September 13, 2021

City of Saint Paul
Legislative Hearing Officer
15 W. Kellogg Blvd. – Room 310 City Hall
Saint Paul, MN 55102

RE: Request for Appeal: Fire Inspection Correction Notice 35410
Versacold USA LLC /Americold
240 Chester Street
Saint Paul, MN

To whom it may concern;

This letter is in response to our most recent appeals hearing, held July 13, 2021, for the above referenced project. Following the July 13, 2021 hearing, Versacold/Americold and its technical team have reviewed the matter from two perspectives: a code compliance standpoint and a life safety standpoint. This letter summarizes our findings regarding the applicability of the codes to our project and summarizes the features of fire protection and life safety that are being maintained at our facility.

The site is comprised of two main buildings, each having similar functions. Both buildings include configurable cooler/freezer areas with their associated product handling loading/unloading docks, accessory refrigeration rooms, and forklift charging areas. The north building (230-240 Chester) is roughly 118,000 sf and is comprised mainly of cooler/freezer areas with limited administrative office areas on the north side. The south building (250-260 Chester) is roughly 75,000 sf and is dedicated to cooler/freezer functions. The buildings are connected on the east side by an 11,000-sf loading dock. According to insurance survey reports, the north building was built in 1970 and the south building was built in 1972. Early editions of the Uniform Building Code would classify the buildings as Group B.3 (Business) and Group G (Cold Storage) given the low hazard class of its contents.

Americold owned and began occupancy of the building in 1997. The building was sold to Inland American St Paul Atlas, LLC and re-leased to Versacold USA LLC (an affiliate of Americold) in 2007. There was no change in occupancy, only a change in ownership. This facility is currently being leased by Versacold/Americold for a period of 20 years. The lease began on September 28, 2007 and is scheduled to terminate on September 27, 2027. Americold is currently 14 years into a 20-yr. lease.

1.0 CODE ISSUE

Item 4 of Fire Inspection Correction Notice 35410, issued August 5, 2016 cites Minnesota State Fire Code (MSFC) §2302.1 and requests that all storage at the facility be reduced to 12 feet or less, or that a compliant sprinkler system be provided to support the observed commodities. The inspection cited Class I-III commodity stored at varying storage heights greater than 12 feet and sought to apply MSFC Chapter 23, as it pertains to "high-piled" storage. Note that since the issuance of this notice in 2016, the state and local jurisdictions have adopted more-recent versions of these codes and the cited section numbers have changes in the newer versions.

1.1 Building Codes Applicable to Existing Buildings

Our research indicates that this facility was granted a certificate of occupancy on June 20, 2004. Prior certificates of occupancy for this facility were obtained in 1998, 1995, 1993, 1991, 1990, 1988, and 1974 under varying business entities, all with similar uses (Attachment A). The occupancies listed for the property included "Warehouse" and "Office (Low-Rise)". These

designations accurately reflect the use of the facility at the time and continue to reflect the facility's current use.

The 2020 Minnesota Conservation Code for Existing Buildings (MSCC) was adopted to address minimum levels of life safety and property protection in existing buildings. The underlying code sets referenced by the MSCC are the 2018 International Existing Building Code (IEBC) and the 2020 Minnesota Building Code (MSBC), which references the 2018 International Building Code (IBC).

State amendments in the MSCC (Subpart 3) refer to Minnesota Rules Chapter 1300 for the administration of this code. Minnesota Rules §1300.0220, Subpart 2 states that:

> *The legal occupancy of any structure existing on the date of adoption of the code shall be permitted to continue without change.*

The MSCC and the referenced IEBC have only a limited number of instances where current code requirements are imposed on an existing building retroactively. Those applications are commonly triggered by the following:

- Alterations of more than 50% of the building area (MCC/IEBC Chapter 9)
- Change of Occupancy (MCC/IEBC Chapter 10)
- Additions (MCC/IEBC Chapter 11)
- "Unsafe" Buildings (Minnesota Administrative Rules §1300.0180)

The general presumption against retroactivity like-wise applies to the fire code (see Section 1.2). For instance, when the concept of "high-piled combustible storage" first appeared in the Uniform Fire Code in 1979 (then called "high-piled combustible stock"), §1.103 made clear that "the provisions of this code shall apply to existing conditions as well as to conditions arising after the adoption thereof, except that conditions legally in existence at the adoption of those code and not in strict compliance therewith shall be permitted to continue if, in the opinion of the chief, they do not constitute a distinct hazard to life or property." A tenant has operated a cold-storage warehouse, unabated, on this premises for nearly forty years, and no fire official has made any determination that that such an operation has posed a "distinct hazard to life or property.

Nevertheless, the two concerns raised by the St. Paul Building and Fire Code Officials during our telecon on July 9, 2021 were related to a perceived change of occupancy (non-high-piled storage to high-piled storage) or a perceived unsafe condition. For the reasons stated below, those concerns are unsubstantiated.

1.1.1 Investigation of Change of Use

The design of the original facility indicates it was clearly intended for storage of commodities over 12 ft in height. As a cooler/freezer facility, the volume of the building is a key factor when determining cooling design. It is unlikely that a facility would incorporate a >25-ft ceiling height, and temperature-control this large volume to below-freezing temperatures, with the intent to only store commodity up to 12 ft.

We have also produced periodic site inspection reports filed by the facility's insurance carrier (Global Risk Consultants) in 2010, 2013, 2016, and 2018, that consistently document the same stored commodities and storage heights throughout the Americold lease period (Attachment B). The time period covered by these inspections includes April 26, 2016, which roughly coincides with the August 5, 2016 fire code official inspection. All insurance carrier inspections since 2010 have referenced storage over 12 ft and reflect no change in use. In addition, this time period includes March 2017, when the Americold storage facility was previously inspected by the fire code official. At that time, Americold would have had approximately 7500-9700 pallets of totes on

hand (Attachment C). Given the space and manpower available to the facility, Americold could only accommodate this number of pallets in "five high" bulk and/or in "four high" racking.

We can also conclude, given the age of the storage racks at the facility which pre-date Americold's occupancy in 1997, the current rack storage configuration has been supported by this facility for quite some time. These rack structures, and the storage arrangement they represent, were accurately reflected when the building certificate of occupancy was issued on numerous occasions, to numerous prior tenants dating back to 1974. The 1974 certificate of occupancy indicates that the facility operated as a "cold storage warehouse." In the context of Americold's, occupancy timeframe, our findings indicate that this is an existing building that has not undergone any change of use since it was legally occupied by Americold as a freezer storage facility in 1997.

1.1.2 Classification as an Unsafe Building or Structure

Unsafe buildings are defined in Minnesota Administrative Rules §1300.0180. Although it is generally within the Building or Fire Code Officials' power to deem any building unsafe, this code section typically applies to buildings that are legally occupied that have become unsafe "by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, disaster, damage, or abandonment." Recall, unsafe conditions brought about by additions, renovations, or changes in use are handled by other chapters of the code. Encountering an existing unsprinklered building is generally not sufficient to deem the building unsafe. If this were the case, a large number of unsprinklered buildings in a jurisdiction could be subject to mandatory sprinkler upgrades under this interpretation.

In reality, mandatory sprinkler upgrades in existing buildings are cited on a very limited basis in the codes, due to the hardships they propose when installed retroactively. In those unique cases, the code does not rely on the interpretation of an "unsafe condition" to impose the retroactive requirement, but rather the codes include specific language in specific sections of the code to require the upgrades. One such example is MSFC Appendix M, requiring high-rise buildings to be sprinklered. At first glance, it could be construed that *all* existing/unsprinklered high rise buildings (especially apartments and hotels) that were built under a legacy code, represent an unsafe condition when compared to the level of life safety mandated by current codes. Yet, since there is no mandatory retroactive sprinkler requirement in the body of the MSFC, and since Minnesota Administrative Rules §1300.0180 governing unsafe buildings is not commonly applied to this condition (no dilapidation, obsolescence, damage, or change in fire hazard), the MSFC offers Appendix M for local adoption.

Unsprinklered high-rise hotels or apartment buildings contain sleeping individuals of varying ages and physical capabilities, who may or may not be familiar with their surroundings. High rise buildings pose special challenges to fire departments operations. Taking those buildings as examples for what could clearly be regarded as an unsafe building, we find that the application of the unsafe building provisions in the Building Code is generally not sufficient to support retroactive sprinklering of those buildings. Jurisdictions typically require written ordinances before retroactive sprinklering is mandated.

1.2 Fire Code (MSFC) and Legislative Code (SPLC) Sections Applicable to Existing Buildings

1.2.1 General Provisions

Per MSFC §102.1, the MSFC and the International Fire Code (IFC) upon which it is based, are primarily structured to govern construction and design.

> *The construction and design provisions of this code shall apply to:*
>
> 1. *Structures, facilities, and conditions arising after the adoption of this code.*
> 2. *Existing structures, facilities, and conditions when identified in specific sections of this code.*
> 3. *Existing structures, facilities, and conditions that, in the opinion of the code official, constitute a distinct hazard to life and property.*

In general, the MSFC and the IFC, are not intended to be applied retroactively as a whole. In fact, only limited specific provisions in the MSFC are cited as retroactive in existing buildings. The MSFC chapter governing existing facilities is Chapter 11 *Construction Requirements for Existing Buildings.*

Compliance with Chapter 11 is compliance with MSFC. Per MSFC §1104.4:

> *When a building is found to be in noncompliance with MSFC Chapter 11, as amended, the code official shall duly notify the owner of the building. Upon receipt of such notice, the owner shall, subject to the following time limits, take necessary actions to comply with the provisions of this chapter.*

The observed noncompliance of an existing building does not prompt mandatory compliance with other chapters or sections of the code. Where a noncompliance in an existing building is cited, the remedy is compliance with Chapter 11.

1.2.2 Administrative, Operational, and Maintenance Provisions

The MSFC and the International Fire Code (IFC) upon which it is based, also includes administrative, operational and maintenance provisions (MSFC §102.2), that can be applied a bit more broadly, through the use of permits.

> *The administrative, operational and maintenance provisions of this code shall apply to:*
>
> 1. *Conditions and operations arising after the adoption of this code.*
> 2. *Existing conditions and operations.*

MSFC amendments to this section define the operational provisions of the code as those provisions that require permits for operation under MSFC §105.6.1 through 105.6.50. Permits are typically introduced by ordinance and have established compliance scope, fees, and durations.

The International Code Council Commentary on §102.2 clarifies the scope and intent of administrative, operational and maintenance provisions by stating:

> *Although sections 102.1 in 102.2 are the controlling sections for retroactive application of the code to existing buildings, they do not provide for retroactive code application solely on the basis of a change in ownership or the occupying tenant. If a change in the occupancy group or the character of use occurs, the current edition of the code becomes enforceable in such cases Section 102.3 also applies.*

In our review, and as evidenced by the multiple certificates of occupancy obtained for this facility, the facility has only undergone a change in ownership and has not undergone any change in occupancy group or character of use.

1.2.3 Certificate of Occupancy Provisions

Language found in the original Fire Inspection Correction Notice #35410 stated that "The St. Paul legislative code requires that no building shall be occupied without a Fire Certificate of Occupancy." As stated earlier, the issuance of a certificate of occupancy to an existing building that has not undergone a change of use is covered by Minnesota Rules §1300.0220, Subpart 2.These provisions are in line with the St. Paul Legislative Code (SPLC) Part II, Section 40 which speaks to the "Fire Certificate of Occupancy." SPLC §40.01 states:

> *All existing buildings in the city are required to have and maintain a fire certificate of occupancy, issued by the department of safety and inspections. The fire certificate of occupancy shall be an indication that the building meets, at the time of inspection, all relevant codes to maintain the health, safety and welfare of the building's occupants and the general public.*

Our findings indicate that, when evaluating an existing building that has had multiple certificates of occupancy and has not undergone a change in use, the terms "to have and maintain" and "all relevant codes" pertain to the MSCC and referenced Building and Fire Codes that govern existing buildings.

SPLC §40.04 describes the certification process. For existing buildings and subsection a.4 applies:

> *Commercial buildings and residential occupancies which have current fire certificates of occupancy on or after January 1, 2007 shall be subject to the ongoing requirement to maintain a fire certificate of occupancy. These buildings shall be issued fire certificates of occupancy and shall be subject to periodic inspection based on the date of the building's last complete fire certificate of occupancy inspection, subject to the terms of this chapter.*

Our findings indicate that, when evaluating an existing building that has had multiple certificates of occupancy and has not undergone a change in use, the term "subject to the ongoing requirement to maintain a fire certificate of occupancy" pertains to the MSCC and referenced Building and Fire Codes that govern existing buildings.

1.2.4 Sprinkler Systems (MSFC §1103.5)

There are only 4 instances in MSFC Chapter 11 §1103.5 that require the retroactive installation of sprinkler systems. These are:

1. *Hospitals, nursing homes, psychiatric facilities, and other I-2 occupancies*
2. *The basements of commercial drinking establishments, bowling alleys, any Institutional occupancies, and hotels, apartments, and similar residential occupancies.*
3. *Facilities containing Pyroxylin Plastics (cellulose nitrate), and*
4. *Existing rubbish and linen chutes.*

The retroactive requirements to sprinkler hospitals, nursing homes, psychiatric facilities, and other similar I-2 occupancies is quite clear. Those occupants are not familiar with their surroundings and are generally not capable of self-preservation. As a result, a sprinkler system is regarded as a mandatory life safety improvement.

The retroactive requirement to sprinkler basements of Assembly occupancies, Institutional occupancies, and specific Residential occupancies shares a common theme of limited fire department access to occupancies that represent a reasonable level of life safety risk. These occupancies can contain large groups of people that may be inebriated or otherwise distracted (drinking or bowling establishments), educational facilities containing children in grades K

through 12, groups of people that might be restrained for medical or security reasons in an institutional setting, or occupants of varying ages and physical capabilities who may or may not be familiar with their surroundings in a residential setting (sleeping occupants). All of those life safety risks pertaining to those occupancies and uses are coupled with the fact that these occupied levels are below grade, limiting fire department capabilities for firefighting or rescue. All such firefighting and rescue activities must take place through existing stairs, which would naturally be overcome by smoke as hot gases tend to rise up the stair enclosures from the basement. It is clear that this retroactive requirement is important and is very-specifically applied by this chapter for the code.

Facilities containing Pyroxylin plastics (an archaic form of film) are quite rare. This film media is extremely flammable and was used heavily in the mid-20th century. As a result, it is possible to encounter existing buildings, constructed under legacy building codes, that contain this occupancy and are not sprinklered. The code has identified this unique flammability hazard and prescribed a mandatory automatic sprinkler system to mitigate the hazard.

Similarly, MSFC code authors have identified rubbish and linen chutes as a unique hazard (likely based on some experience or loss history) and have amended the IFC language to include a retroactive sprinkler requirement for rubbish and linen chutes.

As with the prior discussion in Section 1.1.2 of this report, one can conclude that all of these conditions are clearly unsafe, yet that determination alone would not typically be sufficient to mandate retroactive sprinkler requirements. Specific language found in MSFC Chapter 11 is provided to guide specific enforcement and retroactivity in these situations.

There are no mandatory sprinkler system requirements found in this chapter for existing storage facilities.

1.2.5 Standpipe Systems (MSFC §1103.6)

Standpipe systems are generally provided in sprinklered or unsprinklered buildings where the location of occupiable floors creates access challenges to responding fire departments. MSFC §1103.6 prescribes manual or automatic standpipes for existing buildings with occupied floors located more than 50 feet above the lowest level of fire department access or more than 50 feet below the highest level fire department access.

This code section does not address very large one-story buildings, where access from the perimeter doors to all portions of the floor area within the building perimeter may create challenges to responding fire departments. In much the same way deploying hose vertically up/down stairs to reach floor areas is deemed challenging, deploying hose horizontally into an occupancy experiencing an active fire would also be challenging.

Despite this condition, the MSFC/IFC have no mandatory standpipe provisions for new or existing single-story storage buildings, unless mandated by other sections of the code (*e.g.*, horizontal exits, malls, stages, *etc.*).

