

# CONFINED SPACE ENTRY PROCEDURE

To help insure the safety of individuals entering areas which meet the criteria outlined by OSHA as a confined space, detailed precautions are outlined in this procedure which address hazard identification and control activities necessary prior to entry into the confined space, measures to insure the ongoing safety of entrants while work is being performed within the confined space, and steps to terminate the entry as work within the confined space is concluded. Completing and posting a confined space entry permit serves as a checklist for these activities and provides entrants, and those individuals monitoring the safety of the confined space, with information regarding potential hazards and appropriate safeguards.

## 1.0 Purpose

This Confined Space Entry Procedure will assure that proper precautions are taken when company employees or contractor personnel must enter a confined space for activities including inspecting, cleaning, testing and repairing. By following this procedure, hazards such as oxygen deficiency, hazardous gases and other materials, material engulfment, power-driven equipment, electrical shock, and difficulty in escaping will be eliminated or properly controlled.

## 2.0 Scope

2.1 This procedure is applicable to International Paper, Franklin Mill departments. International Paper employees and employees of contractors, visitors, and contracted employees performing work at this location must follow this procedure.

2.2 It presents minimum requirements that must be met or exceeded by all departments, contractors, visitors, and contracted employees.

2.3 This procedure is applicable only to entry into confined spaces as defined in Section 4.0.

## 3.0 Responsibilities

3.1 Authorized Entrant - An individual who is authorized by the employer to enter a confined space. Entrants shall:

3.1.1 Receive training on the confined space entry procedure annually.

3.1.2 Know the hazards or potential hazards faced during entry and the symptoms and consequences of any related exposures.

3.1.3 Properly use equipment required by entry.

3.1.4 Keep entry sign in/out log current regarding his entry status.

3.1.5 Alert the lookout to hazardous conditions in the space.

3.1.6 Exit from the confined space when an evacuation alarm sound, when an order to exit is given, or when a hazardous condition is suspected in the space.

3.2 IP Contractor Manager- When contractor employees perform work that involves confined space entry; an International Paper Contractor Manager shall be assigned to:

3.2.1 Inform contractors of the requirements of this procedure.

3.2.2 Inform contractors that confined space entries are permitted only through compliance with a permit space program that meets or exceeds this procedure.

3.2.3 Inform the contractor of the space hazards.

3.2.4 Inform contractors of precautions which have been implemented for the protection of employees in or near the specified spaces.

3.2.5 Coordinate entry operations with the contractor when both contractors and company employees are working simultaneously as authorized entrants in a confined space, so that employees of one employer do not endanger the employees of any other employer. Contractors shall identify hazards being brought into the confined space to the Contractor Manager and designated lookout.

3.2.6 Debrief the contractor at the conclusion of the entry operations to discuss problems encountered.

3.3 Entry Supervisor - The person (such as team leader, supervisor, or an employee authorized by the Department manager) responsible for determining if acceptable entry conditions are present at a confined space where entry is planned, authorizing entry and overseeing entry operations, and terminating entry. The duties of entry supervisor may be passed to another qualified person during the course of an entry operation. Entry supervisors must:

3.3.1 Know the hazards faced during entry (process, as well as non-process related chemical exposures) and the symptoms and consequences of exposures. Prior to any entry, the entry supervisor must perform an exposure assessment, in order to ensure that all potential exposures are evaluated prior to and during the entry.

3.3.2 Verify that the entry permit is complete, all required tests have been conducted and all procedures and equipment are in place before endorsing the permit and allowing entry to begin.

3.3.3 Verify that rescue services are available and that the means for summoning them are operable; and ensure the lookout is aware of the communication equipment available for notification.

3.3.4 Terminate the entry and cancel the permit when the entry operations covered by the entry permit have been completed or when a condition not allowed under the entry permit arises in or near the confined space.

3.3.5 Remove unauthorized individuals who enter or who attempt to enter the permit space during operations.

3.3.6 Determine that entry operations remain consistent with the terms of the entry permit and that acceptable entry conditions are maintained.

3.3.7 Ensure space openings are secured with covers or barricade prior to leaving the space unoccupied.

3.4 Area Supervisor- an IP employee who is knowledgeable of the operations and hazards of specific equipment and processes within their department. The Area Supervisor must:

3.4.1 Initiate the permit by completing the background information of the permit (Section A).

3.4.2 Review Sections B and C of the Permit after being completed by the Entry Supervisor.

3.4.3 Answer questions concerning hazards and safeguards raised by the Entry Supervisor, Entrants and Lookouts before entry is made.

3.4.4 Verify the initial gas checks were performed and are within acceptable limits.

3.4.5 Sign the entry permit to acknowledge that the hazards were identified, that there is a valid complex lockout, and that a valid gas check was performed.

3.4.6 Provide the Entry Supervisor with a phone or pager number in case assistance is need during the course of entry operations.

3.5 Lookout - An individual stationed outside a confined space who monitors the authorized entrants. Lookouts shall:

3.5.1 Know the hazards faced during entry and the symptoms and consequences of exposures to authorized entrants.

3.5.2 Understand all requirements of the Lookout Section of the entry permit and verify by signing the permit.

3.5.3 Ensure that all individuals who enter or leave the confined space are continually accounted for and have signed in or out. The lookout is not permitted to sign any individual in or out. This task must only be performed by the authorized entrant.

3.5.4 Remain outside the confined space during entry operations until relieved by another qualified lookout.

3.5.5 Continuously monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space.

3.5.6 Order authorized entrants to evacuate the confined space immediately when a hazard arises.

3.5.7 Summon rescue services when authorized entrants may need assistance to escape from confined space hazards. The lookout must know the route to the nearest telephone, intercom, and/or two way radio. If the lookout would be required to leave his post at the entrance to the confined space for longer than a minute to summon rescue assistance or if the lookout cannot maintain line of sight with the space in order to summon rescue assistance, two way radios must be provided.

