraph (i)(1) of this section.

(j) *Liquid stream calculations.* To demonstrate compliance with the mass flow rate, mass per megagram of ODP, and percent reduction requirements for liquid streams specified in §63.446, the owner or operator shall use the following:

(1) The mass flow rates of total HAP or methanol entering and exiting the treatment process shall be calculated using the following equations:

$$E_b = \frac{K}{n\times10^6}\left(\sum_{i=1}^{n}V_{bi}C_{bi}\right)$$

$$E_a = \frac{K}{n\times10^6}\left(\sum_{i=1}^{n}V_{ai}C_{ai}\right)$$

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Where:

E_b = Mass flow rate of total HAP or methanol in the liquid stream entering the treatment process, kilograms per hour.

E_a = Mass flow rate of total HAP or methanol in the liquid exiting the treatment process, kilograms per hour.

K=Density of the liquid stream, kilograms per cubic meter.

V_{bi} = Volumetric flow rate of liquid stream entering the treatment process during each run i, cubic meters per hour, determined as specified in paragraph (c) of this section.

V_{ai} = Volumetric flow rate of liquid stream exiting the treatment process during each run i, cubic meters per hour, determined as specified in paragraph (c) of this section.

C_{bi} = Concentration of total HAP or methanol in the stream entering the treatment process during each run i, parts per million by weight, determined as specified in paragraph (c) of this section.

C_{ai} = Concentration of total HAP or methanol in the stream exiting the treatment process during each run i, parts per million by weight, determined as specified in paragraph (c) of this section.

n=Number of runs.

(2) The mass of total HAP or methanol per megagram ODP shall be calculated using the following equation:

$$F = \frac{E_a}{P}$$

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Where:

F=Mass loading of total HAP or methanol in the sample, in kilograms per megagram of ODP.

E_a = Mass flow rate of total HAP or methanol in the wastewater stream in kilograms per hour as determined using the procedures in paragraph (j)(1) of this section.

P=The production rate of pulp during the sampling period in megagrams of ODP per hour.

(3) The percent reduction of total HAP across the applicable treatment process shall be calculated using the following equation:

$$R = \frac{E_b - E_a}{E_b}\times100$$

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Where:

R=Control efficiency of the treatment process, percent.

E_b = Mass flow rate of total HAP in the stream entering the treatment process, kilograms per hour, as determined in paragraph (j)(1) of this section.

E_a = Mass flow rate of total HAP in the stream exiting the treatment process, kilograms per hour, as determined in paragraph (j)(1) of this section.

(4) Compounds that meet the requirements specified in paragraphs (j)(4)(i) or (4)(ii) of this section are not required to be included in the mass flow rate, mass per megagram of ODP, or the mass percent reduction determinations.

(i) Compounds with concentrations at the point of determination that are below 1 part per million by weight; or

(ii) Compounds with concentrations at the point of determination that are below the lower detection limit where the lower detection limit is greater than 1 part per million by weight.

(k) *Oxygen concentration correction procedures.* To demonstrate compliance with the total HAP concentration limit of 20 ppmv in §63.443(d)(2), the concentration measured using the methods specified in paragraph (b)(5) of this section shall be corrected to 10 percent oxygen using the following procedures:

(1) The emission rate correction factor and excess air integrated sampling and analysis procedures of Methods 3A or 3B of part 60,

appendix A-2 shall be used to determine the oxygen concentration. The samples shall be taken at the same time that the HAP samples are taken. As an alternative to Method 3B, ASME PTC 19.10-1981 [Part 10] may be used (incorporated by reference, see §63.14(i)(1)).

(2) The concentration corrected to 10 percent oxygen shall be computed using the following equation:

$$C_c = C_m \left(\frac{10.9}{20.9 - \%O_{2d}} \right)$$

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Where:

C_c = Concentration of total HAP corrected to 10 percent oxygen, dry basis, parts per million by volume.

C_m = Concentration of total HAP dry basis, parts per million by volume, as specified in paragraph (b) of this section.

$\%0_{2d}$ = Concentration of oxygen, dry basis, percent by volume.

(l) *Biological treatment system percent reduction and mass removal calculations.* To demonstrate compliance with the condensate treatment standards specified in §63.446(e)(2) and the monitoring requirements specified in §63.453(j)(3) using a biological treatment system, the owner or operator shall use one of the procedures specified in paragraphs (1)(1) and (2) of this section. Owners or operators using a nonthoroughly mixed open biological treatment system shall also comply with paragraph (1)(3) of this section.