1.2.6 Fire Alarm Systems (MSFC §1103.7)

Fire alarm system provisions in this section speak to fire detection and initiation of alarms as well as subsequent occupant notification. These automatic features of a fire alarm system improve the level of life safety by alerting occupants to incipient fire conditions, allowing evacuation to occur sooner in a fire event. The automatic nature of these systems also includes off-site notification of the fire department, allowing first responders to dispatch to the site sooner in a fire event.

As with sprinkler systems, the retroactive application of these requirements is occupancy-driven. Retroactive requirements exist for assembly occupancies containing large groups of people who may or may not be familiar with their surroundings, educational occupancies containing K-12

students, institutional occupancies where occupants may not be capable of self-preservation, and residential occupancies where occupants of varying ages and physical capabilities may or may not be familiar with their surroundings or where sleeping occupants may be present.

There are no mandatory fire alarm system requirements found in this chapter for existing storage facilities.

2.0 FACILITY FEATURES SUPPORTING LIFE SAFETY AND PROPERTY PROTECTION

In light of the code research performed above, Americold can assure that existing operational and maintenance protocols will either remain in effect or be improved during the course of Americold's remaining lease period. Americold can also develop additional life safety and property protection measures in conjunction with the St. Paul Fire Department and the building owner to improve fire department response capabilities in the interim.

2.1 Limited Occupancy by Trained Personnel

As a freezer facility, the occupant load in each of these buildings is quite low. The facility operates on a single shift, with roughly 9 workers at the entire complex (five forklift, two maintenance, and only two office). Those workers accessing the storage areas are on forklifts, and no one resides within the cooler/freezer storage arrays. Americold procedures document the presence of each employee for accountability during emergency situations. All employees working at the facility are familiar with their surroundings and visitors are limited. Visitors to the facility are provided with mandatory safety training regarding fire and other hazards and are escorted by Americold employees at all times.

Americold has adopted plans and performs drills to simulate emergency evacuation situations. There are procedures for identifying a hazard, notifying employees within the facility, and assembling at safe zones outside the building, where occupants can be accounted for. These drills and training function as a fire watch or fire warden program, where every employee is responsible for identifying an unsafe condition and initiating general building alerts and relocation instructions per the established life safety plans.

When compared to other occupancy groups, and even when compared to other storage occupancies, we find that the cooler/freezer nature of these buildings makes them unoccupiable, and the longer-term static nature of the freezer storage greatly reduces the life safety risk.

It is important to note, that with such a limited number of occupants, and a defined emergency response plan, the fire risk to occupants is low. Therefore, the risk to responding fire departments who conduct search and rescue operations is also reduced by these conditions.

2.2 Limited Exposure to Adjacent Properties

Taking the site as a whole, the next-nearest occupied building is over 300 ft away in all directions. Public hydrants that are provided along Chester Street are sufficient to provide cooling water at the perimeter of the Americold property, to ensure fire spread to adjacent properties is not likely. Furthermore, the entire perimeter of the building area is paved for truck access and there is no potential for fire to spread though vegetation. These paved buffers range from more than 60 ft to more than 150 ft.

2.3 Low-Hazard Commodity Classification

Typical commodities found at the facility have the following commodity classifications in National Fire Protection Association (NFPA) 13, *Standard for the Installation of Sprinkler Systems.* A similar commodity classification system is provided in MSFC Table 3203.8 All commodity is nonencapsulated.

Table 1. NFPA 13 Commodity Classifications (NFPA 13 §A.5.6.3/MSFC Table 3203.8).

COMMODITY DESCRIPTION	CLASSIFICATION
Frozen foods, nonwaxed or nonplastic packaging	Class I
Foods (coffee, fish products, fruit, meat products, nuts, poultry, etc.); metal cans	Class I
Fruits and vegetables (noncombustible semi-liquids); crushed; plastic containers up to 5 gallons (20 L)	Class I
Fruits and vegetables; fresh; wood spacers, non-plastic trays or containers	Class I
Liquids or semi-liquids (e.g., crushed fruits and vegetables); plastic containers up to 5 gallons (18.9 L) capacity	Class I
Liquids or semi-liquids; PET containers up to 5 gallons (20 L) or greater than 5 gallons (20 L) having a nominal wall thickness up to 0.25 in (6 mm)	Class I
Liquids; cardboard drink boxes, plastic-coated, wax-coated, and/or aluminum-lined; uncartoned or on corrugated carton trays with plastic sheeting.	Class I
Frozen foods; waxed or plastic-coated paper packaging	Class II
Liquids or semi-liquids; plastic (except PET) containers greater than 5 gallons (20 L) capacity having a nominal wall thickness up to 0.25 in. (6 mm)	Class II
Idle wood pallets (already maintained< 6ft)	Special Classification

Americold's goal will be to only use high-piled storage configurations or Class I-II commodities. Class I and II commodities are the lowest hazard class identified in the code. Frozen foods, given their difficulty to ignite, are comparable to exposed noncombustible products (*e.g.,* metal parts, noncombustible liquids in noncombustible containers, inorganic materials, *etc.*) or noncombustible products in cardboard cartons.

There are no Class III (or higher) hazard commodities planned for this facility. Any Class III commodities received at the site will be limited in height, segregated from other storage, or located in areas with better fire department access and localized access to manual firefighting features. For example, higher hazard commodities could be stored in "Room C." This would improve access from the fire department ingress doors and fire lanes established on the west side of the building.

2.4 Variable Stock Quantities and Storage Heights

The nature of Americold's storage is cyclical, based on varying seasons of food production. For example, frozen vegetable storage increases and decreases at certain points of the year, as would the storage of frozen turkeys (ramping up before November and dropping considerably after December). Americold logistics tracking abilities will allow them to distribute commodities in warehouses that are underutilized at certain points in the year. Currently, a warehouse area that is only being used at 50% capacity, may include racks at full height over only 50% of the floor area. It would be expected that inspections performed at varying times of the season would reveal varying, and more favorable, storage heights.

This significantly changes the risk profile of the overall building. Instead of the risk being represented by over 12 foot storage in racks in all areas, all of the time (typical of a manufacturing

or fixed goods storage warehouse), the ability to consolidate high racks and eventually reduce rack storage heights, at times of low inventory, will reduce the risk profile in those areas.

3.0 ALTERNATIVES CONSIDERED

Though Americold continues to assert it complies with the code relevant to this facility, in the past three months Americold has considered a number of alternatives to increase the fire protection capabilities of the facility. These included cost/benefit analyses for site water supply improvements, fire detection systems, manual standpipe systems, improved building access, and sprinklers.

The site infrastructure is considerably underdeveloped and would be prerequisite to the installation of any sprinkler or standpipe system. Site infrastructure improvements would include the addition of multiple hydrants and underground fire mains to serve sprinkler risers. A schematic engineering plan was developed and sent for bid estimates. Koorsen Facilities Management, a reputable construction and fire & security contractor, estimated that these facilities would require a $600k outlay over at least two years.

At roughly 205,000 sf of total space (offices and operational coolers/freezers), the in-building sprinkler and fire alarm (detection, release, and monitoring) systems are estimated at $1.4M. This cost does not include a fire pump and pump house that may be required to achieve sprinkler system pressures. As a result, the total cost to provide fully sprinklered buildings is estimated at over $2.2M.

After review of the facility infrastructure and evaluation by multiple fire professionals, Americold concluded that the investment to increase protection at the site will require significant infrastructure improvements before any in-building sprinkler systems can even be considered. Americold's operations could not support site infrastructure improvements required to materially enhance the fire suppression capabilities of the facility.

This hardship is common in existing buildings and is aptly considered in MSCC language. MSCC sections pertaining to major building alterations or renovations (a more pejorative circumstance than an existing building with no change of use) are described in §904.1. In the majority of these applications, the MSCC only supports retroactive sprinklers for building alterations when "The building site has sufficient municipal water supply for design and installation of an automatic sprinkler system." (MSCC §904.1.4, Condition 2). It is clearly not the intent to mandate retroactive sprinklers in an existing building, undergoing no alteration, renovation, or change of use, where there is no site infrastructure present to support it.

4.0 CONCLUSION

The Americold facility has been in operation under no less than eight certificates of occupancy dating back to at least 1974. The facility has not undergone a change in use or operation during that time. The facility has only undergone ownership and tenant name changes. As a building with a valid certificate of occupancy, no change of use, and no operational changes, Americold find that the reissuance of any certificate of occupancy should be in accordance with the "relevant codes" governing that facility. As an existing facility with no change in use or operation, the MSCC, MSFC, and Minnesota Rules §1300.0220, Subpart 2 should apply, and references to relevant codes should direct Code Officials and users to the "existing building" sections of those referenced codes for compliance. We find those codes do not support retroactive sprinklering or mandatory changes in operation.

Instead, Americold believes that the prior eight certificates of occupancy were correctly granted based on the merits of this building:

- There has been no change in use or operation since 1974.
- The building contains only 9 occupants, each of whom are trained to identify, alert, and initiate evacuation using pre-planned evacuation strategies. Visitors are escorted at all times and accounted-for.
- There is no hazard to adjacent structures or property. The facility provides over 300 ft fire separation distance with a large percentage of this buffer being noncombustible paving.
- The facility only store and handles frozen Class I and II commodity. These are the lowest hazard classes recognized by code, and are comparable to completely noncombustible products (metals, wire, noncombustible liquids or powders, *etc*.).
- The facility differs from ordinary storage applications in that the cyclical nature of frozen food storage implies full storage height and area is not used 100% of the time. The risk profile is not constant and is greatly-reduced as stock is depleted throughout the year.

Americold is committed to reducing our risk profile by updating our emergency response procedures to ensure worker training and accountability of all workers present at the facility. We will continue to limit access to the facility and provide training and escorts to nonemployees visiting the facility. We will also monitor its logistics programs to reduce storage height of cyclical products stored at the facility whenever possible. In addition, Americold will make efforts to store only the lowest hazard commodities (Class I and Class II) above 12 feet in height. Although no higher-hazard commodities are anticipated, any Class III (or higher) commodities will be limited in storage height or consolidated in areas with lower ceilings and more direct access to manual firefighting.

If you have further questions, please do not hesitate to contact me at (763) 535-5000, Extension 50729 or Terry.Hopkins@americold.com

Sincerely,

Terry Hopkins

Terry Hopkins
Americold
General Manager - Saint Paul

Attachments:

Attachment A – Prior Certificates of Occupancy (5 Pages)
Attachment B – Prior Loss Prevention Reports (67 Pages)
Attachment C – Weekly Inventory Circa 2016/2017 Inspection (1 Page)

ATTACHMENT A:

PRIOR CERTIFICATES OF OCCUPANCY
(5 PAGES)

FROM:
DEPARTMENT OF FIRE AND SAFETY SERVICES
Douglas A. Holton, Fire Chief

DIVISION OF FIRE PREVENTION
Steven Zaccard, Fire Marshal

City of Saint Paul
Randy C. Kelly, Mayor

100 East Eleventh Street
Saint Paul, MN 55101

Telephone: 651-228-6230
Facsimile: 651-228-6241

June 28, 2004

ATLAS COLD STORAGE
240 CHESTER STREET
ST PAUL MN 55107

RE: **CERTIFICATE OF OCCUPANCY**
236 CHESTER ST

Dear Property Representative:

Your Building was inspected on June 2, 2004 for the renewal of the Certificate of Occupancy. The required fee has been received and your building appears to be in compliance with the applicable provisions of the Saint Paul Legislative Code.

You should be commended for your interest in providing a safe and well maintained property. Thank you for helping make Saint Paul a safer place in which to live and work.

City of Saint Paul
Department of Fire and Safety Services
Division of Fire Prevention
CERTIFICATE OF OCCUPANCY

236 CHESTER ST

This building is certified for the following occupancy:

Warehouse Ordinary Hazard
Office (Low-Rise)

This Certificate is issued to ATLAS COLD STORAGE, 240 CHESTER STREET, ST PAUL MN 55107

24-HOUR EMERGENCY NUMBER JEFF 612-968-4253/JOHN 612-968-4261

VALID FROM: May 3, 2004
No: 35410

INSPECTOR NAME:
Matt Opsahl
Fire Inspector

(This Certificate shall be posted in a conspicuous location upon the certified building or premises.)

City of Saint Paul

Division of Fire Prevention

CERTIFICATE OF OCCUPANCY

THIS IS TO CERTIFY that the building or premises located at **00240 CHESTER ST ATLAS COLD STORAGE 236-250,** CHUCK WILWERT is hereby authorized for the following occupancy:

WAREHOUSE-ORDINARY HAZARD

This Certificate is issued to *BELL REFREDGERATED SERVICES, 240 CHESTER ST, 612-227-0741*, and shall remain in force and effect until otherwise revoked by the Division of Fire Prevention in accordance with the Saint Paul Legislative Code.

24-HOUR EMERGENCY NUMBER _____

VALID FROM: 11/10/1998 *INSPECTOR* Michael D Ummanns

(This Certificate shall be posted in a conspicuous location upon the certified building or premises.)

No. 35410

City of Saint Paul

Division of Fire Prevention

CERTIFICATE OF OCCUPANCY

THIS IS TO CERTIFY that the building or premises located at **00240 CHESTER ST BELL REFRIDGERATION SERVICES 236-250,** CHUCK WILWERT is hereby authorized for the following occupancy:

WAREHOUSE-ORDINARY HAZARD

This Certificate is issued to *BELL REFREDGERATED SERVICES, 240 CHESTER ST, 612-227-0741*, and shall remain in force and effect until otherwise revoked by the Division of Fire Prevention in accordance with the Saint Paul Legislative Code.

24-HOUR EMERGENCY NUMBER 299-2111 (DIGITAL PAGER)

VALID FROM: 03/03/95 *INSPECTOR* Michael D Ummanns

(This Certificate shall be posted in a conspicuous location upon the certified building or premises.)

No. 35410

City of Saint Paul

Division of Fire Prevention

CERTIFICATE OF OCCUPANCY

THIS IS TO CERTIFY that the building or premises located at **00240 CHESTER ST 236-240,** is hereby authorized for the following occupancy:

SALES, ORDINARY HAZARD

This Certificate is issued to *BELL COLD STORAGE INC/LESSEE, 00240 CHESTER ST,* , and shall remain in force and effect until otherwise revoked by the Division of Fire Prevention in accordance with the Saint Paul Legislative Code.

24-HOUR EMERGENCY NUMBER Chuck Wilwert - 646-2521
Vern Fuechtmann 780-2150

Next Renewal Due: 04/08/93 *INSPECTOR* Cliff Holmberg

(This Certificate shall be posted in a conspicuous location upon the certified building or premises.)

No. 35410

City of Saint Paul

Division of Fire Prevention

CERTIFICATE OF OCCUPANCY

THIS IS TO CERTIFY that the building or premises located at **00240 CHESTER ST 236-250,** is hereby authorized for the following occupancy:

SALES, ORDINARY HAZARD

This Certificate is issued to *BELL COLD STORAGE INC/LESSEE, 00240 CHESTER ST,* , and shall remain in force and effect until otherwise revoked by the Division of Fire Prevention in accordance with the Saint Paul Legislative Code.

Next Renewal Due: 08/16/91 *INSPECTOR* Cliff Holmberg

(This Certificate shall be posted in a conspicuous location upon the certified building or premises.)

No. 35410

City of Saint Paul

Division of Fire Prevention

CERTIFICATE OF OCCUPANCY

THIS IS TO CERTIFY that the building or premises located at **00240 CHESTER ST 236-250,** is hereby authorized for the following occupancy:

SALES, ORDINARY HAZARD

This Certificate is issued to *BELL COLD STORAGE INC/LESSEE, 00240 CHESTER ST,* , and shall remain in force and effect until otherwise revoked by the Division of Fire Prevention in accordance with the Saint Paul Legislative Code.

Next Renewal Due: 07/31/90 *INSPECTOR* Cliff Holmberg

(This Certificate shall be posted in a conspicuous location upon the certified building or premises.)