3.5.8 Keep unauthorized entrants from entering the confined spaces.

3.5.9 Perform non-entry or entry rescues (if properly trained); however, entry rescues cannot be performed until another lookout is posted.

3.5.10 Perform no other duties that might interfere with the primary duty of monitoring and protecting the authorized entrants.

3.5.11 When continuous monitoring is being performed from outside the space and the test equipment operator is not available, the lookout shall monitor the instrument and record the test results on the permit at a frequency no less than hourly.

3.5.12 A rescue team member must serve as the lookout where the confined space has been found to have an IDLH (Immediately Dangerous to Life or Health) atmosphere.

3.6 Rescue and Emergency Service - Mill HEAT Team members are designated to rescue employees from confined spaces. A minimum of two members of the rescue service shall:

3.6.1 Be provided with and trained in the use of personal protective equipment and rescue equipment necessary for making rescues from confined spaces.

3.6.2 Be trained to perform the assigned rescue duties.

3.6.3 Receive the same training required of authorized entrants under Section 3.1 of this section.

3.6.4 Practice simulated rescue operations annually from actual or representative confined spaces.

3.6.5 Be trained and certified in basic first aid and CPR (cardiopulmonary resuscitation) and be trained on the bloodborne pathogens exposure control manual.

3.6.6 Ensure that a lookout is posted outside the space prior to entry for rescue and that all controls required by this procedure are in place and performed.

3.7 Test Equipment Operator - A person who performs atmospheric testing to evaluate potential airborne hazards in a confined space. Test Equipment Operators shall:

3.7.1 Be trained and certified by the Loss Prevention Department.

3.7.2 Know the operation and limitations of monitoring instruments, including the required field checks (checking the instrument for proper response in the field) specified by the instrument manufacturer. In addition, ensure that the instrument being used has an updated calibration sticker.

3.7.3 Know actual testing practices and testing requirements specified by this procedure.

3.7.4 Enter the test results on the confined space entry permit along with signature.

3.7.5 Inform the entry supervisor whenever atmospheric testing indicates a hazardous atmosphere.

3.8 Confined Space Program Coordinator – The Safety and Industrial Hygiene Supervisor is the designated Confined Space Program Coordinator. Responsibilities include:

3.8.1 Perform annual audit of CSE program.

3.8.2 Update and revise program as needed.

3.8.3 Develop and provide training materials for training required in this program.

3.8.4 Provide technical guidance to personnel involved in Confined Space Entry operations as needed.

3.8.5 Determine appropriate rescue equipment for IDLH conditions.

## 4.0 Definitions

4.1 **Acceptable Entry:** The conditions that must exist in a confined space to allow entry and to ensure that personnel involved with an entry can safely enter into and work within the space.

4.2 **Atmosphere Supplying Respirator:** Either a full facepiece self-contained breathing apparatus (SCBA) or air line full facepiece respirator connected to a Grade D or equivalent breathable compressed air source. Air line respirators must be connected to a 10-minute escape bottle.

4.3 **Confined Space:** A space that:

4.3.1 Is large enough and so configured that an employee can bodily enter and perform assigned work; and

4.3.2 Has limited or restricted means for entry/exit or rescue (for example tanks, vessels, silos, storage bins, hoppers, utility vaults, and pits are spaces that may have limited means of entry/exit or rescue); and

4.3.3 Is not designed for continuous employee occupancy.

**4.4 Permit Required Confined Space (PRCS):** A confined space that has one or more of the following characteristics:

4.4.1 Contains or has a potential to contain a hazardous atmosphere;

4.4.2 Contains a material that has the potential for engulfing an entrant;

4.4.3 Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross section; or

4.4.4 Contains any other recognized serious safety or health hazard.

**4.5 Engulfment:** The surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

**4.6 Entry:** The action by which any part of the body passes through an opening in a confined space which is large enough for the body to enter. Entry includes ensuing work activities in that space and is considered to have occurred as soon any part of the person's body breaks the plane of the opening of a space.

**4.7 Grade D Breathing Air:** Breathable air that meets the requirements for Type I gaseous air set forth by the Compressed Gas Association Commodity Specification for Air, G-7.1. This designation must be marked on the air bottle or cylinder.

**4.8 Ground Fault Circuit Interrupter (GFCI):** A fast-acting circuit breaker that is sensitive to very low levels of current leakage to ground. It will trip and prevent serious injury.

**4.9 Hazardous Atmosphere:** An atmosphere that may expose employees to the risk of death, incapacitation, and impairment of ability to self rescue (that is, escape unaided from a confined space), injury, or acute illness from one or more of the following causes:

4.9.1 Flammable gas, vapor, or mist in excess of 10% of its lower flammable limit (LFL);

4.9.2 Airborne combustible dust at a concentration that equals or exceeds its LFL; (As a rule of thumb, this is a concentration that obscures vision at a distance of 5 feet or less)

4.9.3 Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;

4.9.4 Atmospheric concentration of any substance which could result in employee exposure in excess

of its occupational exposure limit (e.g., TLV {threshold limit value}, PEL {permissible exposure limit}).

4.9.5 Any other atmospheric condition that is immediately dangerous to life or health.

4.10 **Hot Work:** Any work involving electric or gas welding, cutting, brazing, burning or similar flame or spark producing operations. This includes, but is not limited to, acetylene torches, arc welding equipment, portable grinders, propane torches, and explosion actuated tools.

4.11 **IDLH (Immediately Dangerous to Life and Health):** Any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a confined space.