(1) *Percent reduction methanol procedure.* For the purposes of complying with the condensate treatment requirements specified in §63.446(e)(2) and (3), the methanol percent reduction shall be calculated using the following equations:

$$R = \frac{f_{bio}(\mathrm{MeOH})}{(1 + 1.087(r))} * 100$$

$$r = \frac{F_{(nonmethanol)}}{F_{(methanol)}}$$

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Where:

R = Percent destruction.

f_{bio}(MeOH) = The fraction of methanol removed in the biological treatment system. The site-specific biorate constants shall be determined using the appropriate procedures specified in appendix C of this part.

r = Ratio of the sum of acetaldehyde, methyl ethyl ketone, and propionaldehyde mass to methanol mass.

$F_{(nonmethanol)}$ = The sum of acetaldehyde, methyl ethyl ketone, and propionaldehyde mass flow rates (kg/Mg ODP) entering the biological treatment system determined using the procedures in paragraph (j)(2) of this section.

$F_{(methanol)}$ = The mass flow rate (kg/Mg ODP) of methanol entering the system determined using the procedures in paragraph (j)(2) of this section.

(2) *Mass removal methanol procedure.* For the purposes of complying with the condensate treatment requirements specified in §63.446(e)(2) and (4), or §63.446(e)(2) and (5), the methanol mass removal shall be calculated using the following equation:

$$F = F_b * \left(f_{bio}(MeOH) / (1 + 1.087(r)) \right)$$

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Where:

F = Methanol mass removal (kg/Mg ODP).

F_b = Inlet mass flow rate of methanol (kg/Mg ODP) determined using the procedures in paragraph (j)(2) of this section.

f_{bio}(MeOH) = The fraction of methanol removed in the biological treatment system. The site-specific biorate constants shall be determined using the appropriate procedures specified in appendix C of this part.

r = Ratio of the sum of acetaldehyde, methyl ethyl ketone, and propionaldehyde mass to methanol mass determined using the procedures in paragraph (1) of this section.

(3) The owner or operator of a nonthoroughly mixed open biological treatment system using the monitoring requirements specified in §63.453(p)(3) shall follow the procedures specified in section III.B.1 of appendix E of this part to determine the borate constant, Ks, and characterize the open biological treatment system during the initial and any subsequent performance tests.

(m) *Condensate segregation procedures.* The following procedures shall be used to demonstrate compliance with the condensate segregation requirements specified in §63.446(c).

(1) To demonstrate compliance with the percent mass requirements specified in §63.446(c)(2), the procedures specified in paragraphs (m)(1)(i) through (iii) of this section shall be performed.

(i) Determine the total HAP mass of all condensates from each equipment system listed in §63.446 (b)(1) through (b)(3) using the procedures specified in paragraphs (c) and (j) of this section.

(ii) Multiply the total HAP mass determined in paragraph (m)(1)(i) of this section by 0.65 to determine the target HAP mass for the high-HAP fraction condensate stream or streams.

(iii) Compliance with the segregation requirements specified in §63.446(c)(2) is demonstrated if the condensate stream or streams from each equipment system listed in §63.446(b)(1) through (3) being treated as specified in §63.446(e) contain at least as much total HAP mass as the target total HAP mass determined in paragraph (m)(1)(ii) of this section.

(2) To demonstrate compliance with the percent mass requirements specified in §63.446(c)(3), the procedures specified in paragraphs (m)(2)(i) through (ii) of this section shall be performed.

(i) Determine the total HAP mass contained in the high-HAP fraction condensates from each equipment system listed in §63.446(b)(1) through (b)(3) and the total condensates streams from the equipment systems listed in §63.446(b)(4) and (b)(5), using the procedures specified in paragraphs (c) and (j) of this section.

(ii) Compliance with the segregation requirements specified in §63.446(c)(3) is demonstrated if the total HAP mass determined in paragraph (m)(2)(i) of this section is equal to or greater than the appropriate mass requirements specified in §63.446(c)(3).

(n) *Open biological treatment system monitoring sampling storage.* The inlet and outlet grab samples required to be collected in §63.453(j)(1)(ii) shall be stored at 4 °C (40 °F) to minimize the biodegradation of the organic compounds in the samples.