No. 35410

City of Saint Paul

Division of Fire Prevention

CERTIFICATE OF OCCUPANCY

THIS IS TO CERTIFY that the building or premises located at **00240 CHESTER ST** is hereby authorized for the following occupancy:

SALES

This Certificate is issued to *PORT AUTHORITY OF ST PAUL BELL COLD STORAGE INC/LEA, 240 CHESTER ST,* , and shall remain in force and effect until otherwise revoked by the Division of Fire Prevention in accordance with the Saint Paul Legislative Code.

Date of Renewal: 06/08/88
Next Renewal Due: 06/08/89 *INSPECTOR* David Bagnon

(This Certificate shall be posted in a conspicuous location upon the certified building or premises.)

No. 35410

CITY OF SAINT PAUL No. 4850

DEPARTMENT OF PARKS AND RECREATION AND PUBLIC BUILDINGS

Certificate of Occupancy

CERTIFICATE OF OCCUPANCY RENEWAL EXPIRES 1-2-78

This is to certify that the (description of building or structures) 302 X 290 X 38 One Story Building erected on Lot No. --- Block No. --- Addition Miscellaneous Address 250 Chester has been inspected and the following occupancy thereof is hereby authorized:

Cold Storage Warehouse

January 18, 1974
Date

By: Glenn C. Erickson
Commissioner of Parks and Recreation and Public Buildings

This certificate must be posted and permanently maintained in a conspicuous place at or close to the entrance of the building or structure referred to above.

ATTACHMENT B:

PRIOR LOSS PREVENTION REPORTS
(67 PAGES)

Global Risk Consultants®

LOSS PREVENTION REPORT

Fire and Associated Perils

for

VERSACOLD CORPORATION

240 Chester St
St. Paul, Minnesota
GRC File No. 2721.0079

Date Visited: April 7, 2010

Prepared by: Nick Coenen
Minneapolis District Office
(952) 544-4449

Conferred with: Dan Shaw, Regional Safety Manager
Jim Dehnke, Plant Manager (Brooklyn Park/St. Paul)

Rec. Response Link Recipient: Dan Shaw, Regional Safety Manager
Dan.Shaw@versacold.com

Operating Mode: Nominal 5 days/week, approximately 10 hours/day

Products: Distribution Warehouse for frozen food and dry goods.

Special Hazards: High piled storage, ammonia refrigeration systems.

Completed Projects: None reported (first visit)

New/Ongoing Projects: None reported

Summary:

This site was visited to complete property loss control audit. The captioned facility consists of 2 contiguous buildings totaling approximately 220,000 ft^2. The site is located in an industrial/commercial area, east of downtown St. Paul. Nearby external exposures include the St. Paul Downtown airport.

The facility features noncombustible external walls and roof. Internal partitions include a variety of construction styles such as metal panel sandwich walls, concrete block, combustible “composite” walls (foam insulation covered with various finishes), and drywall.

The site is occupied as a frozen and refrigerated foods distribution warehouse. Multiple rooms are present housing rack storage of packaged food items. No production takes place at this site. Refrigeration is provided by two ammonia refrigeration systems. Support areas include a two story office block. A portion of the facility is leased to a baking products distributor. A portion of the site is vacant.

Fire protection consists of a satisfactory number of city hydrants. A sufficient number of fire extinguishers are present throughout the site. Smoke detection is provided in the offices and lunchroom. There are no automatic sprinkler systems.

This site is protected from flooding by an Army Corps of Engineers levee. The Mississippi River is located north and east of the site.

Housekeeping at both sites is considered satisfactory.

Recommendations:

10-03 **Idle Pallet Storage.** Remove pallets from storage racks in "B" dry goods warehouse. Pallets should be stored no higher than 6 ft on the ground.

Comments: Idle pallets were noted stored in racking in "B" dry goods warehouse. The recommended storage configuration limits the severity of fire and therefore likely damage resulting from a pallet fire.

Note: Where fixed installations of equipment or building modifications/additions are planned, submit electronic plans/specifications to greg.bates@globalriskconsultants.com for review and approval prior to installation. Where only hard copy documents will be available send them to Greg Bates, Global Risk Consultants Corp., 11025 Wilshire Chase Dr, Duluth, GA 30097. The final installation must be field reviewed by Global Risk Consultants Corp. prior to full acceptance.

Changes and Comments:

Completed/Removed Recommendations:

None; initial visit.

Completed Projects:

No recent capital projects

New/Ongoing Projects:

None reported.

Other Issues:

None.

Fire Protection Water Supply Data:

Fire Pump(s): None

Description of Private Water Supplies without Pumps:

None

Description of Public Water Supplies:

Domestic connections to 12-inch water main in Chester Ave.

Maintenance Recommendations:

M10-01 Maintain 36-inch clearance around electrical switchgear. Various materials were noted stored adjacent to MCC switchgear in Engine Room 1. To be done.

Note**:** The above maintenance recommendations are of such nature that compliance can normally be accomplished without contractors and without significant expenditure of capital and/or labor. Nonetheless, they are considered important from a loss prevention standpoint and it is urged that they be promptly completed.

Underwriting Summary

Construction

The St. Paul site consists of 2 contiguous buildings, subdivided into various freezers and coolers. Buildings date to the early 1970's. Total square footage is on the order 220,000 ft^2. Perimeter walls feature concrete block. Roof is a steel deck and joists with insulation above. Internal partitions include a variety of construction styles such as metal panel sandwich walls, concrete block, combustible "composite" walls (foam insulation covered with various finishes), and drywall. Condition varies from good to poor with certain areas exhibiting exposed foam plastic insulation. The main warehousing sections are about 25 ft high. The entire site is considered to be a single fire area.

Processes

The site is operated as a distribution warehouse for food products. The majority of the facility is occupied with freezers containing multiple row and double row racking. Loading docks are located on the east and west ends. Approximately 10% of the site is leased to Balldinger Baking for a distribution center for baked goods. Typically buns and rolls are received from production site(s) and repackaged for shipment. The tenant maintains freezer and ambient storage areas, but no production. Approximately 10% of the site is vacant (formerly occupied by a separate tenant). No changes are anticipated for the vacant area in the immediate future. Offices house management and sales staff. In addition, space is leased to small business entities (e.g. travel agent).

Special Hazards

High-Piled Storage: Rack storage exists in most areas. Configuration is essentially similar given a near universal roof height of about 25 ft. Racks include open-framed multiple row and double row racks containing various frozen food packaged in cardboard cartons (Class II commodity) to a height of 23 ft. Aisles are 8 ft minimum. No solid shelves are present.

Idle Pallet Storage: Pallet storage is incidental in all buildings except for "B" Dry Goods, where pallets were stored in racks. Refer Recommendation 10-03.

HID Lighting: HID lighting is present. Most lamps are equipped with suitable shields. All lamps are cycled on/off at least weekly if not daily.

Battery Charging: Battery charging stations are located along the respective loading docks. Charging stations are well arranged and appear to receive sufficient ventilation.

Common Hazards

Boilers: Building heat (offices, maintenance, etc) is provided by forced air gas-fired units located on building roof. A small package boiler is located in a cutoff room on the east side. It has an estimated 2,000,000 BTU/hr burner. It supplies heat for maintaining slab temperature at desired level.

Electrical Systems: Power is purchased from the local utility and is supplied by underground line to utility owned transformers. Power distribution equipment is located in buildings and is of conventional design. Power distribution equipment is subjected to annual IR scans.

Refrigeration Systems: Two ammonia refrigeration engine rooms are present. Details pertaining to room and ventilation configuration are tabulated below.

Machinery Room	Room Area	Room Volume	"Normal" Ventilation	"Emergency" Ventilation	Alarm Set Point	Emergency Ventilation
Engine Rm 1	2630 ft^2	65,500 ft^3	Unknown	25,891 CFM	50 ppm	< 100 ppm
Engine Rm 2	1815 ft^2	30,855 ft^3	Unknown	15,800 CFM	50 ppm	< 100 ppm

Total charge of ammonia in both systems was reported at 10,606 lbs.

Cooling Towers: None

Computer and Electronic Equipment Rooms: Computer equipment is limited to networked computers. Data is backed up to corporate servers on an ongoing basis. Data backup protocols done on a corporate level are unknown.

Housekeeping: Housekeeping was noted to be good throughout.

Protection Features

Automatic Sprinklers: None.

Water Supply, Water Mains, and Fire Hydrants: A sufficient number of city hydrants, supplied by the St. Paul city water supply, is present.

Alarm Systems: Central station monitoring of office smoke detectors.

Security Measures: Central station monitoring of door contacts.

Manual Protection: A suitable number of portable fire extinguishers is present.

Management Programs

Plant Emergency Organization: Emergency response planning includes a specific notification and evacuation plan. A firm has been retained for ammonia release incidents.

Self-Inspections: A general housekeeping inspection is carried out. There are no installed fire suppression systems to maintain or inspect.

Impairment Handling: Not applicable.

Ignition Source Control: Smoking is not permitted within buildings. A suitable hot work permit system is in effect. Most welding work is confined to the maintenance shop. The site uses a regional contractor for annual IR checks (and vibration analysis on some of the refrigeration equipment).

Management of Change: The site would use GRC and corporate safety when considering significant capital projects.

Public Protection

The site is under the jurisdiction of the paid St. Paul Fire Department. Access is good with an estimated 5 minute response time.

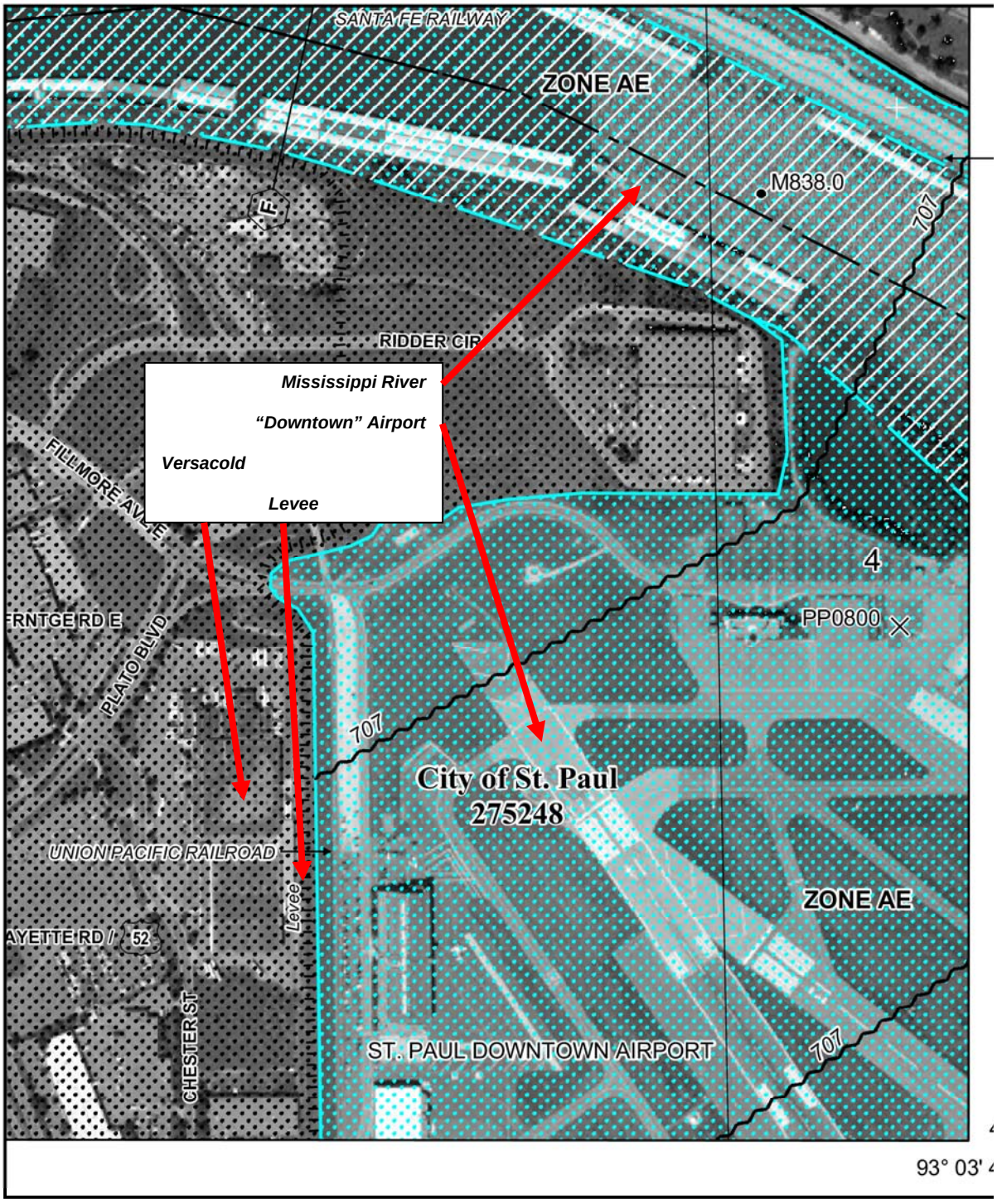
Natural Hazards and Other Exposures/Perils

Flood: The site is located near the Mississippi River. An Army Corp of Engineers earth levee is located immediately east of the facility (located between Versacold and the "downtown" airport). According to FEMA flood Map Number 27123C0104G (June 2010), the site is located within the 500 year flood plain OR the 100 year flood plain with depth less than 1 ft. Warehouse floor level is at about 3 ft above grade.

The levee in the vicinity of the facility appeared in good condition.

Spring flooding in 2010 was relatively severe along the upper Mississippi. NOAA reported peak river level at 18.38 ft above flood stage on March 24, 2010.
(http://water.weather.gov/ahps2/crests.php?wfo=mpx&gage=stpm5

The flood level datum is defined as 0 ft = 683.62. Thus, the 2010 flood at 18.38 ft corresponds to 702.0 ft.


SANTA FE RAILWAY
ZONE AE
M838.0
707
RIDDER CIR
Mississippi River
"Downtown" Airport
Versacold
Levee
FILLMORE AVE E
FRNTGE RD E
PLATO BLVD
4
PP0800
707
City of St. Paul
275248
UNION PACIFIC RAILROAD
Levee
ZONE AE
AYETTE RD / 52
CHESTER ST
ST. PAUL DOWNTOWN AIRPORT
707
93° 03'

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

Windstorm: The site is located within a 90 mph wind zone as noted in FM Data Sheet 1-28

Earthquake: The site is located in Zone >500 as defined by FM Data Sheet 1-2. The possibility of a damaging earthquake is remote.

Other Exposures: The "St. Paul downtown" airport is located immediately east. The site is not in the direct flight path of the runway. At the closest point, the runway is less than 1000 ft from the northeast corner of the facility. The FIRM flood map depicts the airport runway in relation to the client facility.

Business Interruption and Interdependency Features

This is a standalone business. There are no apparent interdependency features.

LOSS ESTIMATES

(All Values in US Dollars)

ANTICIPATED PROBABLE LOSS:

P.D. $13,000,000 B.I. $650,000 Total $13,650,000

The Anticipated Probable Loss estimate assumes all fire protection systems work as installed and emergency response personnel (both site PEO and public agencies) act in accordance with existing plans. Under these circumstances, the worst case loss would involve a fire starting in one of the freezers containing rack storage during unoccupied hours. Fire would spread until detection by either office smoke detection or passerby. The responding fire department would encounter a full structural fire and would be limited to external deployment only. Under such conditions, it is concluded that damage would be at least 50% of the facility or $13,000,000 = (50%) x ($26,094,000). Under this scenario, one of the two refrigeration engine rooms would be destroyed.

As a result of this incident, the entire site would be shutdown for an estimated 1 month while the site secured and debris removed. An additional 11 months would elapse where only half of the site would be usable. Business interruption is estimated at $650,000 = ((1/12) x (100%) x ($1,197,000)) + ((11/12) x (50%) x ($1,970,000))

The APL is estimated at $13,000,000 P.D. and $650,000 B.I. for a total of 13,650,000.