4.12 **Isolation of Hazardous Materials:** The process in which flammable, injurious, or incapacitating substances which require piping systems connected to confined spaces to be disconnected, blanked, or double blocked and bled by valve arrangement. Lines containing water or washed pulp stock at 120 F or less do not require the additional isolation.

4.13 **Maximum Allowable Entry Limit:** The maximum allowable concentration of an airborne contaminant to which employees not wearing respiratory protection may be exposed. These are OSHA Permissible Exposure Limits (PEL) or ACGIHs Threshold Limit Values (TLV), whichever is lowest. These limits indicate the concentrations nearly all workers may be repeatedly or instantaneously exposed to without any adverse health effects.

4.14 **Personal Alert Safety System (PASS):** A safety device which will detect lack of motion of a worker and automatically emit an audio warning signal. The PASS shall meet the NFPA 1982 standard.

4.15 **Rescue:** An established emergency response procedure whereby both the rescue personnel and basic rescue equipment are available at the incident scene in a timely manner.

4.16 **Retrieval System:** The equipment including a retrieval line, full body harness or wristlets (if appropriate), and a lifting device or anchor used for non-entry rescue of persons from confined spaces.

4.17 **Testing or Monitoring:** The process by which the hazards that may confront entrants of an atmospheric testing confined space are identified and evaluated (i.e.: process gases, as well as non-process chemicals or activities that produce potential hazardous atmospheres). Testing includes specifying the tests that are to be performed in the atmospheric testing confined space.

4.18 **Zero Energy State (ZES):** A condition in which all potentially hazardous energy in equipment is neutralized to provide maximum protection against unexpected mechanical movement. Obtaining ZES typically involves securing all electrical power sources, lowering or blocking suspended parts, bleeding or venting pneumatic/hydraulic pressure, isolating of hazardous materials, releasing or blocking springs, and securing hazardous moving parts of machines.

4.19 **Ten Percent of Lower Flammable Limit (10% LFL):** That level reflecting an acceptable concentration flammable gases, or vapors, which allows a confined space entry to commence.

## 5.0 References

5.1 Franklin Mill Zero Energy State Procedure

5.2 Franklin Mill Respiratory Protection Program

- 5.3 Franklin Mill Opening Dangerous Systems Procedure
- 5.4 Franklin Mill Contractor on Premises Manual
- 5.5 Franklin Mill Safety and Health Training Requirements
- 5.6 Franklin Mill Hot Work Permit Procedure
- 5.7 Franklin Mill Bloodborne Pathogens Exposure Control Manual
- 5.8 Franklin Mill Hazard Communication Program
- 5.9 Franklin Mill Radiation Safety and Operations Procedure
- 5.10 29 CFR 1910.146 Permit-Required Confined Spaces
- 5.11 Virginia Confined Space Standard for the Construction Industry, CSNP.146 (425-02-12)

**6.0 Procedures**

6.1 Confined Space Evaluation and Identification

6.1.1 Identification of Permit Required Confined Spaces

6.1.1.1 Mill departments will identify and label permit required confined spaces utilizing the definitions in Sections 4.3, 4.4, and 4.13 of this procedure. Each International Paper employee and/or contractor is also responsible for identifying any additional space based on the definition and for taking appropriate action to see that the space is properly labeled.

6.1.1.2 The mill standard Confined Space Entry sign with atmospheric test requirements will be placed at each entry/egress point of the permit required confined space. The sign shall read:

WARNING  
 Confined Space  
 Enter by Permit Only  
 Test Atmosphere Class \_\_\_\_ .

6.1.1.3 Atmospheric test requirements are determined by the following classifications:

<b>CLASS</b>								
<b>CONTAMINANT</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>
Flammable Class	X	X	X	X	X	X	X	X
Oxygen	X	X	X	X	X	X	X	X
Hydrogen Sulfide		X	X	X	X	X	X	
Methyl Mercaptan		X	X		X			
Carbon Monoxide		X	X			X	X	
Sulfur Dioxide		X	X					

Nitrogen Dioxide	X			
Chlorine Dioxide		X		
Ozone			X	
Methanol				X
Hydrogen Peroxide				X

**CAUTION:** Above classes are applicable to process gases and vapors only. Consideration must also be given to contaminants that may be produced from work performed within the confined space, and process or other contaminants generated from work or vehicle traffic adjacent to the confined space, which may be pulled into the work area. Monitoring for these potential contaminants must also be performed when this potential exists. Prior to any entry, the entry supervisor must perform an exposure assessment, in order to ensure that all potential exposures are evaluated prior to and during the entry.

### 6.1.2 Reclassification of Permit Required Confined Spaces

6.1.2.1 A permit required confined space may be reclassified as a non-permit required confined space if it is shown that the permit space poses no actual or potential atmospheric hazards and if all hazards within the space are eliminated without entry into the space.

6.1.2.2 The re-classification is valid as long as all non-atmospheric hazards remain eliminated.

6.1.2.3 If it is necessary to enter a permit required space to eliminate hazards, the entry must be made using the permit system.

6.1.2.4 The decision to re-classify a space must be approved by the Department Manager and the Confined Space Program Coordinator.

6.1.2.5 The decision must be certified in writing and supported by documentation that entry into the space does not present a hazard. In addition, the certification must be made available to each employee entering the space. The certification must include:

6.1.2.5.1 Date

6.1.2.5.2 Location and identification of space

6.1.2.5.3 Signature of person(s) making the determination.

### 6.2 Entry Procedure for Permit-Required Confined Spaces

#### 6.2.1 Pre-Entry Review

6.2.1.1 Before entering a permit required confined space, personal contact between the employees planning to enter and the Entry Supervisor must be made with the Area Supervisor in charge of the space or equipment to determine that the space is safe for entry.

