I. POLICY/SCOPE

The purpose of this policy is to provide information related to fires/explosions, fire extinguishers, flammable & combustible liquids, and smoking to members, contractors, and visitors. The policy covers safety and health issues as well as property protection.

II. INTENT/PURPOSE

The intent of this policy is to limit the possibility of fire for any reason and to educate mill members on the use and availability of fire extinguishers as well as provide guidance for the proper storage and handling of ignitable liquids and gases. **NOTE: For information related to Hot Work (Cutting, Welding, etc.) please refer to the mill Hot Work Policy.**

III. DEFINITIONS

Approved: Any equipment, material, or service that meets appropriate designated standards and has been tested and found suitable for a specified purpose by a nationally recognized testing laboratory.

Bonding: The connection of two separate containers with a conducting wire or conducting hose during the dispensing or transfer of ignitable liquids for the purpose of equalizing static charges.

Class A Fire means a fire involving ordinary combustible materials such as paper, wood, cloth, and some rubber and plastic materials.

Class B Fire means a fire involving ignitable liquids, flammable gases, greases and similar materials, and some rubber and plastic materials.

Class C Fire means a fire involving energized electrical equipment where safety to the employee requires the use of electrically nonconductive extinguishing media.

Class D fire means a fire involving combustible metals such as magnesium, titanium, zirconium, sodium, lithium and potassium.

Combustible Liquid: A liquid with a flash point at or above 100° F (38° C). There are three classes of combustible liquids. Details of each class are found in Appendix B. Examples include; Kerosene, Cleansol, and Fuel Oil.

Container: Any can, barrel or drum of 60 U.S. gallons or less capacity used for storing liquids.

Fire Area: A building area that is separated from other sections of the building by fire resistive construction with a minimum fire resistance rating of one hour and having all openings properly protected.

Fire Extinguisher is a device used to put out a fire, often in an emergency situation. They consist of a pressurized container of water, gas or chemicals that when discharged can put out a fire. It is important to familiarize yourself with the use of fire extinguishers in your vicinity, as improper or untimely use may be counterproductive.

Flammable Gas: A gas that is flammable at atmospheric temperature and pressure in a mixture of 13 percent or less (by volume) with air, or that has a flammable range with air of at least 12 percent, regardless of the lower limit. Examples include; Acetylene and Hydrogen.

Flammable Liquid: A liquid with a flash point below 100° F (38° C) and a vapor pressure not exceeding 40 psia at 100° F. There are three classes of flammable liquids. Details of each class are found in Appendix C. Examples include; Gasoline, Acetone, and Methanol.

Flammable Storage Cabinet A cabinet for the storage of flammable and combustible liquids constructed in accordance with Section 4-3 of NFPA 30, "Flammable and Combustible Liquids Code".

Flash Point: The minimum temperature at which a liquid gives off vapor in sufficient concentration to form an ignitable mixture with air at or near the surface of the liquid.

Grounding: Providing a path of low electrical resistance to earth to safely dissipate electrical charges.

Handling: A term used to describe any work practices where ignitable liquids are used, such as dispensing, transferring, or mixing.

Ignitable Liquid: A liquid that can burn (e.g., flammable or combustible)

Liquefied Gas: A gas that, under its charged pressure, is partially liquid at 70° F. Examples include; Propane and Butane.

Mill Operating Areas - All areas of the mill, including outside work areas, other than offices, control rooms, break rooms, locker rooms, conference rooms and restrooms.

Portable Tank: A closed vessel having a liquid capacity over 60 U.S. gal. and not intended for a fixed installation.

Safety Can: A Factory Mutual approved or U.L. listed container of not more than five gallons capacity having a spring-closing lid and spout cover and so designed that it will safely relieve internal pressure when subjected to fire exposure.

Storage Tank: **A**ny vessel having a liquid capacity that exceeds 60 gal (227 L), is intended for fixed installation, and is not used for processing

IV. PROCEDURES/PRACTICES

A. SMOKING

- Employees, visitors, guests, contractors and anyone within the facility are prohibited from smoking* , vaping or e-cigarettes on any Quinnesec mill properties.

**Smoking means the burning of a lighted cigar, cigarette, pipe or any other matter or substance that contains a tobacco product.*

- Failure to follow this policy will be considered a standard of conduct violation as defined under the mill's ***Conflict Resolution Policy.***

B. FIRE & EXPLOSIONS

1. Notify Plant Protection at extension 3333, or radio channel 1, in the event of a fire or explosion

2. Evacuate to your designated Muster Point per the mill evacuation plan specific to your area.

3. Make sure ignitable liquids are stored properly in your work area. Do not exceed the capacity of a flammable storage cabinet and do not store incompatible chemicals in the same cabinet.