PROBABLE MAXIMUM LOSS:

P.D. $26,000,000 B.I. $2,000,000 Total $28,000,000

The Probable Maximum Loss estimate assumes a single fire protection system is out of service at the time of the incident and emergency response personnel (both site PEO and public agencies) act in accordance with existing plans, given potentially delayed notification due to the failure of the fire protection system. Under these circumstances, it is concluded that fire spread would impact the entire facility. The responding fire department would encounter a large structural fire, limiting deployment options, particularly given 2 ammonia refrigeration rooms containing over 10,000 lbs of ammonia. Property damage is estimated at 100% or approximately $26,000,000.

Site operations would be interrupted for at least 12 months. Business interruption is $1,970,000 = (12/12) x ($1,970,000), or approximately $2,000,000.

The PML is estimated at $26,000,000 P.D. and $2,000,000 B.I. for a total of $28,000,000.

MAXIMUM FORESEEABLE LOSS:

P.D. $26,000,000 B.I. $2,000,000 Total $28,000,000

The Maximum Foreseeable Loss estimate assumes complete failure of all active fire suppression systems and ineffective response from the site PEO and public agencies. Under these circumstances, the worst case loss would involve the same scenario described under PML (100% P.D. and 100% B.I.)

The MFL is estimated at $26,000,000 P.D. and $2,000,000 B.I. for a total of $28,000,000.

Values

(In US Dollars)

PROPERTY DAMAGE: (100%)		$26,094,000
Buildings	$22,017,000	
Machinery & Equipment	$2,604,000	
Miscellaneous	$1,473,000	
Stock	$0	
BUSINESS INTERRUPTION: (12 MONTHS)		$1,970,000
TOTAL P.D. & B.I.:		$28,064,000

Global Risk Consultants®

ADVISORY RECOMMENDATIONS REPORT

Fire and Associated Perils

for

VERSACOLD CORPORATION

240 Chester St
St. Paul, Minnesota
GRC File No. 2721.0079

Date Visited: April 7, 2010

Prepared by: Nick Coenen
Minneapolis District Office
(952) 544-4449

Conferred with: Dan Shaw, Regional Safety Manager
Jim Dehnke, Plant Manager (Brooklyn Park/St. Paul)

We have agreed to place the following recommendations in this Advisory Recommendations Report rather than our formal Loss Prevention Report. However, we will continue to submit these recommendations until they have been completed, resubmitted on our formal Loss Prevention Report, or otherwise resolved. We urge they be given serious consideration especially in connection with future renovations and/or new construction at this facility.

10-01 **Automatic Sprinkler Protection.** Provide automatic sprinklers, designed in accordance with the latest edition of NFPA 13. Systems installed in freezers (or those coolers that can operate at sub-freezing temperatures) should be installed on double interlocked pre-action systems.

Installed systems should be supplied by suitably sized mains connected to the St. Paul city water system. Sprinkler risers should be located in riser rooms along exterior walls if at all possible. System piping for dry and pre-action systems should utilize galvanized pipe.

Comments: The site was constructed in the early 1970's at which time applicable building and fire codes did not mandate sprinklers. At the current time, there are no plans to install sprinklers.

The recommendation is presented in general terms only. Specific design details including discharge density have not been developed given the stated position of the client. Specific details can be provided if needed (e.g. in case a cost estimate is desired from a sprinkler contractor).

10-02 **Combustible Construction Mitigation.** Certain walls feature expanded polystyrene foam insulation, covered with a variety of substrates including plaster, FRP, and metal. Available information suggests that composite foam walls consist of polystyrene mounted on structural substrate (typically concrete block) with some type of covering fastened in place. Unless covered with some type of thermal barrier, this type of construction style presents a risk of fast fire spread. Cementitious coating, wood, or heavy gauge metal are considered acceptable thermal barriers. All other types including FRP (dairy board) should be replaced or covered with an acceptable covering. In all cases where the existing cover has been damaged, repairs should be made.

Comments: Various walls and ceilings feature different construction styles as the facility evolved. Those featuring expanded/extruded polystyrene exist in select areas. All such walls do have some type of covering ranging from a cement type to FRP. While all types of expanded foamed plastic are highly combustible, polystyrene presents a very significant hazard. Burning polystyrene propagates quickly and generates relatively large amounts of heat. Coatings that do not afford any fire resistance (e.g. FRP) or those that are compromised could enable fire to spread behind such covers, preventing any type of effective manual response. Such a fire would likely spread into rack storage and burn until fuel was consumed.

Areas or rooms where such construction was noted includes

Balldinger (tenant) freezer, walls and roof.
East wall of “A” freezer
North side of wall on the north side of “B” dry goods

Two items should be noted: (1) the list presented above should not be considered to be a definitive list of all such construction and (2) any type of foamed plastic insulation is combustible. Construction featuring polystyrene is highlighted as it does present a severe risk for an uncontrolled fire.

Global Risk Consultants®

LOSS PREVENTION REPORT

Fire and Associated Perils

for

AMERICOLD LOGISTICS

Central Division
240 Chester St.
St. Paul, MN 55107
GRC File No. 2619.1079

Date Visited: April 26, 2016

Prepared by: Bill Davis, Senior Fire Consultant
Excelsior, MN Office
Cell: (715) 377-6127
Email: bill.davis@globalriskconsultants.com

Conferred with: Scott Holk, General Manager
(651) 227-0741
scott.holk@americold.com

Rec. Response Link Recipient: Scott Holk, General Manager
(651) 227-0741
scott.holk@americold.com

Operating Mode: Nominal 5 days/week, approximately 9 hours/day

Products: Distribution Warehouse for Frozen Foods and Dry Goods.

Special Hazards: High Piled Storage, Ammonia Refrigeration

Completed Projects: Ammonia detection systems, new fire alarm panel.

New/Ongoing Projects: None.

Summary:

This facility is a distribution center for frozen foods and dry goods. The site consists of two contiguous buildings totaling approximately 220,000 ft² located in an industrial/commercial area, east of downtown St. Paul. Nearby external exposures include the St. Paul Downtown Airport.

The non-freezer areas of the facility have noncombustible walls while the freezer areas have insulated panel walls. The roof is a single ply membrane of unknown fire rating on metal deck and bar joists. Internal partitions include a variety of construction styles such as metal panel sandwich walls, concrete block, combustible "composite" walls (foam insulation covered with various finishes), and drywall.

Multiple rooms are present housing rack storage of packaged food items. No production takes place at this site. Refrigeration is provided by two ammonia refrigeration systems. Support areas include a two story office block.

Fire protection consists of a satisfactory number of city hydrants. A sufficient number of fire extinguishers are present throughout the site. Smoke detection is provided in the offices and lunchroom. There are no automatic sprinkler systems.

This site is protected from flooding by an Army Corps of Engineers levee. The Mississippi River is located north and east of the site.

Fire protection is provided by the fully paid St. Paul Fire Department with the closest station located 1.2 mile away with a 4 minute response time.

This visit was a re-survey of the facility and consisted of reviewing human element programs such as fire protection inspection and testing, security and surveillance, hot work, and emergency response; and a tour throughout the building and roof areas.

Recommendations:

13-03 **Forklift Charging – Ventilation.** Install ventilation over the forklift charging area in accordance with one of the following:

- Provide continuous ventilation over the forklift chargers either with hoods over the chargers similar to the Brooklyn Park facility, or with ventilation located at the ceiling level of the room.

- Provide ventilation over the forklift chargers either with hoods over the chargers similar to the Brooklyn Park facility, or with ventilation located at the ceiling level of the room that is interlocked to hydrogen detection at the ceiling that would activate the ventilation if hydrogen were detected.

Comments: In case of a battery overcharge or other potential electrical fault, charging batteries can emit hydrogen gas, which can be highly flammable and explosive is sufficient concentration. The flammable limits of hydrogen are 4% to 75% by volume. Therefore, ventilation should be provided to remove any emissions of hydrogen gas from the batteries.

Reference: NFPA 505, *Fire Safety Standard for Powered Industrial Trucks Including Type Designations, Areas of Use, Conversions, Maintenance and* Operations, 2013 edition, 9.3.2.1 (4).

(Recommended ventilation improvements for this area will be completed in 2016.)

16-01 **Idle Pallets Stored in Racks.** The several stacks of idle pallets in the 240 Building freezer warehouse area should be removed from the storage racks. The idle pallets should be stored on the floor outside of the racks to maximum 6 ft. high.

Comments: Idle pallets stored in racks create a severe fire exposure hazard. Pallets should be stored on the floor outside of the racks to reduce the fire exposure in this non-sprinkler protected facility.

Note: Where fixed installations of equipment or building modifications/additions are planned, submit electronic plans/specifications to arthur.mattos@globalriskconsultants.com for review and approval prior to installation. Where only hard copy documents will be available send them to Arthur Mattos, Global Risk Consultants Corp., 3216 Tatting Rd, Matthews, NC 28105. The final installation must be field reviewed by Global Risk Consultants Corp. prior to full acceptance.

Changes and Comments:

Completed/Removed Recommendations:

13-01 **Hot Work Permits – Improve.** Hot work procedures were improved and GRC hot work permits are utilized.

13-02 **Canola Oil 350 Gallon Plastic Totes – B Dry Goods Warehouse.** The canola oil storage was removed.

13-04 **Ammonia Detector Calibration – Semiannual.** Ammonia detectors are calibrated semiannually.

Completed Projects:

New ammonia detection systems were installed to replace existing systems. New GasGuardian 6 detection systems by Calibration Technologies Inc. were installed. Ammonia detectors are installed in all refrigerated storage areas, engine rooms, and connecting dock areas.

A new fire alarm panel was installed to replace the existing panel. The new panel is a Fire-Lite MS-9050UD unit, a listed fire alarm control panel.

New/Ongoing Projects:

No significant projects impacting property loss prevention are planned for the facility.

Other Issues:

Good housekeeping conditions were noted throughout the facility.

The warehouse spaces are approximately 30% filled at present, with the site now operating five days per week.

Fire Protection Water Supply Data:

Fire Pump(s): None.

Description of Private Water Supplies without Pumps:

N/A

Description of Public Water Supplies:

There is an 8 inch city water main in Chester St. connecting to a 12 inch city water main in Plato Blvd connecting to a 16 inch water main along US Hwy 52. There are no fire protection connections to the building.

Hydrant Flow Test Data:

Entire Plant

AREA	DATE	BY	SOURCE TESTED	FLOW LOCATION	PRESSURE LOCATION	TEST DATA			COMMENTS
						FLOW (GPM)	STATIC (PSI)	RESID. (PSI)	
1	16-Apr-07	City	City	Plato Blvd & Chester St	Fillmore Ave & Plato Blvd	4160	91.0	85.0	4.5 in. port; C=0.747; Pitot=85

Maintenance Recommendations:

None.

Note: The above maintenance recommendations are of such nature that compliance can normally be accomplished without contractors and without significant expenditure of capital and/or labor. Nonetheless, they are considered important from a loss prevention standpoint and it is urged that they be promptly completed.

Underwriting Summary

Construction

The St. Paul site consists of two contiguous buildings, the 240 Building and the 260 Building. The two buildings are 70 ft. apart except that they are connected by a dock on the east side of the buildings. Both buildings are subdivided into various freezers and coolers.

Connecting Dock

The 240 Building is 1=2 and 2-story office and was built in 1970. Wall construction is brick veneer on concrete block for the non-freezer portions and insulated panels for the freezer portions. The roof is a metal deck on steel bar joists supported by unprotected steel columns and is about 25 ft. high. The roof cover is a fully adhered single ply rubber membrane over the non-freezer portions and a ballasted single ply membrane over the freezer portions. The fire rating of the roof cover is unknown.

The 260 Building is 1=2 and was built in 1972. Wall construction is precast concrete for the non-freezer portions and insulated panels for the freezer portions. The roof is a metal deck on steel bar joists supported by unprotected steel columns and is about 25 ft. high. The roof cover is a fully adhered single ply rubber membrane over the north 75% of the building with a ballasted single ply membrane over the remainder. The fire rating of the roof cover is unknown.

Internal partitions include a variety of construction styles such as metal panel sandwich walls, concrete block, combustible “composite” walls (plaster lathe finish over expanded polystyrene or other foam insulation), and drywall. Condition varies from good to poor with certain areas exhibiting exposed foam plastic insulation.

Total square footage is on the order 220,000 ft^2 with the 240 Building being about 145,000 ft^2 and the 260 Building being about 75,000 ft^2.

240 Building

260 Building

Freezer Wall – Exposed Expanded Polystyrene

Processes

The site is operated as a distribution warehouse for food products, mostly frozen. The majority of the facility is occupied with freezers containing multiple-row racking to 23 ft. high. Loading docks are located on the east and west ends. Offices house management and sales staff. There is one small office tenant area on the second floor main office. Operations are presently approximately 7 AM to 3:30 PM, Sunday through Thursday, with approximately 10 employees.

Special Hazards

High-Piled Storage: In the 240 Building is 240 Dry Goods Room (50°F) and the 240 Freezer (-3°F). In the 260 Building is the 260 Freezer (-3°F), the 260 Cheese Room (50°F), and the 260 Bulk Freezer that is currently vacant.

Since the roof height is the same in both buildings at about 25 ft., each storage area has a similar arrangement with multiple row racks to approximately 23 ft. high storage. The products are frozen foods in corrugated boxes (Class 2 commodity) and dry food products (Class 3 commodity). Aisles are 8 ft. minimum. No solid shelves are present and no automatic sprinkler protection is present.

HID Lighting: Fluorescent and HID lighting is present. Most HID lamps are equipped with suitable shields. All lamps are cycled on/off at least weekly, if not daily.

Forklift Battery Charging: The forklift battery charging area is located on the West Dock. There is no mechanical ventilation present. (To be installed in 2016.)

Common Hazards

Boilers: There is a small natural gas fired hot water heating boiler located in a detached Boiler Building along the east wall of the 240 Building. This boiler used to be used to heat glycol that was circulated in a heating loop contained in the floors of the 240 Building freezers. However, this boiler is no longer used as it was found that the floors could be heated adequately by just circulating the glycol through the loop using one of two glycol pumps. But, the boiler is still fully connected and could be used.

Boiler Building

The boiler is a Bryan water tube hot water unit, M# CL-270W-CI, rated at 2,700,000 Btu/hr. and 30 psi built in 1989. Gas train controls include: Low and high gas pressure switches, two safety shut off valves with no bleed line in between and flame supervision. There is a separate pilot line with a single solenoid valve for a safety shut off valve. Since the boiler has not been used, the gas train safeties have not been tested. This will be done before firing the boiler again.

Electrical Systems: Power is purchased from the local utility and is supplied by underground line to utility owned transformers. Power distribution equipment is located in buildings and is of conventional design. Power distribution equipment is subjected to annual IR scans.

Refrigeration Systems: There are two separate engine rooms, one for each building, containing the ammonia refrigeration equipment.

Engine Room 1 (240 Building) is 2630 ft^2, constructed of concrete block walls, a metal deck roof and is not sprinkler protected. There are 7 ammonia compressors in the room, 3 low side compressors and 4 high side compressors for this two stage system. Only 1 low side compressor is needed for operations and two high side compressors are needed in the summer only with 1 compressor sufficient during all other times. Room volume is 65,500 ft^3, emergency exhaust ventilation is 25,891 cfm, ammonia alarm and strobe set point is 25 ppm with exhaust ventilation activation and king valve shut down at 75 ppm.

Engine Room 2 (260 Building) is 1815 ft², constructed of concrete block and precast concrete walls, a metal deck roof and is not sprinkler protected. There are 6 ammonia compressors in the room, 3 low side compressors and 3 high side compressors for this two stage system. Generally, two compressors on the low side and two compressors on the high side are needed for operations. Room volume is 30,855 ft³, emergency exhaust ventilation is 15,800 cfm, ammonia alarm and strobe point is 25 ppm with exhaust ventilation activation and king valve shut down at 75 ppm.