(o) Performance tests shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance of the affected source for the period being tested. Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17564, Apr. 12, 1999; 65 FR 80763, Dec. 22, 2000; 66 FR 24269, May 14, 2001; 77 FR 55712, Sept. 11, 2012]

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§63.458 Implementation and enforcement.

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if this subpart is delegated to a State, local, or Tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to the requirements in §§63.440, 63.443 through 63.447 and 63.450. Where these standards reference another subpart, the cited provisions will be delegated according to the delegation provisions of the referenced subpart.

(2) Approval of alternatives to using §§63.457(b)(5)(iii), 63.457(c)(3)(ii) through (iii), and 63.257(c)(5)(ii), and any major alternatives to test methods under §63.7(e)(2)(ii) and (f), as defined in §63.90, and as required in this subpart.

(3) Approval of alternatives using §64.453(m) and any major alternatives to monitoring under §63.8(f), as defined in §63.90, and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f), as defined in §63.90, and as required in this subpart.

[68 FR 37348, June 23, 2003]

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§63.459 Alternative standards.

(a) *Flint River Mill.* The owner or operator of the pulping system using the kraft process at the manufacturing facility, commonly called Weyerhaeuser Company Flint River Operations, at Old Stagecoach Road, Oglethorpe, Georgia, (hereafter the Site) shall comply with all provisions of this subpart, except as specified in paragraphs (a)(1) through (a)(5) of this section.

(1) The owner or operator of the pulping system is not required to control total HAP emissions from equipment systems specified in paragraphs (a)(1)(i) and (a)(1)(ii) if the owner or operator complies with paragraphs (a)(2) through (a)(5) of this section.

(i) The brownstock diffusion washer vent and first stage brownstock diffusion washer filtrate tank vent in the pulp washing system specified in §63.443(a)(1)(iii).

(ii) The oxygen delignification system specified in §63.443(a)(1)(v).

(2) The owner or operator of the pulping system shall control total HAP emissions from equipment systems listed in paragraphs (a)(2)(i) through (a)(2)(ix) of this section as specified in §63.443(c) and (d) of this subpart no later than April 16, 2002.

(i) The weak liquor storage tank;

(ii) The boilout tank;

(iii) The utility tank;

(iv) The fifty percent solids black liquor storage tank;

(v) The south sixty-seven percent solids black liquor storage tank;

(vi) The north sixty-seven percent solids black liquor storage tank;

(vii) The precipitator make down tanks numbers one, two and three;

(viii) The salt cake mix tank; and

(ix) The NaSH storage tank.

(3) The owner and operator of the pulping system shall operate the Isothermal Cooking system at the site while pulp is being produced in the continuous digester at any time after April 16, 2002.

(i) The owner or operator shall monitor the following parameters to demonstrate that isothermal cooking is in operation:

(A) Continuous digester dilution factor; and

(B) The difference between the continuous digester vapor zone temperature and the continuous digester extraction header temperature.

(ii) The isothermal cooking system shall be in operation when the continuous digester dilution factor and the temperature difference between the continuous digester vapor zone temperature and the continuous digester extraction header temperature are maintained as set forth in Table 2:

Table 2 to Subpart S—Isothermal Cooking System Operational Values

Parameter	Instrument number	Limit	Units
Digester Dilution Factor	K1DILFAC	>0.0	None
Difference in Digester Vapor Zone Temperature and Digester	03TI0311	<10	Degrees F.
Extraction Header Temperature	03TI0329		

(iii) The owner or operator shall certify annually the operational status of the isothermal cooking system.

(4) [Reserved]

(5) *Definitions.* All descriptions and references to equipment and emission unit ID numbers refer to equipment at the Site. All terms used in this paragraph shall have the meaning given them in this part and this paragraph. For the purposes of this paragraph only the following additional definitions apply:

Boilout tank means the tank that provides tank storage capacity for recovery of black liquor spills and evaporator water washes for return to the evaporators (emission unit ID No. U606);

Brownstock diffusion washer means the equipment used to wash pulp from the surge chests to further reduce lignin carryover in the pulp;

Continuous digester means the digester system used to chemically and thermally remove the lignin binding the wood chips to produce individual pulp fibers (emission unit ID No. P300);