4. Use funnels and containment whenever possible to minimize spill hazards when pouring flammable liquids.

For additional information about flammable storage cabinets and the proper storage of aerosol products, see Appendix A at the end of this document.

C. FIRE EXTINGUISHERS

1. Always notify plant protection of a fire at extension 3333, or radio channel 1, before attempting to extinguish it with a portable fire extinguisher.

2. Never fight a fire with a portable fire extinguisher that you are not trained to use.

3. Portable fire extinguishers are designed to fight fires of specific classes as follows (see definitions for more detail):

    i. Class A – Ordinary Combustibles (paper, wood, cloth, etc.)
    ii. Class B – Flammable and Combustible liquids and gases
    iii. Class C – Electrical
    iv. Class D – Combustible metals

4. When using a portable fire extinguisher, remember the PASS method:

    i. **P**ull
    ii. **A**im
    iii. **S**queeze
    iv. **S**weep

5. If you suspect that a fire is too large to fight with a portable fire extinguisher, evacuate to your designated Muster point per the mill evacuation plan specific to your area.

6. Used fire extinguishers must be brought to the departmental fire extinguisher drop-off point.

7. Replace used fire extinguishers with a full fire extinguisher which can be picked up from the fully charged extinguisher storage area. Make sure you replace the used fire extinguisher with one that is identical in type and size.

D. **IGNITABLE LIQUIDS AND GASES**

1. Containers for Handling and Storage of Ignitable Liquids

   a. Gasoline and other Class I or II liquids (Those liquids with a Flash Point less than 140 ^{o}F) will be handled and stored using approved safety cans when transferred from the primary storage container.

   b. Quantities of Class I and II liquids used for cleaning operations, such as for dispensing liquids onto cleaning rags shall be dispensed from safety cans, plunger cans or manufacturer's cans.

   c. All containers of Class I, II, and IIIA liquids shall be stored in properly constructed storage rooms or Factory Mutual approved and/or Underwriters Laboratory listed storage cabinets unless the quantities are less than those specified in (4) below.

   d. The maximum quantity of ignitable liquids permitted outside of storage cabinets or designated storage rooms/areas, shall not exceed the greater quantity in either (i) or the sum of (ii), (iii) and (iv) below:

      i. A supply for one day**,** or

      ii. 15 gallons of Class I liquids in containers

      iii. Two, 55 gallon drums of Class II or IIIA liquids

      iv. Two portable tanks, each not exceeding 660 gal, of Class IB, IC, II or IIIA liquids.

   e. Every effort should be made to minimize the amount of ignitable liquids outside cabinets or the designated storage areas.

   f. For general guidelines on classification and storage requirements, based on NFPA flammability rating, see Appendix B & C.

2. Ignitable Liquids Storage Cabinets

   a. Not more than 120 gallons of Class I, II and IIIA liquids may be stored in a storage cabinet. Of this total, not more than 60 gallons may be of Class I and II liquids.

b. There shall not be more than three storage cabinets per single fire area, except where a group of not more than three cabinets is separated from other cabinets by at least 100 feet.

c. Storage cabinets shall be Factory Mutual approved and/or Underwriters Laboratory listed. All storage cabinets shall be labeled, in conspicuous lettering, “Flammable – Keep Fire Away”.

d. Storage cabinets shall not be used to store other chemicals that may be incompatible with flammable liquids in the cabinet, i.e., strong oxidizing materials. They are not intended for the storage of cylinders of compressed or liquefied gas.

e. Cabinets are not to be vented. The vent openings shall be sealed with the caps supplied with the cabinet or specified by the manufacturer.

3. Ignition Source Control

a. When hot work is conducted within 35 ft. of storage tanks or vessels containing ignitable liquids, a thorough inspection and atmospheric monitoring must be performed, and a hot work permit issued. Monitoring must be continuous during the hot work operation. (See mill hot work policy).

b. Containers used for dispensing of Class I and II liquids must have a bonding strap available. The bonding strap must be used during liquid transfers. This includes tank storages, totes, drums and transfer containers.

c. All storage tanks must be grounded.

d. Electrical equipment in areas where Class I and II liquids and flammable gases are dispensed or stored must meet Class I, Division 1 and/or Division 2 ratings per NFPA requirements.

e. Brass tools are to be used whenever disassembly of piping that contains Class I or II liquids or flammable gases is taking place.