There are ammonia detectors in each engine room, each warehouse area and the docks. All ammonia detectors are bump tested quarterly and the emergency exhaust fan interlock is tested at the same time. The ammonia detectors are calibrated semi-annually. The site has three hand held ammonia detectors that there is a regular PM set up on each one for calibrations (semi-annually). Both engine rooms have manual emergency exhaust activation controls and E-Stops located outside the room.

Engine Room 1 E-Stop and Manual Exhaust Control

Engine Room 2 E-Stop and Manual Exhaust Control

Cooling Towers: None.

Computer and Electronic Equipment Rooms: Computer equipment is limited to networked computers. Data is backed up to corporate servers on an ongoing basis. Data backup protocols done on a corporate level are unknown.

Housekeeping: Housekeeping was noted to be good throughout the facility.

Protection Features

Automatic Sprinklers: None.

Water Supply, Water Mains, and Fire Hydrants: There are three city fire hydrants located along the west side of the site on Chester St. There is an 8 inch city water main in Chester St. connecting to a 12 inch city water main in Plato Blvd connecting to a 16 inch city water main along US Hwy 52. There are no fire protection water connections to the plant.

Alarm Systems: Tyco Integrated Security, a UL Listed Central Station, monitors smoke detection in offices, heat detectors also in the offices, manual pull stations and ammonia detection.

Security Measures: There is no guard service or fencing. The site is lighted at night. There are contact switches on all exterior doors and motion detectors on the docks. The contact switches and motion detectors are monitored by Tyco Integrated Security. There are cameras on site monitoring the docks and engine rooms. These cameras are digitally recorded and can be monitored by management.

Portable Fire Extinguishers: An adequate number of portable fire extinguishers are present.

Management Programs

Plant Emergency Organization: There is an emergency action plan in place addressing evacuation, fire, severe weather, ammonia leakage, etc. The plan accounts for proper notification, coordination with responders, evacuation or staying in place and incident command. Drills are also conducted at least annually.

Self-Inspections: Tyco Integrated Security does bimonthly inspections testing the manual pull stations (6), heat detectors (6) and smoke detectors (16), which was last done April 19, 2016.

Impairment Handling: Not applicable.

Ignition Source Control: Smoking is not permitted within buildings. A hot work permit system is in effect that includes use of hot work permits. The site uses Infrared Consulting Services for annual IR surveys with the last one done in July 2015.

Management of Change: There is a formal Management of Change program in place. This program includes: an initial questionnaire regarding the change, a listing of key personnel (originator, engineering, compliance, contractor, etc.), review/screening of change, process hazard analysis if needed, updates of progress and changes during the project, tracking of safety, training and compliance items during the project, pre-start up safety review and start up authorization.

Public Protection

Public fire protection is provided by the fully paid St. Paul Fire Department. The City of St. Paul Fire Department has a total of approximately 444 fire fighters at 15 stations with the closest station being Station 6 located at 33 Concord St, which is 1.2 miles away from Americold with an approximate 4 minute response time. Station 6 is manned 24/7 and is equipped with two Engines and a Medical Unit. Among the other 14 stations, the St. Paul Fire Department has nearly any equipment a modern fire department would have. The fire department does biannual tours of the site.

Natural Hazards and Other Exposures/Perils

Flood: The site is located approximately 1800 ft. south of the Mississippi River. An Army Corp of Engineers earth levee is located immediately east of the facility (located between Americold and the St. Paul Downtown Airport). According to FEMA flood Map Number 27123C0104G dated June 4, 2010, the site is located within the 500 year flood plain (shaded Zone X, 0.2% annual chance of flood) and protected by levee from the 100 year flood plain (Zone AE, 1% annual chance of flood).

The 100 year flood elevation is 707 ft. The Warehouse floor elevation is unknown, but is approximately 3 ft. above grade. Per Google Earth, grade elevation around the facility varies from 701 to 703 ft. indicating floor elevation varies from approximately 704 to 707 ft.

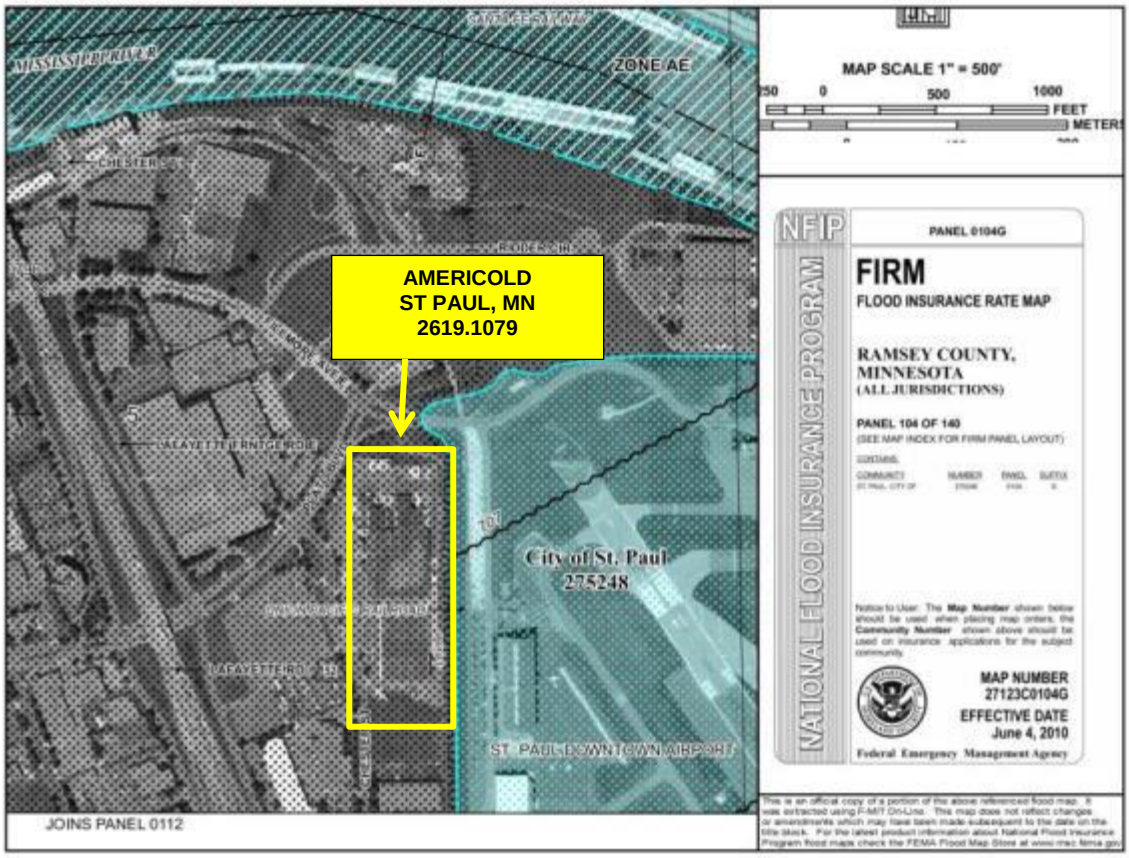
In a 100 year event with the levee staying intact, there should be no flooding of the facility. However, in a 100 year flood event with the levee breached, there should be very little water in the 240 Building with the water reaching floor elevation, but approximately 3 ft. of water in the 260 Building.

The levee was built by the US Army Corps of Engineers and is maintained by the City of St. Paul. The levee appeared in excellent condition during this visit.

Spring flooding in 2010 was relatively severe along the upper Mississippi. NOAA reported peak river level at 18.38 ft. above flood stage on March 24, 2010.
(http://water.weather.gov/ahps2/crests.php?wfo=mpx&gage=stpm5)

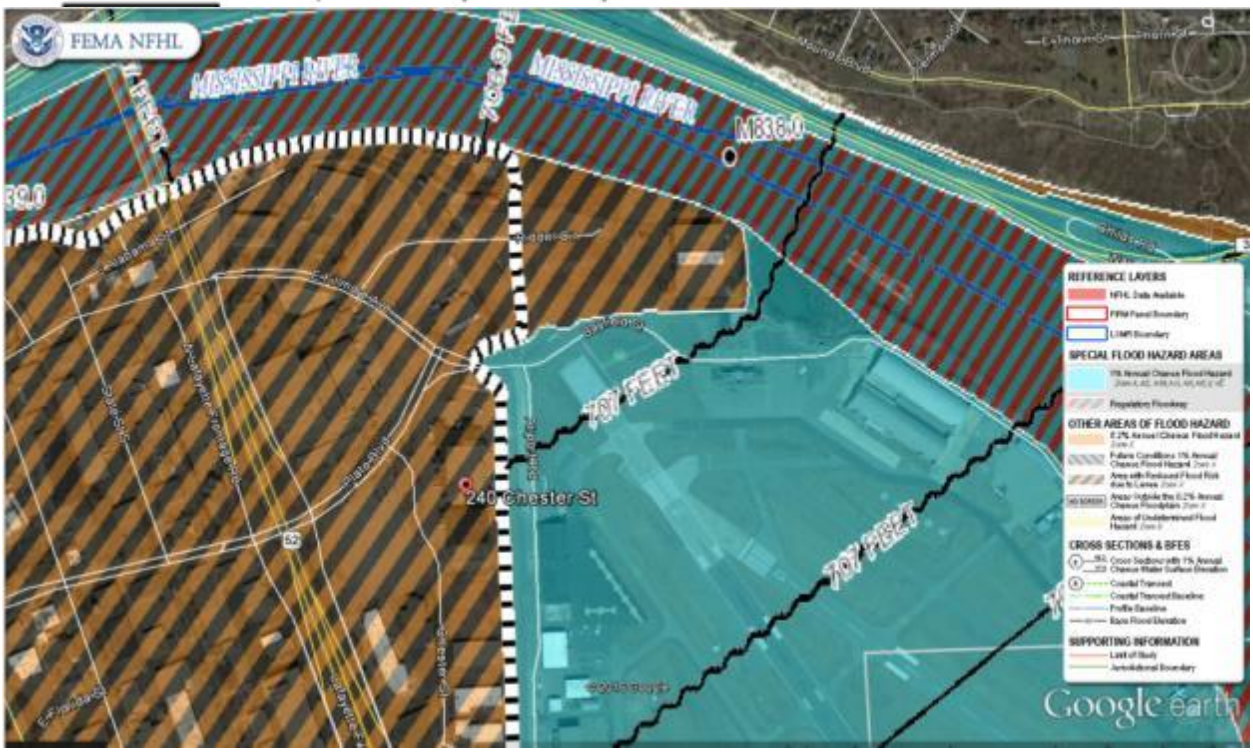
The flood level datum is defined as 0 ft. = 683.62 (1929 Datum). Thus, the 2010 flood at 18.38 ft. corresponds to 702.0 ft. Other flooding in events reached:

- 2001 – 23.6 ft. (707.22 ft.)
- 1997 – 22.4 ft. (706 ft.)
- 1969 – 24.5 ft. (708.1 ft.)
- 1965 – 26 ft. (709.62 ft.)



OTHER FLOOD AREAS

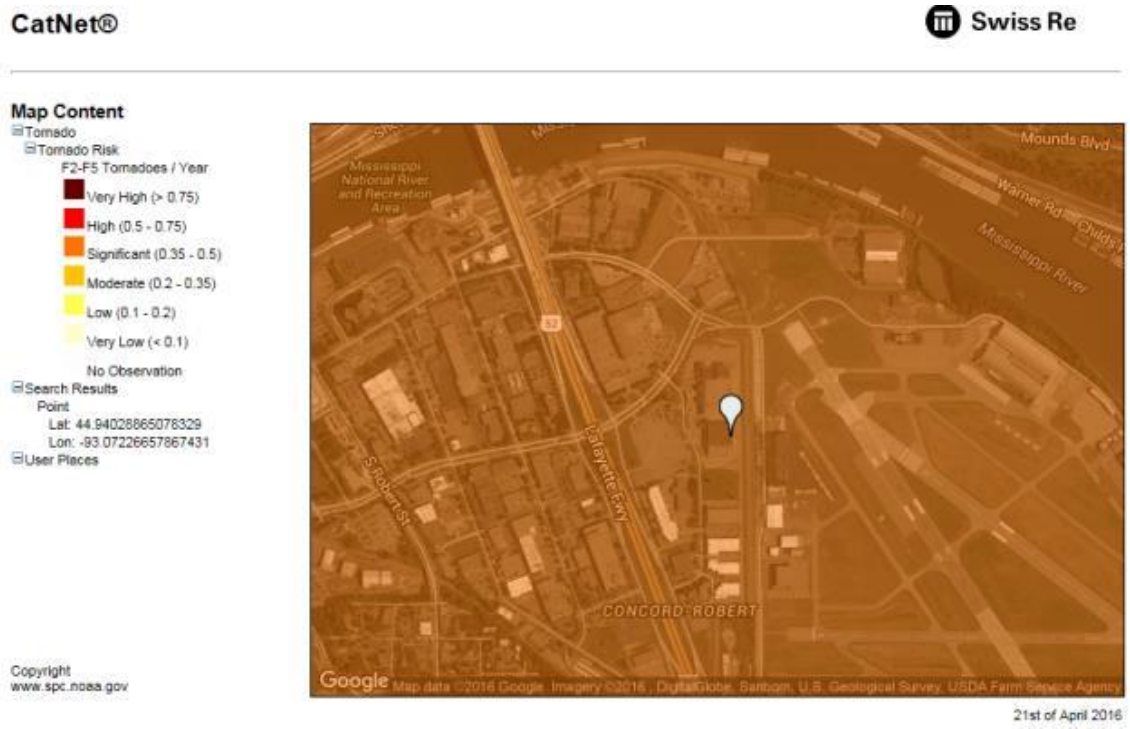
ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.



Levee East of 240 Building

Levee West of 260 Building

Windstorm: This site is subject to 90 mph 3 second gusts, surface roughness C and is subject to tornados at the rate of 3 tornados per year per 10,000 sq. miles per FM Global Data Sheet 1-28, *Wind Design*. Roof design information was unavailable. The exposure is considered moderate due to the tornado exposure. The SwissRe tornado map below also shows a moderate tornado exposure.



Earthquake: Risk is in Seismic Zone >500 per FM Global Data Sheet 1-2, *Earthquakes*. Zone >500 includes areas where moderate to severe shaking is not expected to reoccur within an average recurrence interval of >500 years indicating there is little earthquake exposure. Peak ground acceleration per the USGS is 2.2% (2% probability in 50 years).

Other Exposures: The St. Paul Downtown Airport is located immediately east of the site on the other side of the levee with Runway 14 approximately 600 ft. from the northeast corner of the 240 Building. The site is not in the direct flight path of the runway. The FIRM flood map and the Google Earth map on the first page of the report both depict the airport runway in relation to the client facility. All other buildings are 250+ ft. away from risk.

Business Interruption and Interdependency Features

There is a formal contingency plan in place regarding the loss of power, and thus cooling, to the site. Freezer and cooler temperatures are monitored once (weekends) or twice (during week) daily. In case of loss of power, the first thing done is to keep all doors closed and allow no activity in the rooms. The rooms will maintain temperature for approximately two days doing this. During these two days, local management would be checking on which other Americold locations (140 in the US) could accommodate their product and which trucking companies could provide transportation or simply storage in refrigerated trailers. The site maintains a list of 14 Americold facilities within 12 hours trucking time of this site and a list of five trucking companies that can provide trailers and transportation. If a transformer is lost, the local utility can provide a replacement transformer within 24 hours and this has been verified with the utility.

LOSS ESTIMATES

(All Values in US Dollars)

ANTICIPATED PROBABLE LOSS:

P.D. $13,300,000 B.I. $700,000 Total $14,000,000

The Anticipated Probable Loss estimate assumes all fire protection systems work as installed and emergency response personnel (both site PEO and public agencies) act in accordance with existing plans. Under these circumstances, the worst case loss would involve fire occurring in the main freezer of the 240 Building during non-occupied hours. Due to no fire detection in the freezers, but only in the offices, and no sprinkler protection, the fire would be expected to burn uncontrolled destroying this building. The fire department would be notified by passerby and should be able to make a stand in the East Dock and keep the fire from spreading to the 260 Building. The PD loss estimate is (145,000 ft^2 / 220,000 ft^2) x $20,161,000 = $13,287,932 (round up to $13.3 million).