6.2.1.2 The Entry Supervisor must ensure that the authorized entrants are fully informed of any hazardous materials or conditions they are likely to encounter while in the space by conducting a safety briefing consisting of the following items as a minimum:

6.2.1.2.1 Review potential hazards.

6.2.1.2.2 Review safety equipment and personal protective equipment needs and verify that employees are familiar with the equipment's operation.

6.2.1.2.3 Verify that the required safety equipment is at the site and verify that the equipment functions properly.

6.2.1.2.4 Review safety precautions already taken.

6.2.1.2.5 Designate responsibilities and employee assignments, specifically the safety lookout.

6.2.1.2.6 Review all applicable safety procedures, including the means by which the safety lookout maintains constant contact with the employees inside the confined space.

6.2.1.2.7 Review rescue and first aid procedures.

6.2.1.2.8 Review work to be performed.

6.2.1.3 If the designated Entry Supervisor must leave the site or becomes incapacitated such that he/she cannot perform the duties of Entry Supervisor, another employee must be designated as Entry Supervisor. Reassignment of Entry Supervisor must include the following:

6.2.1.3.1 Review of the entry permit between the original Entry Supervisor and the newly assigned IP or Contractor Entry Supervisor.

6.2.1.3.2 New Entry Supervisor must sign the permit and indicated time he/she assumed Entry Supervisor responsibilities.

6.2.1.3.3 If the newly assigned Entry Supervisor disagrees with any portion of the completed permit, the original Entry Supervisor must terminate the permit and the new Entry Supervisor must establish a new permit.

6.2.1.4 If the Lookout responsibilities are transferred to another employee, the following must occur:

6.2.1.4.1 Review of the lookout checklist between the original Lookout and the newly assigned Lookout.

6.2.1.4.2 The newly assigned Lookout must sign the permit indicating an understanding of the Lookout responsibilities. Any questions regarding the Lookout responsibilities must be resolved prior to relieving the original Lookout.

## 6.2.2 Make Space Safe for Entry

### 6.2.2.1 Permit System

6.2.2.1.1 Before entering a permit required confined space, the space must be made safe. A detailed confined space entry permit and lookout checklist (Attachment A) must be completed and posted at all entry points for the space.

6.2.2.1.2 Permits will be initiated by the responsible Area Supervisor. It must be signed by the following:

6.2.2.1.2.1 Area Supervisor

6.2.2.1.2.2 Entry Supervisor

6.2.2.1.2.3 Test Equipment Operator

6.2.2.1.2.4 Lookout

6.2.2.1.3 The signatures will indicate the understanding of the permit requirements as outlined on the permit and serve as verification that these requirements are being complied with.

6.2.2.1.4 The confined space entry permit will be valid for a single shift or entry only. On jobs lasting longer than a single consecutive shift, sections C, D, E, F, G, and H of a new permit shall be completed at the start of each shift before the confined space is re-entered. The initial permit and the most current permit must remain posted at entry points until the job is completed.

6.2.2.1.5 The confined space entry permit is only valid for work and conditions designated in sections A, B, and C of the permit. No changes can be made to sections A, B, or C once the permit has been approved and signed by the Entry Supervisor. A new permit must be completed and approved if conditions change or additional work is needed.

6.2.2.2 Control of Internal Hazards

6.2.2.2.1. Main switches and motor starters which control equipment that can cause injury if activated must be secured in accordance with the International Paper – Franklin Mill Lock, Tag and Try Procedure.

6.2.2.2.2. Valves in lines connected to the confined space must be secured in accordance with the International Paper – Franklin Mill Lock, Tag and Try Procedure.

6.2.2.2.3. All blanks and blinds installed for confined space entry must be identified with a "DANGER" tag.

6.2.2.2.4. All lines connected to the confined space which may contain flammable, injurious, or incapacitating substances must be disconnected, blanked, or double blocked and bled by valve arrangement where both blocking valves are locked closed and the bleed valve is locked open. Lines containing water or washed pulp stock, at 120o F or less, do not require the additional isolation.

6.2.2.2.5. The duct arrangements on electrostatic precipitators only provide a single barrier. Use of only a single barrier in this instance is authorized by this procedure.

6.2.2.2.6. Block and bleed all pneumatic/hydraulic systems.

6.2.2.2.7. Lower suspended parts, block movable parts, and release or block springs.

6.2.2.2.8. Radiation sources must have the shutter closed and locked and tagged prior to entry.

6.2.2.3 Control of External Hazards

6.2.2.3.1 Steps shall be taken to ensure that all precautions necessary to protect authorized entrants from external hazards are provided. These hazards include:

6.2.2.3.1.1 Exhaust from vehicles

#### 6.2.2.3.1.2 Releases from adjacent processes

6.2.2.3.1.3 Materials brought into the confined space for required work (e.g. tile adhesives, welding products and by-products, paint solvents).

#### 6.2.2.4 Cleaning/Purging

6.2.2.4.1 All confined spaces shall be emptied, flushed, or otherwise purged of hazardous materials.

6.2.2.4.2 Cleaning may be done by flushing with water, by steaming, or by any acceptable alternative practice depending on the nature of the material contained in the confined space. If steam is used for cleaning, the space must be cooled before entering.

6.2.2.4.3 Initial cleaning shall be done from outside the confined space to the extent feasible.

#### 6.2.2.5 Ventilation

6.2.2.5.1 The confined space shall be thoroughly and continuously ventilated to provide for a safe working atmosphere. This can be accomplished through the use of fans, blowers, or any other method which will ensure a continuous movement of uncontaminated air through the confined space. Care should be taken to ensure that there is sufficient air circulation to eliminate pockets of contaminated air. Natural ventilation may satisfy this requirement if the air flow is adequate.