E. DISPENSING OPERATIONS

1. Class I and II liquids shall be dispensed from or transferred into vessels, containers or portable tanks by one of the following methods:

   a. from original shipping containers with a capacity of 5 U.S. gallons or less;

   b. from safety cans;

   c. from portable tanks or containers by means of an approved dispensing device;

   d. through a closed piping system;

   e. by gravity through an approved self-closing valve or faucet;

   f. through a hose only if it is equipped with an approved self-closing valve without a hold-open latch in addition to the outlet valve.

2. Transferring flammable liquids by means of air pressure on the container or portable tank is not allowed.

3. Original manufacturers shipping containers used in dispensing must be grounded.

4. Dispensing or transferring Class I or II liquids requires that the containers be bonded. Bonding is also required when transferring liquids from a pipe to a container by gravity.

5. Drums, used for dispensing Class I and II liquids in the horizontal position, must be equipped with self-closing faucets and safety bung vents equipped with flame arrestors.

6. Drums, used for dispensing Class I and II liquids in the vertical position, must be equipped with an approved flammable liquids pump and dispensed through the bung opening in the top of the drum.

7. Drip pans shall be provided under faucets in horizontal drum dispensing areas.

8. Hoses used for dispensing shall be equipped with self-closing nozzles. An outlet valve must be provided between the tank and nozzle on storage tanks.

F. STORAGE TANKS, TOTES AND DRUM STORAGE

1. Flammable liquids are to be handled in steel containers only. No plastic containers for storage or handling these materials are allowed within the mill.

2. Individual locations for tanks, portable totes, and drum storage will be evaluated by EHS on a case-by-case basis, considering material stored, construction materials, fire protection, containment and exposures in the proposed area of use.

3. Other design criteria for pumping, piping, venting, fire protection and other measures must be reviewed by EHS to assure all codes and standards are being met.

G. GAS CYLINDER STORAGE AND HANDLING

1. Labels and Markings on compressed gas cylinders must indicate contents.

2. All cylinders must meet DOT requirements.

3. Cylinders containing residual material will be treated the same as full cylinders.

4. Any cylinders found to be damaged or defective shall be removed from service and returned to the supplier.

5. When cylinders are designed to accept valve protection caps, the caps shall be in place except when the cylinder is connected for use.

6. When gas tight valve outlet plugs or caps are provided, they shall be kept on the valve outlet at all times except when the cylinder is connected for use.

7. All compressed gas or liquefied gas cylinders shall be secured at all times to prevent them from falling or being knocked over.

8. Liquefied gas cylinders shall be stored in the upright position or in a position such that the pressure relief valve is in direct communication with the vapor space of the cylinder.

9. Cylinders are to be used only with equipment and in a manner for which they were designed and approved. There will be no alterations or modifications to cylinders or their valves that is not approved by the supplier or manufacturer of the cylinder.

10. When not in use, all flammable gas cylinders must have the valve closed.
    NOTE: LP Cylinders mounted on powered industrial trucks are considered "in use".

11. Compressed and liquefied flammable gases shall be stored separate from incompatible and oxidizing gases. This may be accomplished in either of the following ways:

    a. Stored in a manner where they are segregated from incompatible, combustible, or oxidizing materials by a minimum distance of 20 feet, or

    b. Isolated from incompatible, combustible, or oxidizing materials by a barrier at least 5 ft. high and with a minimum fire resistance rating of ½ hour.

12. The current list of approved storage areas for ignitable liquids and flammable gases/liquefied gases are;

    a. Compressed gas storage room – Stores

    b. LP storage room – West end Pulp Warehouse

    c. LP storage Room 41 Machine (South of Core Cutter area)

    d. Cylinder Storage Area – Aisle by main Maintenance Shop

    e. Cylinder Storage Area – South side Contractors Building

    f. Cylinder Storage Area – South door – R&U

V. RESPONSIBILITIES

A. Department

1. Documentation of review of this policy must occur with all employees, visitors, and contract employees. Annual review and documentation must occur with mill members.

2. Departments are responsible to ensure used fire extinguishers are placed in the storage racks designated for that purpose and that a fully charged extinguisher is put back in place.

3. Notify Plant Protection any time that a fire extinguisher is used and/or any time that a fire (or smoker/smoldering fire) occurs within their department.

4. Departments are responsible for notifying EHS in the event that changes are planned for flammable liquids handling or new materials are being considered for use.