As a result of this incident, all operations would be shut down for 1 month. At that time, operations in the 260 Building would resume. It would require an additional 11 months to rebuild the 240 Building. Business interruption would be [(1/12 months) x (100%) x ($1,017,000)] + [(11/12 months) x (66%) x ($1,017,000)] = $623,760 (round up to $700,000).

PROBABLE MAXIMUM LOSS:

P.D. $13,300,000 B.I. $700,000 Total $14,000,000

The Probable Maximum Loss estimate assumes a single fire protection system is out of service at the time of the incident and emergency response personnel (both site PEO and public agencies) act in accordance with existing plans, given potentially delayed notification due to the failure of the fire protection system. Under these circumstances, the worst case loss would involve the same scenario as the APL above with the same result.

MAXIMUM FORESEEABLE LOSS:

P.D. $19,144,000 B.I. $1,017,000 Total $20,161,000

The Maximum Foreseeable Loss estimate assumes complete failure of all active fire suppression systems and ineffective response from the site PEO and public agencies. Under these circumstances, the worst case loss would involve the same scenario as the APL above except without fire department response. With no fire department response, the fire would be expected to spread through the East Dock to the 260 Building resulting in a loss of that building as well. This would be a 100% loss of the site.

Values

(In US Dollars)

PROPERTY DAMAGE: (100%)		$19,144,000
Buildings	$10,795,000	
Machinery & Equipment	$ 3,523,000	
Miscellaneous	$ 4,826,000	
BUSINESS INTERRUPTION: (12 MONTHS)		$1,017,000
TOTAL P.D. & B.I.:		$20,161,000

Global Risk Consultants®

ADVISORY RECOMMENDATIONS REPORT

Fire and Associated Perils

for

AMERICOLD LOGISTICS

Central Division
240 Chester St.
St. Paul, MN 55107
GRC File No. 2619.1079

Date Visited: April 26, 2016

Prepared by: Bill Davis, Senior Fire Consultant
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Cell: (715) 377-6127
Email: bill.davis@globalriskconsultants.com

Conferred with: Scott Holk, General Manager
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scott.holk@americold.com

We have agreed to place the following recommendations in this Advisory Recommendations Report rather than our formal Loss Prevention Report. However, we will continue to submit these recommendations until they have been completed, resubmitted on our formal Loss Prevention Report, or otherwise resolved. We urge they be given serious consideration especially in connection with future renovations and/or new construction at this facility.

10-01 **Automatic Sprinkler Protection.** Provide automatic sprinklers, designed in accordance with the latest edition of NFPA 13. Systems installed in freezers (or those coolers that can operate at sub-freezing temperatures) should be installed on double interlocked preaction systems.

Installed systems should be supplied by adequately sized water mains connected to the St. Paul city water system. Sprinkler risers should be located in riser rooms along exterior walls if at all possible. System piping for dry and preaction systems should utilize galvanized pipe.

Comments: The site was constructed in the early 1970's at which time applicable building and fire codes did not mandate sprinklers. At the current time, there are no plans to install sprinklers.

The recommendation is presented in general terms only. Specific design details including discharge density have not been developed given the stated position of the client. Specific details can be provided if needed (e.g. in case a cost estimate is desired from a sprinkler contractor).

10-02 **Combustible Construction Mitigation.** Certain walls feature expanded polystyrene foam insulation, covered with a variety of substrates including plaster, FRP, and metal. Available information suggests that composite foam walls consist of polystyrene mounted on structural substrate (typically concrete block) with some type of covering fastened in place. Unless covered with some type of thermal barrier, this type of construction style presents a risk of fast fire spread. Cementitious coating, wood, or heavy gauge metal are considered acceptable thermal barriers. All other types including FRP (dairy board) should be replaced or covered with an acceptable covering. In all cases where the existing cover has been damaged, repairs should be made.

Comments: Various walls and ceilings feature different construction styles as the facility evolved. Those featuring expanded/extruded polystyrene exist in select areas. All such walls do have some type of covering ranging from a cement type to FRP. While all types of expanded foamed plastic are highly combustible, polystyrene presents a very significant hazard. Burning polystyrene propagates quickly and generates relatively large amounts of heat. Coatings that do not afford any fire resistance (e.g. FRP) or those that are compromised could enable fire to spread behind such covers, preventing any type of effective manual response. Such a fire would likely spread into rack storage and burn until fuel was consumed.

Areas or rooms where such construction was noted includes

The vacant tenant freezer, walls and roof.
East wall of “A” freezer
North side of wall on the north side of “B” dry goods

Two items should be noted: (1) the list presented above should not be considered to be a definitive list of all such construction and (2) any type of foamed plastic insulation is combustible. Construction featuring polystyrene is highlighted as it does present a severe risk for an uncontrolled fire.

Global Risk Consultants®

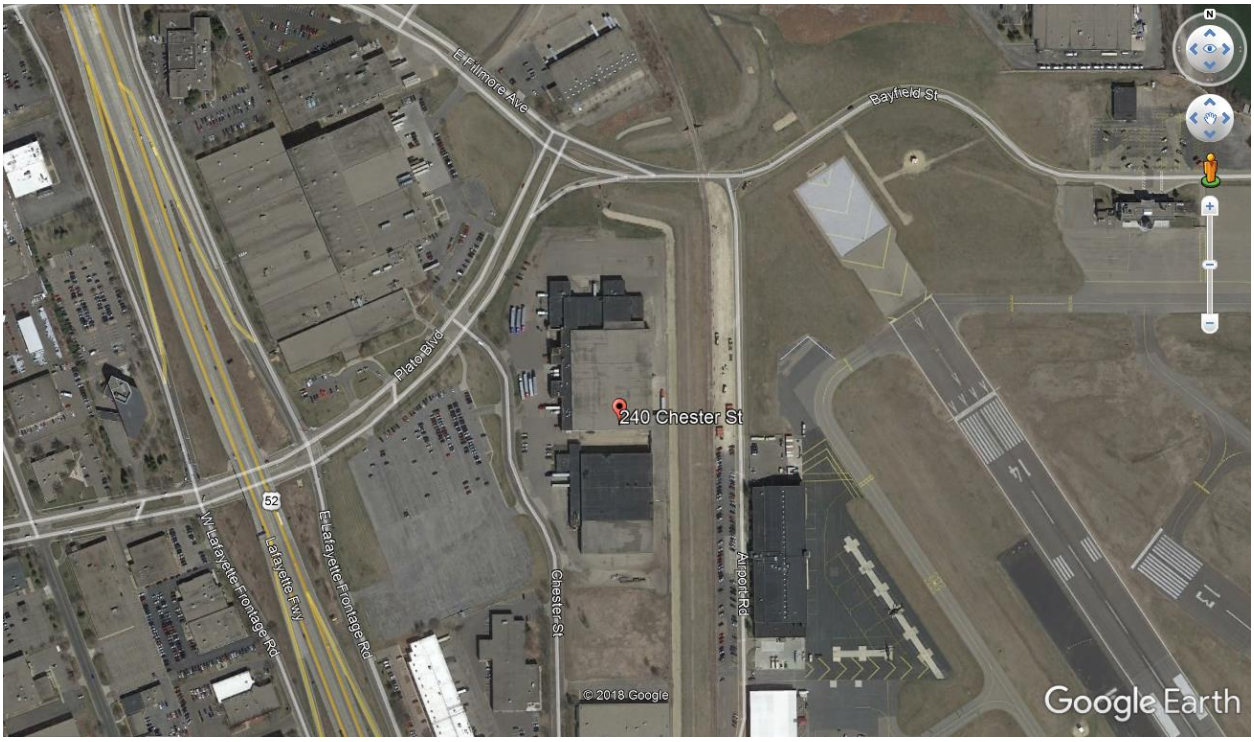
LOSS PREVENTION REPORT

Fire and Associated Perils

for

AMERICOLD LOGISTICS

Central Division
240 Chester St.
St. Paul, MN 55107
TÜV SÜD GRC File No. 2619.1079



Date Visited: April 30, 2018

Prepared by: Bill Davis, Senior Consultant
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Email: bill.davis@tuvsud.com

Conferred with: John Brisson, Facility Service Manager, john.brisson@americold.com

Rec. Response Link Recipient: John Brisson, Facility Service Manager
(651) 227-0741, john.brisson@americold.com

Operating Mode: Nominal 4 days/week, approximately 9 hours/day

Products: Distribution Warehouse for Frozen Foods and Dry Goods.

Special Hazards: High Piled Storage, Ammonia Refrigeration, Battery Charging.

Completed Projects: Engine room ventilation upgrades

New/Ongoing Projects: Roof covering replacement.

Summary:

This facility is a distribution center for frozen foods and dry goods. The site consists of two contiguous buildings totaling approximately 220,000 ft² located in an industrial/commercial area, east of downtown St. Paul. Nearby external exposures include the St. Paul Downtown Airport.

The non-freezer areas of the facility have noncombustible walls while the freezer areas have insulated panel walls. The roof is a ballasted or single ply membrane of unknown fire rating on metal deck and bar joists. Internal partitions include a variety of construction styles such as metal panel sandwich walls, concrete block, combustible "composite" walls (foam insulation covered with various finishes), and drywall.

Multiple rooms are present housing rack storage of packaged food items. No production takes place at this site. Refrigeration is provided by two ammonia refrigeration systems. Support areas include a two story office block.

Fire protection consists of a satisfactory number of city hydrants. A sufficient number of fire extinguishers are present throughout the site. Smoke detection is provided in the offices and lunchroom. There are no automatic sprinkler systems.

This site is protected from flooding by an Army Corps of Engineers levee. The Mississippi River is located north and east of the site.

Fire protection is provided by the fully paid St. Paul Fire Department with the closest station located 1.2 mile away with a 4 minute response time.

This visit was a re-survey of the facility and consisted of a review of recent projects; review of human element programs including fire protection equipment inspection and testing, security and surveillance, hot work, and emergency response; and a tour throughout the premises.

Recommendations:

13-03 **Forklift Charging – Ventilation.** Install ventilation over the forklift charging area in accordance with one of the following:

- Provide continuous ventilation over the forklift chargers either with hoods over the chargers similar to the Brooklyn Park facility, or with ventilation located at the ceiling level of the room.

- Provide ventilation over the forklift chargers either with hoods over the chargers similar to the Brooklyn Park facility, or with ventilation located at the ceiling level of the room that is interlocked to hydrogen detection at the ceiling that would activate the ventilation if hydrogen were detected.

Comments: In case of a battery overcharge or other potential electrical fault, charging batteries can emit hydrogen gas, which can be highly flammable and explosive is sufficient concentration. The flammable limits of hydrogen are 4% to 75% by volume. Therefore, ventilation should be provided to remove any emissions of hydrogen gas from the batteries. Refer to NFPA 505, 2013 edition, Section 9.3.2.1 (4).

A hydrogen detector has been installed above the equipment in this area. There are plans to install a wall ventilation fan that will be interlocked with the detector within 30 days.

16-01 **Idle Pallets Stored in Racks.** The several stacks of idle pallets in the 240 Building freezer warehouse area should be removed from the storage racks. The idle pallets should be stored on the floor outside of the racks to maximum 6 ft. high.

Comments: Idle pallets stored in racks create a severe fire exposure hazard. Pallets should be stored on the floor outside of the racks to reduce the fire exposure in this non-sprinkler protected facility. This will be reviewed again with facility personnel.

Note: Where fixed installations of equipment or building modifications/additions are planned, submit electronic plans/specifications to grc-Project.Review@tuvsud.com for review and approval prior to installation. The final installation must be field reviewed by TÜV SÜD Global Risk Consultants Corp. prior to full acceptance

Changes and Comments:

Completed/Removed Recommendations:

None.

Completed Projects:

Room ventilation equipment was upgraded in both ammonia equipment rooms in 2017 to meet IIAR 2 requirements. New roof-mounted exhaust fans (2) and wall inlet louvers were installed in both rooms to meet 30 Air Changes per hour emergency ventilation requirements.

New/Ongoing Projects:

Costs have been requested to re-roof or re-cover a section of the freezer roof on the 260 Building. The project covers a 100 ft. x 215 ft. section of roofing in this area. The project was submitted to TÜV SÜD GRC for review in February 2017 that included five different options. The project awaits funding to proceed.

Other Issues:

Good housekeeping conditions were noted throughout the facility.

There is only limited quantities of flammable liquids present in this facility. Two small flammable liquids cabinets are present (one in the inspection room in the 240 Building, and the other in Engine Room 2) for storage of small quantities of paints, aerosols and oils. Protection is adequate.

Fire Protection Water Supply Data:

Fire Pump(s): None.

Description of Private Water Supplies without Pumps:

N/A

Description of Public Water Supplies:

There is an 8 inch city water main in Chester St. connecting to a 12 inch city water main in Plato Blvd connecting to a 16 inch water main along US Hwy 52. There are no fire protection connections to the building.

Hydrant Flow Test Data:

Entire Plant

AREA	DATE	BY	SOURCE TESTED	FLOW LOCATION	PRESSURE LOCATION	TEST DATA			COMMENTS
						FLOW (GPM)	STATIC (PSI)	RESID. (PSI)	
1	14-Jun-12	City	Public supply	Lafayette & Frontage Road	Plato Blvd & Frontage Road	3000	90.0	87.0	
1	16-Apr-07	City	City	Plato Blvd & Chester St	Fillmore Ave & Plato Blvd	4160	91.0	85.0	4.5 in. port; C=0.747; Pitot=85

Maintenance Recommendations:

None.

Note: The above maintenance recommendations are of such nature that compliance can normally be accomplished without contractors and without significant expenditure of capital and/or labor. Nonetheless, they are considered important from a loss prevention standpoint and it is urged that they be promptly completed.

Underwriting Summary

Construction

The St. Paul site consists of two contiguous buildings, the 240 Building and the 260 Building. The two buildings are 70 ft. apart except that they are connected by a dock on the east side of the buildings. Both buildings are subdivided into various freezers and coolers.

Connecting Dock

The 240 Building (north) is 1=2 and 2-story office and was built in 1970. Wall construction is brick veneer on concrete block for the non-freezer portions and insulated panels for the freezer portions. The roof is a metal deck on steel bar joists supported by unprotected steel columns and is about 25 ft. high. The roof cover is a fully adhered single ply rubber membrane over the non-freezer portions and a ballasted single ply membrane over the freezer portions. The fire rating of the roof cover is unknown.

The 260 Building (south) is 1=2 and was built in 1972. Wall construction is precast concrete for the non-freezer portions and insulated panels for the freezer portions. The roof is a metal deck on steel bar joists supported by unprotected steel columns and is about 25 ft. high. The roof cover is a fully adhered single ply rubber membrane over the north 75% of the building with a ballasted single ply membrane over the remainder. The fire rating of the roof cover is unknown.

Internal partitions include a variety of construction styles such as metal panel sandwich walls, concrete block, combustible “composite” walls (plaster lathe finish over expanded polystyrene or other foam insulation), exposed foam insulation, and drywall. Condition varies from good to poor with certain areas exhibiting exposed foam plastic insulation.

Total square footage is on the order 220,000 ft^2 with the 240 Building being about 145,000 ft^2 and the 260 Building being about 75,000 ft^2.

240 Building

260 Building

240 Building Freezer Wall – Exposed Expanded Polystyrene

260 Building Freezer Wall – Exposed Expanded Polystyrene

Processes

The site is operated as a distribution warehouse for food products, mostly frozen. The majority of the facility is occupied with freezers containing multiple-row racking to 23 ft. high. Loading docks are located on the east and west ends. Offices house management and sales staff. There is one small office tenant area (travel agent – two employees) on the second floor main office in the 240 Building. Operations are presently approximately 7 AM to 3:30 PM, Sunday through Thursday, with approximately 8 employees.