6.2.2.5.2 Where the existence of a hazardous atmosphere is demonstrated by tests performed by the test equipment operator, the confined space must be mechanically ventilated until the concentration of the hazardous substance(s) is reduced to a safe level, and ventilation shall be continued as long as the recurrence of the hazard(s) is possible.

6.2.2.5.3 When mechanical ventilation is mandatory for safe entry, special precautionary measures should be taken to ensure that the ventilation system(s) is maintained in the "on" position.

6.2.2.5.4 Intrinsically safe air movers and bonding shall be utilized when moving flammable atmospheres.

#### 6.2.3 Test Atmosphere for Acceptable Entry Conditions

6.2.3.1 Entrants must be given an opportunity to observe and/or participate in atmospheric monitoring.

6.2.3.2 Spaces shall be tested for the following acceptable entry atmospheric conditions in the order specified below:

6.2.3.2.1 Oxygen concentration between 19.5% and 23.5%

6.2.3.2.2 Flammable gas or vapor at 10% percent of its lower flammable limit (LFL);

6.2.3.2.3 Appropriate toxic air contaminant concentration below established PEL's or TLV's (see Section E of permit for values).

6.2.3.2.4 Airborne combustible dust (e.g. wood dust, coal dust) less than its LFL; as a rule of thumb this is a concentration that obscures vision at a distance of 5 feet or less.

6.2.3.3 Appropriate respiratory protection is required for entry if test results indicate airborne concentration outside of the limits in 6.2.3.2.1 or 6.2.3.2.3 as listed above.

6.2.3.4 Prior to any entry, the Entry Supervisor must perform an exposure assessment, in order to ensure that all potential exposures are evaluated prior to and during the entry.

6.2.3.5 The Test Equipment Operator, as described in Section 3.6, is responsible for ensuring that atmospheric tests are made and are valid prior to employees entering the confined space.

6.2.3.6 Only equipment that has an in-date calibration sticker attached to it and is in good operating condition may be used to test the atmosphere in a confined space. At a minimum, the instrument utilized must be calibrated monthly.

6.2.3.7 The Test Equipment Operator will test the atmosphere inside and outside the confined space to determine if acceptable entry conditions exist before entry is authorized to begin. This may be affected from a manhole, provided the potential work areas and entry point(s) can be reached by a remote sensor. Otherwise, the test equipment operator must enter the space using an atmosphere supplying respirator with retrieval system and following all provisions of the permit system to conduct testing in all potential work areas of the space. A lookout must be posted during this testing.

6.2.3.8 Where feasible, initial monitoring shall be conducted with the ventilation off. Once monitoring is completed, the blowers being utilized should be returned to the "on" position and monitoring once again performed to confirm that no contaminants are being brought into the space from the outside.

6.2.3.9 Continuous monitoring must be performed where there is potential for an oxygen deficient atmosphere or the liberation of flammable or toxic materials. The lookout shall monitor atmospheric testing during occupancy at intervals dependent on the possibility of changing conditions, but in no case less frequently than hourly. These hourly levels must be recorded on the permit (Section E of permit) by the lookout or test equipment operator.

6.2.3.9.1 The lookout is exempt from this responsibility only if employees working inside the confined space are wearing continuous monitors.

6.2.3.9.2 Continuous monitoring for oxygen deficiency and/or toxic atmospheres is not required if the employee(s) working inside the confined space is/are wearing supplied air respirator(s). If a combustible atmosphere exists, continuous monitoring is required.

6.2.3.10 To ensure that the atmospheric conditions within the space remain safe during an extended entry, follow-up tests in the space should be made at least once per hour or more often as determined by the entry supervisor. The retesting shall be documented on the entry permit. Continuous monitoring can satisfy this requirement.

6.2.3.11 The requirement for periodic monitoring as described in 6.2.3.10 is waived in cases where air contaminants are created by normal operation of the space and the potential for those contaminants is eliminated by shutting down the process. (Example: boiler emissions in a boiler that is out of service)

6.2.3.12 If the confined space remains unattended for an extended period of time (i.e.: approximately one hour), re-entry is not permitted until atmospheric re-testing of the space is performed.

6.2.3.13 If more than one employee performs Test Equipment Operations during the entry, each Test Equipment Operator employee must sign the permit and initial the individual tests he/she performs.

## 6.2.4 Entry

6.2.4.1 The Entry Supervisor shall verify the completion of actions required in sections 6.2.1 - 6.2.3 of this section by signing the confined space entry permit. Authorized entrants can now enter the space.

6.2.4.2 When authorized entrants are inside a confined space, they must be within sight of the lookout stationed outside the space. If line of sight cannot be maintained, two-way radio or voice communications between the lookout and the entrants in the confined space in addition to the use of a personal alert safety system (PASS) will be required. One radio and one PASS per group of employees inside the space is acceptable as long as the entrants can maintain line of sight with each other.

## 6.2.5 Entry Completion

6.2.5.1 Once the designated work has been completed and all authorized entrants are known to be out of the confined space, the permits shall be removed and cancelled by the entry supervisor in charge of the space.

6.2.5.2 The entry supervisor shall ensure that the confined space is returned to a safe condition and all entry points secured prior to cancellation of the entry permit.

6.2.5.3 Once signed and approved, this permits shall be forwarded to the Medical Department where it will be filed and retained for one year or until completion of an internal audit by the Confined Space Program Coordinator.

## 6.2.6 Permit Exemptions for Tasks

6.2.6.1 Tasks that are identified as having no actual or potential hazard for the entrant and where the entrant is not bodily entering the space may be exempted from the permitting requirement. A Departmental SOP must be established for these tasks detailing the safety precautions taken. In addition, the exemption must be approved by the Safety and Health Committee.