B. Health & Safety

1. The Health & Safety Department is responsible for initial instruction.

2. Plant Protection will make rounds to check all fire extinguishers are in their proper location and fully charged. Additionally, Plant Protection will make rounds of the fire extinguisher storage areas to confirm that used extinguishers are being replaced with fully charged units.

3. Health & Safety is responsible for working with Engineering to assure that all state, federal, internal and insurance codes and standards are properly addressed for new installations and projects.

C. Members

1. Members have the responsibility to fulfill the intent of this policy. Mill members shall effectively enforce compliance with the policy. Review and documentation of the policy to mill members must occur annually.

2. Responsible Quinnesec members must inform and document the communication of this policy to all visitors and contract employees.

3. Members are responsible to know how to properly use a fire extinguisher. They are also responsible to place used extinguisher in the drop area and to replace it with a fully charged extinguisher.

4. Members shall comply with and enforce compliance with Verso's no smoking policy.

5. Members must be familiar with how to determine flammability of various materials using information in SDS's, the NFPA 704 Label, and/or the HMIS Label.

D. Contractors

Contractors are responsible for complying with Verso's no smoking requirements.

APPENDIX A

Aerosol Can and Flammable Storage Cabinet FAQ

This FAQ sheet has been compiled to answer general questions about the usage of aerosol cans. It is NOT all inclusive and doesn't provide answers to all possible questions. However it touches on some of the common concerns around the storage and use of Aerosol cans. If you need more information on any of the answers provided or if you have other questions that you need answered please contact the safety department. If you would like to look up the rules and information on your own the website is listed at the bottom of this document. If you see aerosols being used in an unsafe matter or if you feel that any of these answer could be used to blanket unsafe behavior it is important that you voice those concerns. Safety is the responsibility of everyone at the Quinnesec mill.

Q. Can I store a couple cans of WD40 on my maintenance cart?

A. Yes, generally speaking you are able to hold cans on your maintenance cart as long as it doesn't go against the usage on the label. They should be placed in a tool box/bin so they are secured and are not at risk of falling off of the cart and rupturing. This would be considered the same as carrying them to the job in your hand.

Q. Can I store a spray can of lubricant in an I-beam next to equipment we use it on regularly?

A. No, Aerosols should be stored in storage cabinets. The key phrase here is "store". Storing implies that the cans could be unmonitored for a long period of time. So the argument of "If I can keep them on my cart why do they have to be stored in a cabinet?" doesn't hold up here.

Q. Can I store aerosol cans in a regular wooden or metal cabinet?

A. Yes, if the aerosol can isn't labeled "Flammable" (require by 15 U.S.C 1261) then it can be stored in a normal storage cabinet. NOTE: Many, if not most, of the aerosol products we use here at the mill will be labeled "Flammable"

Q. How many aerosols can be stored in one cabinet?

A. You can store 1000 lbs. (roughly 1000 cans) of level 2 product in a storage cabinet, or a maximum of 500 lbs. (roughly 500 cans) of level 3 aerosol product. The combined weight of level 2 and level 3 products in the same cabinet cannot be more than 1000 lbs. You can consult the MSDS of the products that you use to determine their level.

Q. Does the ventilation bung have to be in or out of a cabinet in use?

A. According to NFPA (National Fire Protection Association) Code 30, *Flammable and Combustible Liquids Code Handbook*, venting a chemical storage cabinet is not necessary for fire protection purposes. ***Flammable and combustible liquid storage cabinets are designed to protect the internal contents from a fire outside the cabinet***. A vented cabinet could compromise the ability of the cabinet to protect its contents from a fire.

Q. Do flammable and combustible liquid storage cabinets need to be grounded?

A. Unless you are dispensing a flammable or combustible liquid out of them, safety cabinets are not required by federal regulations to have a grounding point; however, in order for that cabinet to receive Factory Mutual (FM) approval, it needs to be equipped with one. Therefore, do your flammable liquid dispensing outside of the cabinet or get the cabinet grounded.

Q. What about Level 1 products?

A. Level 1 products are not really a storage concern here at the mill (They're also not real common). Level 1 products are considered equivalent to a Class III commodity (a Class III commodity is defined as wood, paper, natural fiber, cloth, or Group C plastics, with or without combustible pallets.) Therefore, storage on a cart or shelf is acceptable.