Fifty percent solids black liquor storage tank means the tank used to store intermediate black liquor prior to final evaporation in the 1A, 1B, and 1C Concentrators (emission unit ID No. U605);

First stage brownstock diffusion washer means the equipment that receives and stores filtrate from the first stage of washing for return to the pressure diffusion washer;

Isothermal cooking system means the 1995-1996 modernization of brownstock pulping process including conversion of the Kamyr continuous vapor phase digester to an extended delignification unit and changes in the knotting, screening, and oxygen stage systems:

NaSH storage tank means the tank used to store sodium hydrosulfite solution prior to use as make-up to the liquor system

North sixty-seven percent solids black liquor storage tank means one of two tanks used to store black liquor prior to burning in the Recovery Boiler for chemical recovery (emission unit ID No. U501);

Precipitator make down tank numbers one, two and three mean tanks used to mix collected particulate from electrostatic precipitator chamber number one with 67% black liquor for recycle to chemical recovery in the Recovery Boiler (emission unit ID Nos. U504, U505 and U506);

Salt cake mix tank means the tank used to mix collected particulate from economizer hoppers with black liquor for recycle to chemical recovery in the Recovery Boiler (emission unit ID No. U503);

South sixty-seven percent solids black liquor storage tank means one of two tanks used to store black liquor prior to burning in the Recovery Boiler for chemical recovery (emission unit ID No. U502);

Utility tank means the tank used to store fifty percent liquor and, during black liquor tank inspections and repairs, to serve as a backup liquor storage tank (emission unit ID No. U611);

Weak gas system means high volume, low concentration or HVLC system as defined in §63.441; and

Weak liquor storage tank means the tank that provide surge capacity for weak black liquor from digesting prior to feed to multiple effect evaporators (emission unit ID No. U610).

(b) *Tomahawk Wisconsin Mill*—(1) *Applicability.* (i) The provisions of this paragraph (b) apply to the owner or operator of the stand-alone semi-chemical pulp and paper mill located at N9090 County Road E in Tomahawk, Wisconsin, referred to as the Tomahawk Mill.

(ii) The owner or operator is not required to comply with the provisions of this paragraph (b) if the owner and operator chooses to comply with the otherwise applicable sections of this subpart and provides the EPA with notice.

(iii) If the owner or operator chooses to comply with the provisions of this paragraph (b) the owner or operator shall comply with all applicable provisions of this part, including this subpart, except the following:

(A) Section 63.443(b);

(B) Section 63.443(c); and

(C) Section 63.443(d).

(2) *Collection and routing of HAP emissions*. (i) The owner or operator shall collect the total HAP emissions from each LVHC system.

(ii) Each LVHC system shall be enclosed and the HAP emissions shall be vented into a closed-vent system. The enclosures and closed-vent system shall meet requirements specified in paragraph (b)(6) of this section.

(iii) The HAP emissions shall be routed as follows:

(A) The HAP emissions collected in the closed-vent system from the digester system shall be routed through the primary indirect contact condenser, secondary indirect contact condenser, and evaporator indirect contact condenser; and

(B) The HAP emissions collected in the closed-vent system from the evaporator system and foul condensate standpipe shall be routed through the evaporator indirect contact condenser.

(3) *Collection and routing of pulping process condensates.* (i) The owner or operator shall collect the pulping process condensates from the following equipment systems:

(A) Primary indirect contact condenser;

(B) Secondary indirect contact condenser; and

(C) Evaporator indirect contact condenser.

(ii) The collected pulping process condensates shall be conveyed in a closed collection system that is designed and operated to meet the requirements specified in paragraph (b)(7) of this section.

(iii) The collected pulping process condensates shall be routed in the closed collection system to the wastewater treatment plant anaerobic basins for biodegradation.

(iv) The pulping process condensates shall be discharged into the wastewater treatment plant anaerobic basins below the liquid surface of the wastewater treatment plant anaerobic basins.

(4) *HAP destruction efficiency requirements of the wastewater treatment plant.* (i) The owner or operator shall achieve a destruction efficiency of at least one pound of HAPs per ton of ODP by biodegradation in the wastewater treatment plant.