6.2.6.2 The tasks not requiring a confined space permit will be documented in this procedure with references to their respective Department SOPs. The following exemptions and SOPs have been approved:

6.2.6.2.1 Performing Weekly PM on Bleach Plant Sewer Flow Transmitter, Maintenance SOP

6.2.6.2.2 Replacing Main Mill Sewer Flow Transmitter, Maintenance SOP

6.2.6.2.3 Performing Weekly PM on Main Sewer Flow Transmitter, Maintenance SOP

6.2.6.2.4 Replacing Bleach Plant Sewer Flow Transmitter, Maintenance SOP

6.2.6.2.5 Fibers SOP 023: Procedure for Safely Working With Closed Vessels Associated with Hooded Washers in the Bleach Plant and Wash Room of the Fibers Department.

## 6.3 Work Practices inside a Confined Space

### 6.3.1 Electrical Equipment

6.3.1.1 If a ground fault circuit interrupter (GFCI) is not used, portable electric equipment and lighting used in confined spaces shall be operated at 12 volts or less. However, 110-volt equipment and

lights may be used if protected by a GFCI which is positioned outside the confined space. Portable lights outfitted with protective guards over the bulbs shall be provided.

6.3.1.2 When a step-down transformer is used, the transformer must be left outside the space.

6.3.1.3 Lighting must be explosion proof if the potential for a combustible atmosphere is present.

6.3.1.4 All portable electrical equipment and lighting should have Underwriters Laboratory or Factory Mutual approval for type and operation.

### 6.3.2 Hot Work

6.3.2.1 Hot work shall be performed in accordance with the Mill Hot Work Permit Procedure.

6.3.2.2 Welding and burning equipment, other than torches, hoses, and electrical welding leads, must not be taken into the confined space. The gas cylinders or welding machines must be left outside of the space and chocked if on wheels.

6.3.2.3 When gas cutting or welding is no longer needed on the job, or if the job is to be left unattended for an extended period of time, the gas supply must be cut off at the cylinders. If hoses are left running into the confined space, they must then be disconnected from the gauges and properly stored, to prevent tripping hazards and hose damage.

6.3.2.4 Open end fuel, gas and oxygen hoses shall be immediately removed from the space when they are disconnected from the torch or other gas consuming device.

6.3.2.5 The lookout shall be instructed on how to quickly secure arc and oxy-acetylene welding equipment in case this equipment is involved in an accident inside the space.

### 6.3.3 General Tool Requirements

Only appropriate tools and equipment for the work being done and the potential hazards present maybe used (i.e., explosion-proof, air-operated, non-sparking).

## 6.4 Work Practices outside a Confined Space

6.4.1 When manhole covers have been opened along major walkways or when working above a confined space (e.g. open sewer pits), the following options must be considered:

6.4.1.1 Barricade area

6.4.1.2 Perform personal monitoring continuously

NOTE: Don't assume that the atmosphere immediately outside a confined space is less hazardous than inside the confined space.

6.4.2 The space will be opened in accordance with the International Paper - Franklin Mill Opening Dangerous Systems Procedure.

## 6.5 Personal Protective Equipment

6.5.1 Personal protective equipment such as goggles, respirators, boots, hardhats, gloves, and protective clothing must be worn when the Entry Supervisor determines them necessary.

6.5.2 If tests indicate that the confined space contains a hazardous atmosphere, employees must not enter unless authorized by their Entry Supervisor and then only if wearing an atmosphere supplying respirator.

6.5.3 If an airline full facepiece respirator is used, it must be connected to a Grade D compressed air source. If Grade D air is not used, the air being provided to the respirator must be continuously monitored for carbon monoxide levels and filtered to achieve Grade D status. An audible alarm must be used to warn the user of potential danger. The lookout must be able to hear the alarm.

## 6.6 Retrieval System

6.6.1 Each authorized entrant shall wear a full body harness with a retrieval line attached except as modified below:

6.6.1.1 The retrieval line does not have to be attached to the entrant if it would increase the overall risk of entry or would not contribute to the rescue of the entrant. However, precautions must be taken so that the task can be performed as safely without the retrieval line. These exceptions must be approved by an Operations Manager or his designate, the Confined Space Program Coordinator, and the Loss Prevention Department. Notification of the exemption must be sent to the Department Manager and Safety Coordinator for the Departments owning and entering the space.

6.6.1.2 A retrieval line must be attached to the entrant's harness if entry is made into confined spaces requiring the use of atmosphere supplying respirators. No exemption is permitted in these situations.

6.6.1.3 Wristlets can be used if use of a harness is infeasible or creates a greater hazard. These exceptions require approval from the Confined Space Program Coordinator and the Loss Prevention Department and shall be listed in Attachment C to this procedure. NOTE: A retrieval line must always be used by and attached to the safety harness of each authorized entrant entering the confined space where a hazardous atmosphere or a potential for engulfment is determined to exist.

6.6.2 The end of the retrieval line which is outside the confined space shall be attached to a mechanical device or fixed point in such a manner that rescue can begin as soon as the rescuer becomes aware that rescue is necessary.

6.6.3 Only life safety rope meeting the mill standard will be used as a retrieval line. The Confined Space Program Coordinator will approve the specifications for this rope.

6.6.4 Lanyards used for fall protection (in accordance with the mill Fall Protection Policy) are not an acceptable substitute for retrieval lines.

## 6.7 Rescue Team, Equipment and Response

6.7.1 The International Paper - Franklin Mill HEAT Team is designated as the rescue team responsible for performing rescues from confined spaces. The rescue team functions under the control of the Confined Space Program Coordinator.