Q. Can we put in a couple shelves and store aerosols in our oil storage room?

A. Yes, Storage of aerosol products is permitted inside flammable liquid storage areas of 500 sq. ft. or less, that meet the requirements of NFPA 30, up to a maximum of 1000 lbs. of combined level 2 and 3 aerosol products. For storage rooms of greater than 500 sq. ft. you can store up to 2500 lbs. of combined level 2 and 3 aerosol products. The shelves should be no more than 30 in. deep and spaced 24 in. to 36 in. apart vertically. The total shelf structure should not exceed 15 ft. in height. [NFPA 30 addresses inside storage rooms as follows: Openings in walls to adjacent rooms or buildings and openings in exterior walls with fire resistance ratings shall be provided with normally closed, listed fire doors with fire resistance ratings corresponding to the fire resistance rating of the wall as follows:

Fire Resistance Rating Of Wall (Hrs.):	Fire Resistance Rating Of Doors (Hrs.):
1	¾
2	1
4	3

There are additional requirements for room design depending on use. Contact mill engineering for the design specifications related to the room in question.]

Q. What do you mean by Level 1, 2 and 3?

A. The following chart explains the levels as they relate to the heat of combustion for aerosol products:

CLASSIFICATION OF AEROSOL PRODUCTS

CHEMICAL HEAT OF COMBUSTION		
Greater than (Btu/lb.)	**Less than or equal to (Btu/lb.)**	**AEROSOL CLASSIFICATION**
0	8,600	1
8,600	13,000	2
13,000	***	3

For SI: 1 British thermal unit per pound = 0.002326 KJ/g.

Manufacturers are required to label cartons carrying their aerosols with the level as follows:

LEVEL _____AEROSOL

If you do not have the original carton with the level printed on it, the manufacturer's web site will typically list it, or you can call their tech line to get it. You can also commonly get this information from the SDS. For instance, the SDS for WD40 indicates that it is a Level 3 Aerosol.

What do I do with a damaged Aerosol can?

Take the damaged aerosol can to the Store Room, there is a 55 gallon drum near the issue desk that is used to collect damaged aerosol cans. These will be properly disposed of at a later date. If you have a

leaking can, wrap it in a sorbent pad(s), place it in a sealed plastic bag, and contact the Environmental group. The Environmental group will arrange for the can to be properly disposed of.

Summary: The most important information about the usage of aerosol cans is contained on its label. All aerosols are required to have health and safety notes on their labeling. More information about aerosol safety can be found on the following website:

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9752

APPENDIX B

Classification of Flammable and Combustible Liquids

Class IA Flammable Liquid	A liquid with a flash point below 73° F (23°C) and a boiling point below 100°F (38°C)
Class IB Flammable Liquid	A liquid with a flash point below 73° F (23° C) and a boiling point at or above 100° F (38°C).
Class IC Flammable Liquid	A liquid with a flash point at or above 73° F (23° C) and below 100° F (38° C).
Class II Combustible Liquid	A liquid with a flash point at or above 100° F (38° C) and below 140° F (60° C).
Class IIIA Combustible Liquid	A liquid with a flash point at or above 140° F and below 200° F (93° C).
Class IIIB Combustible Liquid	A liquid with a flash point at or above 200° F (93° C).

APPENDIX C

Common Material Classifications, Storage and Examples

NFPA FLAMMABILITY RATING (2)	NFPA FLAMMABLE/COMBUSTIBLE CLASSIFICATION	STORAGE REQUIREMENTS (1)	EXAMPLE(S)
0	Non- Combustible liquids	No specific requirements for storage.	
1 (Flash Point Above 200° F)	Class IIIB Combustible liquids	Class IIIB materials are not specifically addressed in the policy. Common sense in storage of these materials. Consult EHS for more information.	Lube Oils Hydraulic Oil Used oil
2 (Flash Point Below 200° F)	Class II and Class IIIA Combustible Liquids	Approved storage containers and use of Flammable liquid storage cabinets. Limit amount stored outside of cabinets/ storage rooms (Two Portable Tanks)	Fuel Oil, Kerosene Cleansol
3 (Flash Point Below 100° F)	Class IC Flammable Liquids	Approved storage containers and use of Flammable liquid storage cabinets. Limit amount stored outside of cabinets/ storage rooms (Two 55 Gal. Drum)	Methanol Turpentine
4 (Flash Point Below 73° F)	Class IA and Class IB Flammable Liquids	Approved storage containers and use of Flammable liquid storage cabinets. Limit amount stored outside of cabinets/ storage rooms (15 Gal.)	Gasoline Acetone

1) This table is a generalization of how you can relate the NFPA Flammability Rating on container labels or from the MSDS to the classification, and an idea of what some of the requirements or limitations for storage. There may be a need to research a particular product to identify all the appropriate requirements

2) The NFPA Flammability rating is the number in the red area at the top of the NFPA 704 Diamond.