Special Hazards

High-Piled Storage: In the 240 Building is 240 Dry Goods Room (50°F) and the 240 Freezer (-3°F). In the 260 Building is the 260 Freezer (-3°F), the 260 Cheese Room (50°F), and the 260 Bulk Freezer.

Since the roof height is the same in both buildings at about 25 ft., each storage area has a similar arrangement with multiple row racks to approximately 23 ft. high storage. The products are frozen foods in corrugated boxes (Class 2 commodity) and dry food products (Class 3 commodity). Aisles are 8 ft. minimum. No solid shelves are present and no automatic sprinkler protection is present.

HID Lighting: Fluorescent lighting is utilized. There is no HID lighting present.

Forklift Battery Charging: The forklift battery charging area is located on the West Dock. There is no mechanical ventilation present. A hydrogen detector has been installed above the equipment in this area. There are plans to install a wall ventilation fan that will be interlocked with the detector in 2018.

Common Hazards

Boilers: There is a small natural gas fired hot water heating boiler located in a detached Boiler Building along the east wall of the 240 Building. This boiler used to be used to heat glycol that was circulated in a heating loop contained in the floors of the 240 Building freezers. However, this boiler is no longer used as it was found that the floors could be heated adequately by just circulating the glycol through the loop using one of two glycol pumps. But, the boiler is still fully connected and could be used.

Boiler Building

The boiler is a Bryan water tube hot water unit, M# CL-270W-CI, rated at 2,700,000 Btu/hr. and 30 psi built in 1989. Gas train controls include: Low and high gas pressure switches, two safety shut off valves with no bleed line in between and flame supervision. There is a separate pilot line with a single solenoid valve for a safety shut off valve. Safety controls are still tested. (Last done February 2018.)

Electrical Systems: Power is purchased from the local utility and is supplied by underground line to utility owned transformers. Power distribution equipment is located in buildings and is of conventional design. Power distribution equipment is subjected to annual IR scans.

Refrigeration Systems: There are two separate engine rooms, one for each building, containing the ammonia refrigeration equipment.

Engine Room 1 (240 Building) is 2632 ft², constructed of concrete block walls, a metal deck roof and is not sprinkler protected. There are 7 ammonia compressors in the room, 3 low side compressors and 4 high side compressors for this two stage system. Only 1 low side compressor is needed for operations and two high side compressors are needed in the summer only with 1 compressor sufficient during all other times. Room volume is 65,576 ft³, emergency exhaust ventilation is 33,486 cfm, ammonia alarm and strobe set point is 25 ppm with exhaust ventilation activation and king valve shut down at 50 ppm. There are two exhaust fans and wall intake louvers. Room ventilation equipment was updated in 2017 to meet IIAR 2 requirements and 30 Air Changes per hour emergency ventilation.

Engine Room 2 (260 Building) is 1815 ft², constructed of concrete block and precast concrete walls, a metal deck roof and is not sprinkler protected. There are 6 ammonia compressors in the room, 3 low side compressors and 3 high side compressors for this two stage system. Generally, two compressors on the low side and two compressors on the high side are needed for operations. Room volume is 30,855 ft³, emergency exhaust ventilation is 17,272 cfm, ammonia alarm and strobe point is 25 ppm with exhaust ventilation activation and king valve shut down at 50 ppm. Room ventilation equipment was updated in 2017 to meet IIAR 2 requirements and 30 Air Changes per hour emergency ventilation.

There are ammonia detectors in each engine room, each warehouse area and the docks. All ammonia detectors are bump tested quarterly and the emergency exhaust fan interlock is tested at the same time. The ammonia detectors are calibrated semi-annually. The site has three hand held ammonia detectors that there is a regular PM set up on each one for calibrations (semi-annually). Both engine rooms have manual emergency exhaust activation controls and E-Stops located outside the room.

Most ammonia piping extends through the building. Piping and evaporators are suitably guarded to prevent mechanical impact damage. Outside ammonia piping is insulated, labeled and inspected. Maintenance procedures also include periodic NDT inspections of ammonia lines. Vibration analysis and oil sampling of the compressor equipment is conducted. Excellent housekeeping present in both rooms.

Machinery Room	Room Area	Room Volume	"Normal" Ventilation	"Emergency" Ventilation	Alarm Set Point	Emergency Ventilation
1	2632 ft^2	65,576 ft^3	12,600 CFM (9244 CFM required)	33,486 CFM (1-12,600 CFM & 1-20,886 CFM fans)	25 ppm	50 ppm
2	1815 ft^2	30,855 ft^3	9,000 CFM (7,511 CFM required)	17,272 CFM (1-9,000 CFM & 1-8,272 CFM fans)	25 ppm	50 ppm

Engine Room 1 Inside E-Stop and Manual Exhaust Control

Engine Room 2 Outside E-Stop and Manual Exhaust Control

Engine Room 1 Ammonia Detection Control Panel

Engine Room 1 Control Panel and E-Stop

Engine Room 1

Engine Room 2

Cooling Towers: None. Three noncombustible condensers associated with the ammonia systems are located on the roofs, or adjacent to, the two ammonia equipment rooms.

Computer and Electronic Equipment Rooms: Computer equipment is limited to networked computers. Data is backed up to corporate servers on an ongoing basis. Data backup protocols done on a corporate level are unknown.

Housekeeping: Housekeeping was observed to be good throughout the facility.

Protection Features

Automatic Sprinklers: None.

Water Supply, Water Mains, and Fire Hydrants: There are three city fire hydrants located along the west side of the site on Chester St. There is an 8 inch city water main in Chester St. connecting to a 12 inch city water main in Plato Blvd connecting to a 16 inch city water main along US Hwy 52. There are no fire protection water connections to the plant.

Alarm Systems: Tyco Integrated Security, a UL Listed Central Station, monitors smoke detection in offices, heat detectors also in the offices, manual pull stations and ammonia detection.

Security Measures: There is no guard service or fencing. The site is lighted at night. There are contact switches on all exterior doors and motion detectors on the docks. The contact switches and motion detectors are monitored by Tyco Integrated Security. There are cameras on site monitoring the docks and engine rooms. These cameras are digitally recorded and can be monitored by management.

Portable Fire Extinguishers: An adequate number of portable fire extinguishers are present.

Management Programs

Plant Emergency Organization: There is an emergency action plan in place addressing evacuation, fire, severe weather, ammonia leakage, etc. Key personnel complete 24-hour and 8-hour HAZWOPER training for ammonia response. The plan accounts for proper notification, coordination with responders, evacuation or staying in place and incident command. Drills are also conducted at least annually. The fire department is invited annually to tour the facility. (Last tour conducted in approximately 2016.)

Self-Inspections: Tyco Integrated Security does bimonthly inspections testing the manual pull stations (6), heat detectors (6) and smoke detectors (16), which was last done April 19, 2018.

Impairment Handling: Not applicable.

Ignition Source Control: Smoking is not permitted within buildings. A hot work permit system is in effect that includes use of hot work permits that follows Americold requirements. The site uses Infrared Consulting Services (ICS) for annual IR surveys with the last one done in September 2017.

Management of Change: There is a formal Management of Change program in place. This program includes: an initial questionnaire regarding the change, a listing of key personnel (originator, engineering, compliance, contractor, etc.), review/screening of change, process hazard analysis if needed, updates of progress and changes during the project, tracking of safety, training and compliance items during the project, pre-start up safety review and start up authorization.

Public Protection

Public fire protection is provided by the fully paid and equipped St. Paul Fire Department. The City of St. Paul Fire Department has 15 stations with the closest station being Station 6 located at 33 Concord St, which is 1.2 miles away from Americold with an approximate 4 minute response time. Station 6 is manned 24/7 and is equipped with two Engines and a Medical Unit. The fire department does periodic tours of the site (last done 2016) and the responding station's crews are invited annually.

Natural Hazards and Other Exposures/Perils

Flood: The site is located approximately 1800 ft. south of the Mississippi River. An Army Corp of Engineers earth levee is located immediately east of the facility (located between Americold and the St. Paul Downtown Airport). According to FEMA flood Map Number 27123C0104G dated June 4, 2010, the site is located within the 500 year flood plain (shaded Zone X, 0.2% annual chance of flood) and protected by levee from the 100 year flood plain (Zone AE, 1% annual chance of flood).

The 100 year flood elevation is 707 ft. The Warehouse floor elevation is unknown, but is approximately 3 ft. above grade. Per Google Earth, grade elevation around the facility varies from 701 to 703 ft. indicating floor elevation varies from approximately 704 to 707 ft.

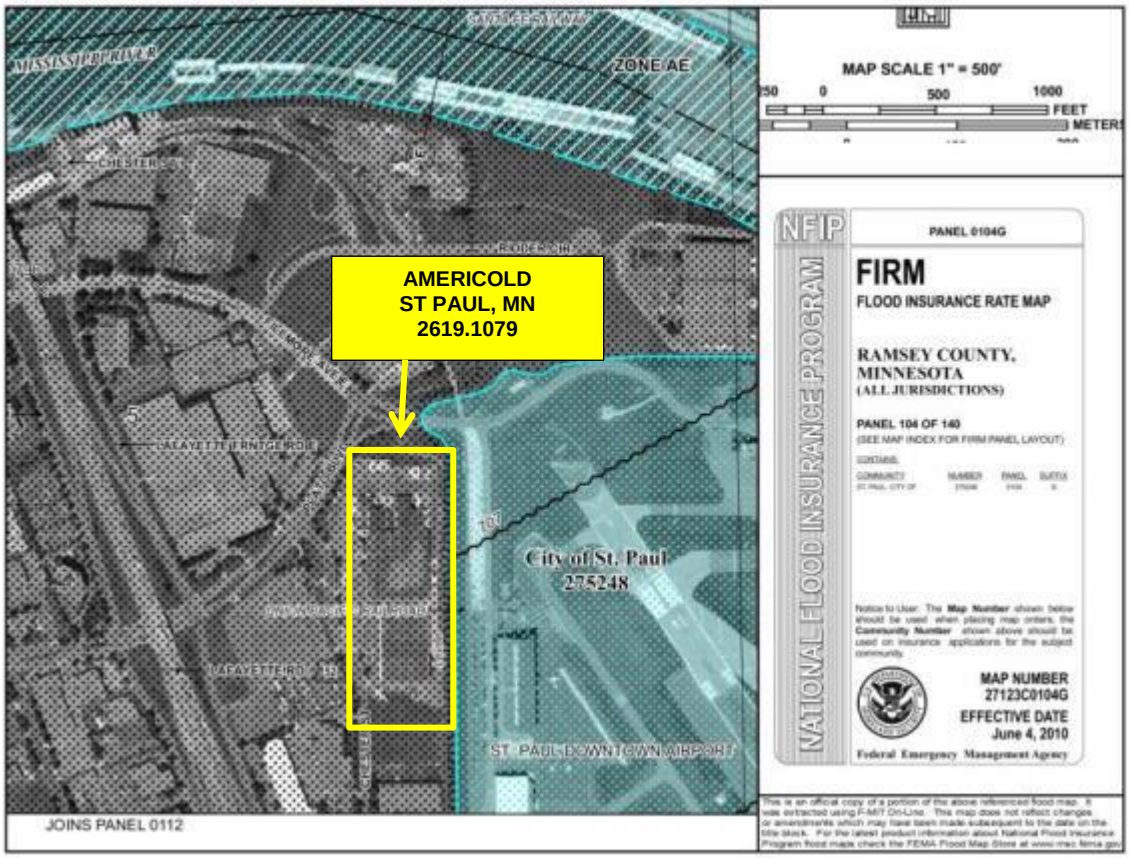
In a 100 year event with the levee staying intact, there should be no flooding of the facility. However, in a 100 year flood event with the levee breached, there should be very little water in the 240 Building with the water reaching floor elevation, but approximately 3 ft. of water in the 260 Building.

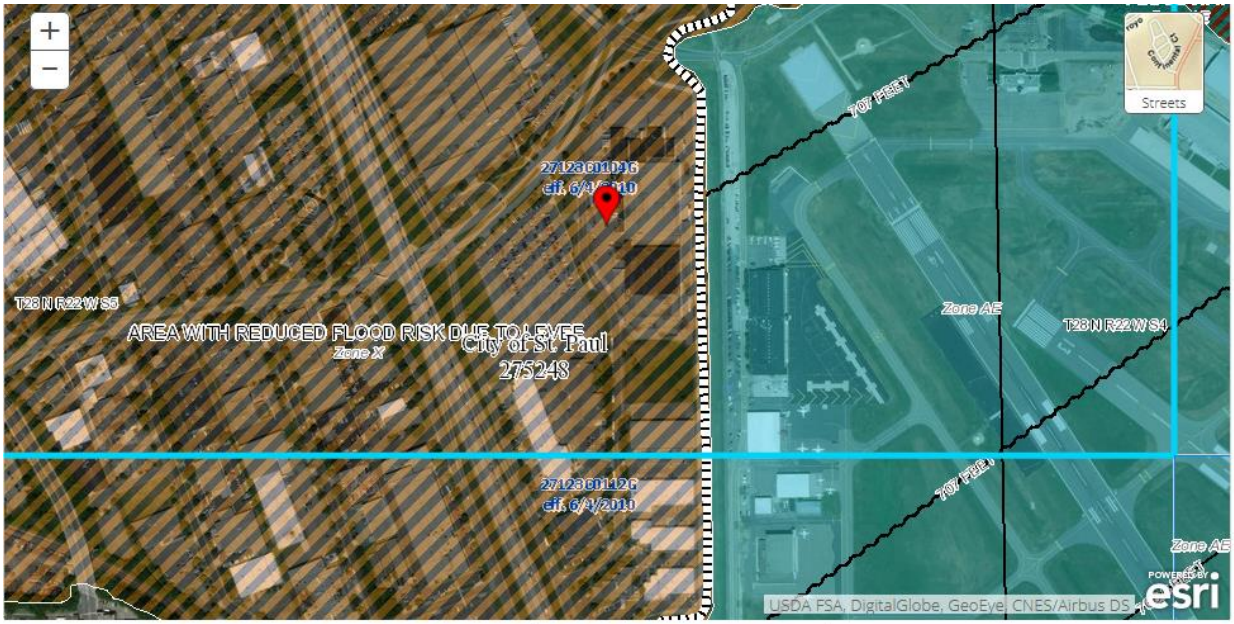
The levee was built by the US Army Corps of Engineers and is maintained by the City of St. Paul. The levee appeared in excellent condition during this visit.

Spring flooding in 2014 was relatively severe along the upper Mississippi. NOAA reported peak river level at 20.13 ft. above flood stage on June 26, 2014.
(http://water.weather.gov/ahps2/crests.php?wfo=mpx&gage=stpm5)

The flood level datum is defined as 0 ft. = 683.62 (1929 Datum). Thus, the 2014 flood at 20.13 ft. corresponds to 703.75 ft. Other historical flooding events reached:

- 1965 – 26.01 ft. (709.63 ft.)
- 1969 – 24.52 ft. (708.14 ft.)
- 2001 – 23.76 ft. – 23.20 ft. (707.38 ft. – 706.82 ft.)
- 1997 – 22.37 ft. (705.99 ft.)


AMERICOLD
ST PAUL, MN
2619.1079
ZONE AE
City of St. Paul
275248
JOINS PANEL 0112
MAP SCALE 1" = 500'
FEET
METERS
NFIP
NATIONAL FLOOD INSURANCE PROGRAM
PANEL 0104G
FIRM
FLOOD INSURANCE RATE MAP
RAMSEY COUNTY, MINNESOTA
(ALL JURISDICTIONS)
PANEL 104 OF 140
MAP NUMBER
27123C0104G
EFFECTIVE DATE
June 4, 2010
Federal Emergency Management Agency



Levee East of 240 Building

Levee West of 260 Building

Windstorm: Exposure is low. This site is subject to 90 mph 3 second gusts, surface roughness C and is subject to tornados at the rate of 3 tornados per year per 10,000 sq. miles per FM Global Data Sheet 1-28, *Wind Design*. Roof design information was unavailable. This area has a significant tornado exposure as indicated by the SwissRe CatNet® tornado map below.