6.7.2 When a rescue from a confined space is necessary, the lookout will notify the main gate guard. The main gate guard will then:

6.7.2.1 Record the emergency situation on the fire recorder

6.7.2.2 Follow standard procedure to have the mill fire whistle sounded

6.7.2.3 Announce the emergency situation on the mill radio operating frequency indicating the need for the rescue team to respond to a specified location

6.7.2.4 Notify the Medical Department of the need for medical assistance at the rescue location (if required)

6.7.3 Two HEAT members shall be present along with the assigned lookout when a space has been found to be IDLH or is assumed to be IDLH, as listed below:

<b>Hazardous Gas</b>	<b>IDLH (ppm)</b>
Oxygen	<19.5 %
Hydrogen Sulfide	>100
Methyl Mercaptan	>150
Carbon Monoxide	>1,200
Sulfur Dioxide	>100
Nitrogen Dioxide	>20
Chlorine Dioxide	>5
Ozone	>5
Ammonia	>300
Methanol	>6,000
Hydrogen Peroxide	>75

6.7.4 Basic rescue equipment for removing injured employees from a confined space, such as mechanical advantage rope haul systems, stretchers and atmosphere supplying respiratory equipment needed for rescue will be kept in the mill emergency response equipment storage area, as well as in carts located in designated locations within the mill. All carts, which are maintained within these designated areas, are to be locked with a No. 2 Master Lock which can only be accessed by a trained confined space entry rescuer.

6.7.5 When entrants inside a confined space are wearing atmosphere supplying respirators, a rescue cart shall be positioned in close proximity to the confined space.

## 6.8 Alternative Confined Space Entry Procedures

6.8.1 Under unique circumstances, alternative confined space entry procedures which vary from those outlined in this procedure may be appropriate for permit-required confined spaces. These alternate procedures must be designed so that they meet the spirit of this procedure, and provide suitable protection for the employees entering the space.

6.8.2 Alternate confined space entry procedures may only be used where the only hazard is atmospheric in nature.

6.8.3 In all cases, these documented procedures will be listed in Attachment B to the confined space entry procedure, and approved by the Operations Manager, Loss Prevention Manager and the Confined Space Program Coordinator. These alternate procedures are to be maintained by both the affected Operating Department and the Loss Prevention Department.

6.8.4 When the Confined Space Entry Procedure is revised, any alternative procedures must be reviewed by the respective department and the Confined Space Program Coordinator to ensure compliance with the changes made.

## 6.9 Contractor Entries

6.9.1 Contractor entries must be coordinated with the contractor Entry Supervisor, Franklin Mill Area Supervisor owning the space, and the IP Contractor Manager.

6.9.2 A Franklin Mill Test Equipment Operator will perform an initial atmospheric test of the confined space to ensure the space is safe to turn over to the contractor.

6.9.3 Contractors may enter confined spaces using an International Paper permit for inspection, reliability testing, or monitoring. If necessary, International Paper will provide monitoring and lookout services for these entries. Contractors entering the space must sign the permit as an Entrant, perform necessary lockout procedures, and follow all permit provisions.

6.9.4 International Paper employees may enter a confined space to perform inspection of work activities using a contractor's permit. The International Paper employee entering the space must sign the permit as an Entrant, perform necessary lockout procedures, and follow all permit provisions.

6.9.5 Contractors must provide documentation showing their Test Equipment Operator is adequately trained to perform the required atmospheric tests. In addition, the contractor must provide documentation that the contractor's test equipment is adequate for the required testing. This documentation must be provided by completing the form in Appendix D and submitting the form to the Contractor Manager.

6.9.6 For spaces where only one contractor will enter and perform work:

6.9.6.1 The contractor must complete the International Paper permit system as described in this procedure.

6.9.6.2 The contractor is responsible for assigning an Entry Supervisor and must perform an additional initial atmospheric test as well as subsequent tests as required by this procedure.

6.9.7 For entries where more than one contractor will enter:

6.9.7.1 The contractor supervisors and Contractor Manager(s) will work together to determine which contractor will establish the International Paper permit and assign Entry Supervisor, Test Equipment Operator, and Lookout responsibilities.

6.9.7.2 If agreement cannot be made between contractors, all contractors entering the space must individually complete the permitting process and atmospheric tests as required by this procedure.

6.9.7.3 The International Paper Contractor Manager must inform the contractors' Entry Supervisors of all contractor activities that will be performed inside the space.

6.9.8 For entries where Franklin Mill employees and contractor employees will perform work:

6.9.8.1 The Franklin Mill will complete the permit and permit requirements for entries in which Franklin Mill employees and Contractor employees are entering. All employees entering the space must sign in as Entrants, perform necessary lockout procedures, and follow all provisions of the permit.

6.9.8.2 If the International Paper employee work ends prior to the contractor work, the contractor may assign Entry Supervisor, Lookout, and Test Equipment Operator duties. Transfer of these duties must be completed as indicated in 6.2.1.3, 6.2.1.4, and 6.3.2.12.

## 6.10 Training

6.10.1 All persons involved in confined space entries must be trained prior to assignment and annually thereafter on the International Paper – Franklin Mill Confined Space Entry Procedure. The training shall establish employee proficiency in the duties required by this procedure and shall introduce new or revised procedures, as necessary, for compliance with this procedure. This training will cover the following subjects as a minimum:

6.10.1.1 Recognition of known or anticipated hazards

6.10.1.2 Means of securing and isolating confined spaces using the International Paper – Franklin Mill Lockout, Tag, and Try Procedure and The Procedure for Opening Dangerous Systems.

6.10.1.3 Proper use of any special tools, equipment, or materials which employees might use during confined space entries.

6.10.1.4 What to do in case of unanticipated problems or emergencies

6.10.1.5 Rescue team functions, responsibilities, and methods.

6.10.2 Test Equipment Operators must be trained in the operation and limitations of the monitoring instruments, actual testing procedures, and the Franklin Mill's testing requirements. This training must also cover the field checks (checking the instrument for proper response in the field) specified by the instrument manufacturer. Refresher training shall be performed every two years.