(ii) The following calculation shall be performed to determine the HAP destruction efficiency by biodegradation in the wastewater treatment plant:

$$HAP_d = \frac{\left[\left(RME_{fr} \times RME_c\right) + \left(PPC_{fr} \times PPC_c\right) - \left(ABD_{fr} \times ABD_c\right)\right] \times 8.34}{ODP_r}$$

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Where:

HAP_d = HAP destruction efficiency of wastewater treatment plant (pounds of HAPs per ton of ODP);

RME_{fr} = flow rate of raw mill effluent (millions of gallons per day);

RME_c = HAP concentration of raw mill effluent (milligrams per liter);

PPC_{fr} = flow rate of pulping process condensates (millions of gallons per day);

PPC_c = HAP concentration of pulping process condensates (milligrams per liter);

ABD_{fr} = flow rate of anaerobic basin discharge (millions of gallons per day);

ABD_c = HAP concentration of anaerobic basin discharge (milligrams per liter); and

ODP_r = rate of production of oven dried pulp (tons per day).

(5) *Monitoring requirements and parameter ranges.* (i) The owner or operator shall install, calibrate, operate, and maintain according to the manufacturer's specifications a continuous monitoring system (CMS, as defined in §63.2), using a continuous recorder, to monitor the following parameters:

(A) Evaporator indirect contact condenser vent temperature;

(B) Pulping process condensates flow rate;

(C) Wastewater treatment plant effluent flow rate; and

(D) Production rate of ODP.

(ii) The owner or operator shall additionally monitor, on a daily basis, in each of the four anaerobic basins, the ratio of volatile acid to alkalinity (VA/A ratio). The owner or operator shall use the test methods identified for determining acidity and alkalinity as specified in 40 CFR 136.3, Table 1B.

(iii) The temperature of the evaporator indirect contact condenser vent shall be maintained at or below 140 °F on a continuous basis.

(iv) The VA/A ratio in each of the four anaerobic basins shall be maintained at or below 0.5 on a continuous basis.

(A) The owner or operator shall measure the methanol concentration of the outfall of any basin, using NCASI Method DI/MEOH 94.03 (incorporated by reference, see §63.14), when the VA/A ratio of that basin exceeds the following:

(*1*) 0.38, or

(*2*) The highest VA/A ratio at which the outfall of any basin has previously measured non-detect for methanol, using NCASI Method DI/MEOH 94.03 (incorporated by reference, see §63.14).

(B) If the outfall of that basin measures detect for methanol, the owner or operator shall verify compliance with the emission standard specified in paragraph (b)(4) of this section by conducting a performance test pursuant to the requirements specified in paragraph (b)(8) of this section.

(v) The owner or operator may seek to establish or reestablish the parameter ranges, and/or the parameters required to be monitored as provided in paragraphs (b)(5)(i) through (v) of this section, by following the provisions of §63.453(n)(1) through (4).

(6) *Standards and monitoring requirements for each enclosure and closed-vent system.* (i) The owner or operator shall comply with the design and operational requirements specified in paragraphs (b)(6)(ii) through (iv) of this section, and the monitoring requirements of paragraphs (b)(6)(v) through (x) of this section for each enclosure and closed-vent system used for collecting and routing of HAP emissions as specified in paragraph (b)(2) of this section.

(ii) Each enclosure shall be maintained at negative pressure at each enclosure or hood opening as demonstrated by the procedures specified in §63.457(e). Each enclosure or hood opening closed during the initial performance test shall be maintained in the same closed and sealed position as during the performance test at all times except when necessary to use the opening for sampling, inspection, maintenance, or repairs.

(iii) Each component of the closed-vent system that is operated at positive pressure shall be designed for and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million by volume above background, as measured by the procedures specified in §63.457(d).

(iv) Each bypass line in the closed-vent system that could divert vent streams containing HAPs to the atmosphere without meeting the routing requirements specified in paragraph (b)(2) of this section shall comply with either of the following requirements:

(A) On each bypass line, the owner or operator shall install, calibrate, maintain, and operate according to the manufacturer's specifications a flow indicator that provides a record of the presence of gas stream flow in the bypass line at least once every 15 minutes. The flow indicator shall be installed in the bypass line in such a way as to indicate flow in the bypass line; or

(B) For bypass line valves that are not computer controlled, the owner or operator shall maintain the bypass line valve in the closed position with a car seal or seal placed on the valve or closure mechanism in such a way that the valve or closure mechanism cannot be opened without breaking the seal.

(v) For each enclosure opening, the owner or operator shall perform, at least once every 30 days, a visual inspection of the closure mechanism specified in paragraph (b)(6)(ii) of this section to ensure the opening is maintained in the closed position and sealed.

(vi) For each closed-vent system required by paragraph (b)(2) of this section, the owner or operator shall perform a visual inspection every 30 days and at other times as requested by the Administrator. The visual inspection shall include inspection of ductwork, piping, enclosures, and connections to covers for visible evidence of defects.

(vii) For positive pressure closed-vent systems, or portions of closed-vent systems, the owner or operator shall demonstrate no detectable leaks as specified in paragraph (b)(6)(iii) of this section, measured initially and annually by the procedures in §63.457(d).

(viii) For each enclosure that is maintained at negative pressure, the owner or operator shall demonstrate initially and annually that it is maintained at negative pressure as specified in §63.457(e).

(ix) For each valve or closure mechanism as specified in paragraph (b)(6)(iv)(B) of this section, the owner or operator shall perform an inspection at least once every 30 days to ensure that the valve is maintained in the closed position and the emissions point gas stream is not diverted through the bypass line.

(x) If an inspection required by paragraph (b)(6) of this section identifies visible defects in ductwork, piping, enclosures, or connections to covers required by paragraph (b)(6) of this section, or if an instrument reading of 500 parts per million by volume or greater above background is measured, or if the enclosure openings are not maintained at negative pressure, then the following corrective actions shall be taken as soon as follows:

(A) A first effort to repair or correct the closed-vent system shall be made as soon as practicable but no later than 5 calendar days after the problem is identified.

(B) The repair or corrective action shall be completed no later than 15 calendar days after the problem is identified.

(7) *Standards and monitoring requirements for the pulping process condensates closed collection system.* (i) The owner or operator shall comply with the design and operational requirements specified in paragraphs (b)(7)(ii) through (iii) of this section, and monitoring requirements of paragraph (b)(7)(iv) for the equipment systems in paragraph (b)(3) of this section used to route the pulping process condensates in a closed collection system.

(ii) Each closed collection system shall meet the individual drain system requirements specified in §§63.960, 63.961, and 63.962, except that the closed vent systems shall be designed and operated in accordance with paragraph (b)(6) of this section, instead of in accordance with §63.693 as specified in §63.692(a)(3)(ii), (b)(3)(ii)(A), and (b)(3)(ii)(B)(5)(iii); and

(iii) If a condensate tank is used in the closed collection system, the tank shall meet the following requirements:

(A) The fixed roof and all openings (e.g., access hatches, sampling ports, gauge wells) shall be designed and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million above background, and vented into a closed-vent system that meets the requirements of paragraph (b)(6) of this section and routed in accordance with paragraph (b)(2) of this section; and

(B) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that the tank contains pulping process condensates or any HAPs removed from a pulping process condensate stream except when it is necessary to use the opening for sampling, removal, or for equipment inspection, maintenance, or repair.

(iv) For each pulping process condensate closed collection system used to comply with paragraph (b)(3) of this section, the owner or operator shall perform a visual inspection every 30 days and shall comply with the inspection and monitoring requirements specified in §63.964 except for the closed-vent system and control device inspection and monitoring requirements specified in §63.964(a)(2).

(8) *Quarterly performance testing.* (i) The owner or operator shall, within 45 days after the beginning of each quarter, conduct a performance test.

(ii) The owner or operator shall use NCASI Method DI/HAPS-99.01 (incorporated by reference, see §63.14) to collect a grab sample and determine the HAP concentration of the Raw Mill Effluent, Pulping Process Condensates, and Anaerobic Basin Discharge for the quarterly performance test conducted during the first quarter each year.

(iii) For each of the remaining three quarters, the owner or operator may use NCASI Method DI/MEOH 94.03 (incorporated by reference, see §63.14) as a surrogate to collect and determine the HAP concentration of the Raw Mill Effluent, Pulping Process Condensates, and Anaerobic Basin Discharge.

(iv) The sample used to determine the HAP or Methanol concentration in the Raw Mill Effluent, Pulping Process Condensates, or Anaerobic Basin Discharge shall be a composite of four grab samples taken evenly spaced over an eight hour time period.

(v) The Raw Mill Effluent grab samples shall be taken from the raw mill effluent composite sampler.