6.10.3 Entry Supervisors must be trained on all aspects of entry operations – including: entry and rescue procedure, permit system, atmospheric testing, hazard recognition, and general Entry Supervisor responsibilities. Refresher training shall be performed every two years.

6.10.4 Rescue team members must be trained to use all the equipment which they may need to perform rescues from confined spaces. This training must include practice in removing injured or ill employees through openings of the same size, configuration, and accessibility as those of spaces from which actual rescues might be required. At least one member of the rescue team must hold current certification in basic first aid and CPR (Cardio-Pulmonary Resuscitation).

6.10.5 Additional training is required if the use of respiratory equipment will be required. Employees required to use respiratory equipment must be trained in accordance with the International Paper – Franklin Mill Respiratory Protection Program which incorporates the training required by Virginia OSHA Standard 1910.134.

6.10.6 Training required by this section must be documented on the "Safety Training Worksheet and Minutes" form or a similar form and entered into the Safety Training Database. Departments must include at least the following information on the form:

6.10.6.1 Date of the training

6.10.6.2 Name(s) of the instructor(s)

6.10.6.3 An outline of the training

#### 6.10.6.4 Signatures and clock numbers of the trained employees

### 6.11 Audits

6.11.1 The Confined Space Program Coordinator shall perform a self-audit of the entire confined space entry procedure annually. This audit will include a review of the canceled permits and rescue procedures. Based on the results of this audit, appropriate program changes will be initiated and documented.

6.11.2 As part of the annual audit process, a field review of one complete confined space entry will be conducted for both company and contractor employee entries.

6.11.3 In addition to the above, each department will conduct one formal audit of a confined space entry and submit the results of the audit to the Loss Prevention Department.

6.11.4 The Loss Prevention Department shall perform an audit of all terminated confined space entry permits quarterly in order to review accuracy and completeness, and report any deficiencies to the department upon completion of these audits.

## 7.0 Documentation

7.1 Confined space entry permit form shall be completed and posted near the entrance to the confined space.

7.2 Terminated confined space entry permits will be retained in Medical for one year.

7.3 Training performed in accordance in this procedure shall be documented and maintained at the site.

7.4 Audits performed in accordance with this procedure shall be documented and maintained at the site.

ATTACHMENT B - Alternative Procedures and SOPs

ATTACHMENT C - Exemptions Associated with Use of Harnesses/Wristlets

Contractor Confined Space Entry-Monitoring Equipment Evaluation Form

**ATTACHMENT B**

**ALTERNATIVE PROCEDURES AND SOP's  
Confined Space Entries**

TITLE	LOCATION OF ENTRY	LOCATION OF PROCEDURE
Hydrapulper Pit	Paper Mill	Paper Mill Office, SOP Manual, and Loss Prevention Dept.
No. 16 Sheeter Pit	Sheet Converting	Sheet Finishing Safety Coordinator's Office, No. 16 Sheeter Pit
No. 6 Fuel Oil Dike	North of No. 6 Recovery Boiler	Power & Recovery Office and Loss Prevention Dept.
River Crane Electrical Control Room	Woodyard	Woodyard Office
Saveall Hoods	Paper Mill	Paper Mill Office

## ATTACHMENT C

### Exemptions Associated with Use of Harnesses/Wristlets

<b>Title of Space</b>	<b>Date</b>	<b>Location</b>	<b>Exemption</b>
Headboxes	4/1/95	Wet Ends – All Machines (Paper Mill)	Neither Wristlets nor Harnesses Required
Hydrapulper Pits	5/6/87	Dry Ends - Nos. 1,3,4,5,6 (Paper Mill)	Neither Wristlets nor Harnesses Required
Paper Machine Dryer Cans	4/1/95	All Paper Machines	Neither Wristlets Nor Harnesses Required
Lime Kilns	4/1/95	Power & Recovery	Neither Wristlets nor Harnesses Required
Lime Kiln Pressure Filters	4/1/95	Power & Recovery	Neither Wristlets nor Harnesses Required
All Power Boilers & Recovery Boilers *Mud Drum *Steam Drum *Precipitators	4/1/95	Power & Recovery	Neither Wristlets nor Harnesses Required
Power Boiler Grates	4/1/95	Power & Recovery	Neither Wristlets nor Harnesses Required
No. 10 GT Combuster Internal	10/1/97	Power & Recovery	Neither Wristlets nor Harnesses Required
1 PM Air Cap Ductwork	03/01/03	1 Paper Machine Air Cap Ductwork	Neither Wristlets nor Harnesses Required

Note: The above exemptions are offered, but the employee entering the space has the option to utilize any item above the exemption at anytime during entry into the above identified spaces.

**FRANKLIN MILL**  
**CONTRACTOR CONFINED SPACE ENTRY**  
**MONITORING EQUIPMENT EVALUATION**

DATE: \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_

LOCATION OF CONFINED SPACE: \_\_\_\_\_

MONITORING EQUIPMENT USED TO EVALUATE SPACE: \_\_\_\_\_

1. Calibration:

NAME OF INSTRUMENT	PERSON PERFORMING CALIBRATION	DATE	METHOD

2. Alarm Settings

NAME OF INSTRUMENT	SENSOR	ALARM SETTINGS

3. Monitoring of Space

a. Has instrument operator been trained to use equipment? \_\_\_\_\_

When was this training received? \_\_\_\_\_

b. Is an extender cable going to be utilized to monitor the space? If not, how will the space be evaluated? \_\_\_\_\_

IP CONTRACTOR MANAGER

REVIEWED: \_\_\_\_\_