(vi) The Pulping Process Condensates grab samples shall be taken from a line tap on the closed condensate collection system prior to discharge into the wastewater treatment plant.

(vii) The Anaerobic Basic Discharge grab samples shall be taken subsequent to the confluence of the four anaerobic basin discharges.

(viii) The flow rate of the Raw Mill Effluent, Pulping Process Condensates, and Anaerobic Basin Discharge, and the production rate of ODP shall be averaged over eight hours.

(ix) The data collected as specified in paragraphs (b)(5) and (b)(8) of this section shall be used to determine the HAP destruction efficiency of the wastewater treatment plant as specified in paragraph (b)(4)(ii) of this section.

(x) The HAP destruction efficiency shall be at least as great as that specified by paragraph (b)(4)(i) of this section.

(9) *Recordkeeping requirements.* (i) The owner or operator shall comply with the recordkeeping requirements as specified in Table 1 of subpart S of part 63 as it pertains to §63.10.

(ii) The owner or operator shall comply with the recordkeeping requirements as specified in §63.454(b).

(iii) The owner or operator shall comply with the recordkeeping requirements as specified in §63.453(d).

(10) *Reporting requirements.* (i) Each owner or operator shall comply with the reporting requirements as specified in Table 1 of §63.10.

(ii) Each owner or operator shall comply with the reporting requirements as specified in §63.455(d).

(11) *Violations.* (i) Failure to comply with any applicable provision of this part shall constitute a violation.

(ii) Periods of excess emissions shall not constitute a violation provided the time of excess emissions divided by the total process operating time in a semi-annual reporting period does not exceed one percent. All periods of excess emission shall be reported, and shall include:

(iii) Notwithstanding paragraph (b)(11)(ii) of this section, any excess emissions that present an imminent threat to public health or the environment, or may cause serious harm to public health or the environment, shall constitute a violation.

[66 FR 34124, June 27, 2001, as amended at 66 FR 52538, Oct. 16, 2001; 69 FR 19740, Apr. 13, 2004; 77 FR 55713, Sept. 11, 2012]

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Table 1 to Subpart S of Part 63—General Provisions Applicability to Subpart S[a]

Reference	Applies to subpart S	Comment
63.1(a)(1)-(3)	Yes	
63.1(a)(4)	Yes	Subpart S (this table) specifies applicability of each paragraph in subpart A to subpart S.
63.1(a)(5)	No	Section reserved.
63.1(a)(6)	Yes	
63.1(a)(7)-(9)	No	Sections reserved.
63.1(a)(10)	No	Subpart S and other cross-referenced subparts specify calendar or operating day.
63.1(a)(11)-(12)	Yes	
63.1(b)(1)	No	Subpart S specifies its own applicability.
63.1(b)(2)	No	Section reserved.
63.1(b)(3)	Yes	
63.1(c)(1)-(2)	Yes	
63.1(c)(3)-(4)	No	Sections reserved.
63.1(c)(5)	Yes	
63.1(d)	No	Section reserved.
63.1(e)	Yes	
63.2	Yes	
63.3	Yes	
63.4(a)(1)-(2)	Yes	
63.4(a)(3)-(5)	No	Sections reserved.
63.4(b)	Yes	

63.4(c)	Yes	
63.5(a)	Yes	
63.5(b)(1)	Yes	
63.5(b)(2)	No	Section reserved.
63.5(b)(3)-(4)	Yes	
63.5(b)(5)	No	Section reserved.
63.5(b)(6)	Yes	
63.5(c)	No	Section reserved.
63.5(d)	Yes	
63.5(e)	Yes	
63.5(f)	Yes	
63.6(a)	Yes	
63.6(b)(1)-(5)	No	Subpart S specifies compliance dates for sources subject to subpart S.
63.6(b)(6)	No	Section reserved.
63.6(b)(7)	No	Subpart S specifies compliance dates for sources subject to subpart S.
63.6(c)(1)-(2)	No	Subpart S specifies compliance dates for sources subject to subpart S.
63.6(c)(3)-(4)	No	Sections reserved.
63.6(c)(5)	No	Subpart S specifies compliance dates for sources subject to subpart S.
63.6(d)	No	Section reserved.
63.6(e)(1)(i)	No	See §63.453(q) for general duty requirement.
63.6(e)(1)(ii)	No	
63.6(e)(1)(iii)	Yes	
63.6(e)(2)	No	Section reserved.
63.6(e)(3)	No	
63.6(f)(1)	No	
63.6(f)(2)-(3)	Yes	
63.6(g)	Yes	
63.6(h)(1)-(2)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.6(h)(3)	No	Section reserved.
63.6(h)(4)-(9)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.6(i)(1)-(14)	Yes	
63.6(i)(15)	No	Section reserved.
63.6(i)(16)	Yes	
63.6(j)	Yes	
63.7(a)	Yes	
63.7(b)	Yes	
63.7(c)	Yes	
63.7(d)	Yes	
63.7(e)(1)	No	Replaced with §63.457(o), which specifies performance testing conditions under subpart S.
63.7(e)(2)-(4)	Yes	
63.7(f)	Yes	
63.7(g)(1)	Yes	
63.7(g)(2)	No	Section reserved.
63.7(g)(3)	Yes	
63.7(h)	Yes	
63.8(a)(1)-(2)	Yes	
63.8(a)(3)	No	Section reserved.
63.8(a)(4)	Yes	
63.8(b)(1)	Yes	
63.8(b)(2)	No	Subpart S specifies locations to conduct monitoring.
63.8(b)(3)	Yes	
63.8(c)(1)-(c)(1)(i)	No	See §63.453(q) for general duty requirement (which includes monitoring equipment).
63.8(c)(1)(ii)	Yes	
63.8(c)(1)(iii)	No	
63.8(c)(2)-(3)	Yes	
63.8(c)(4)	No	Subpart S allows site specific determination of monitoring frequency in §63.453(n)(4).

63.8(c)(5)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.8(c)(6)-(8)	Yes	
63.8(d)(1)-(2)	Yes	
63.8(d)(3)	Yes, except for last sentence, which refers to an SSM plan	SSM plans are not required
63.8(e)	Yes	
63.8(f)(1)-(5)	Yes	
63.8(f)(6)	No	Subpart S does not specify relative accuracy test for CEMs.
63.8(g)	Yes	
63.9(a)	Yes	
63.9(b)(1)-(2)	Yes	Initial notifications must be submitted within one year after the source becomes subject to the relevant standard.
63.9(b)(3)	No	Section reserved.
63.9(b)(4)-(5)	Yes	
63.9(c)	Yes	
63.9(d)	No	Special compliance requirements are only applicable to kraft mills.
63.9(e)	Yes	
63.9(f)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.9(g)(1)	Yes	
63.9(g)(2)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.9(g)(3)	No	Subpart S does not specify relative accuracy tests, therefore no notification is required for an alternative.
63.9(h)(1)-(3)	Yes	
63.9(h)(4)	No	Section reserved.
63.9(h)(5)-(6)	Yes	
63.9(i)	Yes	
63.9(j)	Yes	
63.10(a)	Yes	
63.10(b)(1)	Yes	
63.10(b)(2)(i)	No	
63.10(b)(2)(ii)	No	See §63.454(g) for recordkeeping of (1) occurrence and duration and (2) actions taken during malfunction.
63.10(b)(2)(iii)	Yes	
63.10(b)(2)(iv)-(v)	No	
63.10(b)(2)(vi)-(xiv)	Yes	
63.10(b)(3)	Yes	
63.10(c)(1)	Yes	
63.10(c)(2)-(4)	No	Sections reserved.
63.10(c)(5)-(8)	Yes	
63.10(c)(9)	No	Section reserved.
63.10(c)(10)-(11)	No	See §63.454(g) for malfunction recordkeeping requirements.
63.10(c)(12)-(14)	Yes	
63.10(c)(15)	No	
63.10(d)(1)-(2)	Yes	
63.10(d)(3)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.10(d)(4)	Yes	
63.10(d)(5)	No	See §63.455(g) for malfunction reporting requirements.
63.10(e)(1)	Yes	
63.10(e)(2)(i)	Yes	
63.10(e)(2)(ii)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.10(e)(3)	Yes	
63.10(e)(4)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.10(f)	Yes	

63.11-63.15	Yes	

[a]Wherever subpart A specifies "postmark" dates, submittals may be sent by methods other than the U.S. Mail (e.g., by fax or courier). Submittals shall be sent by the specified dates, but a postmark is not required.

[77 FR 55713, Sept. 11, 2012]

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