Earthquake: Risk is very low. The site is located in Seismic Zone >500 per FM Global Data Sheet 1-2, *Earthquakes*. Zone >500 includes areas where moderate to severe shaking is not expected to reoccur within an average recurrence interval of >500 years indicating there is little earthquake exposure. Peak ground acceleration per the USGS is 2.2% (2% probability in 50 years).

Other Exposures: The St. Paul Downtown Airport is located immediately east of the site on the other side of the levee with Runway 14 approximately 600 ft. from the northeast corner of the 240 Building. The site is not in the direct flight path of the runway. The FIRM flood map and the Google Earth map on the first page of the report both depict the airport runway in relation to the client facility. All other buildings are 250+ ft. away from the facility.

Business Interruption and Interdependency Features

There is a formal contingency plan in place regarding the loss of power, and thus cooling, to the site. Freezer and cooler temperatures are monitored once (weekends) or twice (during week) daily. In case of loss of power, the first thing done is to keep all doors closed and allow no activity in the rooms. The rooms will maintain temperature for approximately two days doing this. During these two days, local management would be checking on which other Americold locations (~140 in the US) could accommodate their product and which trucking companies could provide transportation or simply storage in refrigerated trailers. The site maintains a list of 14 Americold facilities within 12 hours trucking time of this site and a list of five trucking companies that can provide trailers and transportation. If a transformer is lost, the local utility can provide a replacement transformer within 24 hours and this has been verified with the utility.

LOSS ESTIMATES

(All Values in US Dollars)

ANTICIPATED PROBABLE LOSS:

P.D. $12,700,000 B.I. $700,000 Total $13,400,000

The Anticipated Probable Loss estimate assumes all fire protection systems work as installed and emergency response personnel (both site PEO and public agencies) act in accordance with existing plans. Under these circumstances, the worst case loss would involve fire occurring in the main freezer of the 240 Building during non-occupied hours. Due to no fire detection in the freezers, but only in the offices, and no sprinkler protection, the fire would be expected to burn uncontrolled destroying this building. The fire department would be notified by passerby and should be able to make a stand in the East Dock and keep the fire from spreading to the 260 Building. The PD loss estimate is (145,000 ft^2 / 220,000 ft^2) x $19,144,000 = $12,617,636 or $12,700,000.

As a result of this incident, all operations would be shut down for 1 month. At that time, operations in the 260 Building would resume. It would require an additional 11 months to rebuild the 240 Building. Business interruption would be [(1/12 months) x (100%) x ($1,017,000)] + [(11/12 months) x (66%) x ($1,017,000)] = $623,760 or $700,000.

The APL is estimated at $12,700,000 P.D. + $700,000 B.I. = $13,400,000.

PROBABLE MAXIMUM LOSS:

P.D. $12,700,000 B.I. $700,000 Total $13,400,000

The Probable Maximum Loss estimate assumes a single fire protection system is out of service at the time of the incident and emergency response personnel (both site PEO and public agencies) act in accordance with existing plans, given potentially delayed notification due to the failure of the fire protection system. Under these circumstances, the worst case loss would involve the same scenario as the APL above with the same result.

The PML is estimated at $12,700,000 P.D. + $700,000 B.I. = $13,400,000.

MAXIMUM FORESEEABLE LOSS:

P.D. $19,144,000 B.I. $1,017,000 Total $20,161,000

The Maximum Foreseeable Loss estimate assumes complete failure of all active fire suppression systems and ineffective response from the site PEO and public agencies. Under these circumstances, the worst case loss would involve the same scenario as the APL above except without fire department response. With no fire department response, the fire would be expected to spread through the East Dock to the 260 Building resulting in a loss of that building as well. This would be a 100% loss of the site. An estimated 12 months would be required to rebuild.

The MFL is estimated at $19,144,000 P.D. + $1,017,000 B.I. = $20,161,000.

Values

(In US Dollars)

PROPERTY DAMAGE: (100%)		$19,144,000
Buildings	$10,795,000	
Machinery & Equipment	$ 3,523,000	
Miscellaneous	$ 4,826,000	
BUSINESS INTERRUPTION: (12 MONTHS)		$1,017,000
TOTAL P.D. & B.I.:		$20,161,000

Global Risk Consultants®

ADVISORY RECOMMENDATIONS REPORT

Fire and Associated Perils

for

AMERICOLD LOGISTICS

Central Division
240 Chester St.
St. Paul, MN 55107
TÜV SÜD GRC File No. 2619.1079

Date Visited: April 30, 2018

Prepared by: Bill Davis, Senior Consultant
Excelsior, MN Office
Cell: (715) 377-6127
Email: bill.davis@tuvsud.com

Conferred with: John Brisson, Facility Service Manager
(651) 227-0741, john.brisson@americold.com

We have agreed to place the following recommendations in this Advisory Recommendations Report rather than our formal Loss Prevention Report. However, we will continue to submit these recommendations until they have been completed, resubmitted on our formal Loss Prevention Report, or otherwise resolved. We urge they be given serious consideration especially in connection with future renovations and/or new construction at this facility.

10-01 **Automatic Sprinkler Protection.** Provide automatic sprinklers, designed in accordance with the latest edition of NFPA 13. Systems installed in freezers (or those coolers that can operate at sub-freezing temperatures) should be installed on double interlocked preaction systems.

Installed systems should be supplied by adequately sized water mains connected to the St. Paul city water system. Sprinkler risers should be located in riser rooms along exterior walls if at all possible. System piping for dry and preaction systems should utilize galvanized pipe.

Comments: The site was constructed in the early 1970's at which time applicable building and fire codes did not mandate sprinklers. At the current time, there are no plans to install sprinklers.

The recommendation is presented in general terms only. Specific design details including discharge density have not been developed given the stated position of the client. Specific details can be provided if needed (e.g. in case a cost estimate is desired from a sprinkler contractor).

10-02 **Combustible Construction Mitigation.** Certain walls feature expanded polystyrene foam insulation, covered with a variety of substrates including plaster, FRP, and metal. Available information suggests that composite foam walls consist of polystyrene mounted on structural substrate (typically concrete block) with some type of covering fastened in place. Unless covered with some type of thermal barrier, this type of construction style presents a risk of fast fire spread. Cementitious coating, wood, or heavy gauge metal are considered acceptable thermal barriers. All other types including FRP (dairy board) should be replaced or covered with an acceptable covering. In all cases where the existing cover has been damaged, repairs should be made.

Comments: Various walls and ceilings feature different construction styles as the facility evolved. Those featuring expanded/extruded polystyrene exist in select areas. Some walls have some type of covering ranging from a cement type to FRP. While all types of expanded foamed plastic are highly combustible, polystyrene presents a very significant hazard. Burning polystyrene propagates quickly and generates relatively large amounts of heat. Coatings that do not afford any fire resistance (e.g. FRP) or those that are compromised could enable fire to spread behind such covers, preventing any type of effective manual response. Such a fire would likely spread into rack storage and burn until fuel was consumed.

Areas or rooms where such construction was noted includes:

- The tenant freezer, walls and roof
- Walls of 240 Building freezer
- Walls of 260 Building freezer
- North side of wall on the north side of 240 Building dry goods

Two items should be noted: (1) the list presented above should not be considered to be a definitive list of all such construction, and (2) any type of foamed plastic insulation is combustible. Construction featuring polystyrene is highlighted as it does present a severe risk for an uncontrolled fire.

There are no plans to replace existing wall coverings.

Global Risk Consultants®

LOSS PREVENTION REPORT

Fire and Associated Perils

for

AMERICOLD LOGISTICS

Central Division
240 Chester St.
St. Paul, MN 55107
GRC File No. 2619.1079

Date Visited: June 21, 2013

Prepared by: Jeff Sutton
Minneapolis, MN, Office
(763) 273-4248
jeff.sutton@globalriskconsultants.com

Conferred with: John Brisson, Facility Service Manager
(651) 227-0741
john.brisson@americold.com

Rec. Response Link Recipient: John Brisson, Facility Service Manager
(651) 227-0741
john.brisson@americold.com

Operating Mode: Nominal 5 days/week, approximately 10 hours/day

Products: Distribution Warehouse for Frozen Foods and Dry Goods.

Special Hazards: High piled storage, Ammonia Refrigeration

Completed Projects: None.

New/Ongoing Projects: Ammonia Detection

Summary:

This facility is a distribution center for frozen foods and dry goods. The site consists of 2 contiguous buildings totaling approximately 220,000 ft^2 located in an industrial/commercial area, east of downtown St. Paul. Nearby external exposures include the St. Paul Downtown airport.

The nonfreezer areas have noncombustible walls while the freezer areas have insulated panel walls. The roof is a single ply membrane of unknown fire rating on metal deck and bar joists. Internal partitions include a variety of construction styles such as metal panel sandwich walls, concrete block, combustible "composite" walls (foam insulation covered with various finishes), and drywall.

Multiple rooms are present housing rack storage of packaged food items. No production takes place at this site. Refrigeration is provided by two ammonia refrigeration systems. Support areas include a two story office block.

Fire protection consists of a satisfactory number of city hydrants. A sufficient number of fire extinguishers are present throughout the site. Smoke detection is provided in the offices and lunchroom. There are no automatic sprinkler systems.

This site is protected from flooding by an Army Corps of Engineers levee. The Mississippi River is located north and east of the site.

Fire protection is provided by the fully paid St. Paul Fire Department with the closest station located 1.2 mile away with a 4 minute response time.

This visit consisted of reviewing various human element programs such as fire protection inspection and testing, security and surveillance, hot work, and emergency response and conducting a walk through of the site.

Recommendations:

13-01 **Hot Work Permits – Improve.** Improve the existing Hot Work Permits by adding the following provisions:

- Sprinkler protection in service where available?
- Construction is noncombustible. No combustible covering or insulation?
- Combustibles on other side of wall moved away?
- All wall and floor openings covered?
- Containers or closed equipment purged of all combustibles, flammable liquids/vapors?

Comments: The existing hot work permits in use are pretty good. However, the above key provisions, although included in the written hot work policy, are not included on the hot work permit. Past experience with hot work permits shows that if the provisions are not on the permit, they commonly do not get addressed in actual use. Therefore, these provisions should be included on the permit.

Reference: NFPA 51B, *Standard for Fire Prevention During Welding, Cutting and Other Hot Work*, 2009 edition, 5.3(2), 5.3(3&4), 5.4.2(4), 5.4.2(6), 5.4.2(7), 5.4.2(8).

13-02 **Canola Oil 350 Gallon Plastic Totes – B Dry Goods Warehouse.** Remove the 350 gallon plastic totes of Canola Oil out of the B Dry Goods Warehouse and store in accordance with one of the following options:

- Store in a detached building at least 50 ft. away from the main buildings.
- Store detached portable flammable liquid storage building that is UL Listed and/or FM Approved.
- Store inside the main building in an area that is fire isolated from the remainder of the building by at least 2 hour fire rated construction and is provided with spill containment capable of containing the entire contents of all containers.

Canola Oil Tote in Rack – 2nd Tier

Canola Oil Totes in Rack

Comments: During the survey of the B Dry Goods Warehouse, three 350 gallon plastic totes of Canola Oil were found. It was unknown if there were any more of these totes elsewhere. If these totes are involved in a fire, the totes will fail igniting the contents with the burning liquid then flowing across the warehouse. Such an event would likely result in a total loss of the 260 or South Building. Therefore, it would be a good idea to remove these totes from the warehouse and the building.

However, with the lack of sprinkler protection in the building, it may not make a lot of difference in case of a fire incident, but it is always a good idea to lessen the hazard where possible.

Reference: NFPA 30, *Flammable and Combustible Liquids Code*, 2012 edition, 9.4.1.1, Table 9.4.3, Table 16.5.2.9 and Table 16.5.2.10.

13-03 **Forklift Charging – Ventilation.** Install ventilation over the forklift charging area in accordance with one of the following:

- Provide continuous ventilation over the forklift chargers either with hoods over the chargers similar to the Brooklyn Park facility, or with ventilation located at the ceiling level of the room.
- Provide ventilation over the forklift chargers either with hoods over the chargers similar to the Brooklyn Park facility, or with ventilation located at the ceiling level of the room that is interlocked to hydrogen detection at the ceiling that would activate the ventilation if hydrogen were detected.

Comments: In case of a battery overcharge or other potential electrical fault, charging batteries can emit hydrogen gas, which can be highly flammable and explosive is sufficient concentration. The flammable limits of hydrogen are 4% to 75% by volume. Therefore, ventilation should be provided to remove any emissions of hydrogen gas from the batteries.

Reference: NFPA 505, *Fire Safety Standard for Powered Industrial Trucks Including Type Designations, Areas of Use, Conversions, Maintenance and* Operations, 2013 edition, 9.3.2.1 (4).

13-04 **Ammonia Detector Calibration – Semiannual.** Calibrate all of the ammonia detectors on a 6 month frequency.

Comments: Currently, the ammonia detectors in the facility are only being calibrated on an annual frequency due to this being the manufacturer's guidelines. However, Americold has an internal company requirement to calibrate ammonia detectors every 6 months. Therefore, this recommendation is being made to increase the calibration frequency. This would apply to the area detectors as well as the handheld detectors.

Note: Where fixed installations of equipment or building modifications/additions are planned, submit electronic plans/specifications to greg.bates@globalriskconsultants.com for review and approval prior to installation. Where only hard copy documents will be available send them to Greg Bates, Global Risk Consultants Corp., 11025 Wilshire Chase Dr, Duluth, GA 30097. The final installation must be field reviewed by Global Risk Consultants Corp. prior to full acceptance

Changes and Comments:

Completed/Removed Recommendations:

10-03 **Idle Pallet Storage.** Remove pallets from storage racks in "B" dry goods warehouse. Pallets should be stored no higher than 6 ft. on the ground.

The idle wood pallets have been removed from the racks and stored on the floor no higher than 6 ft.

M10-01 Maintain 36-inch clearance around electrical switchgear. Various materials were noted stored adjacent to MCC switchgear in Engine Room 1. To be done.

This recommendation has been completed by moving all combustibles 36 inches or more from the electrical panels.

Completed Projects:

None.

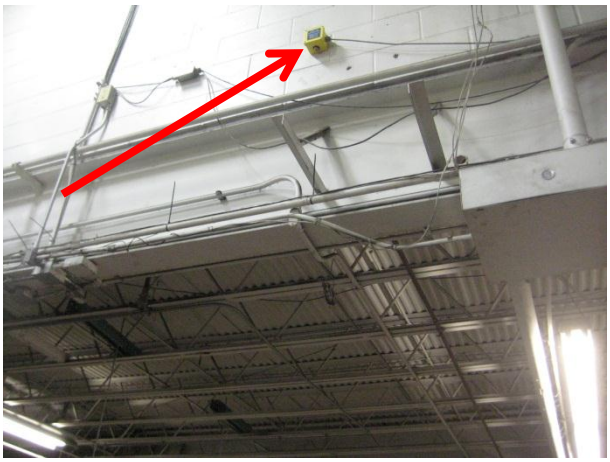
New/Ongoing Projects:

Ammonia Detection

There is a project in the works to redo the ammonia detection in both engine rooms. This is planned to be done in the fall of 2013.

Due to this project, no recommendation was made regarding:

- Raising the existing ammonia detection to the ceiling level versus the current 5 to 12 ft. above the floor in most areas as ammonia is lighter than air.



- Add additional detectors in both engine rooms as both currently only have the one detector.

Other Issues:

None.

Fire Protection Water Supply Data:

Hydrant Flow Test Data:

Entire Plant

AREA	DATE	BY	SOURCE TESTED	FLOW LOCATION	PRESSURE LOCATION	TEST DATA			COMMENTS
						FLOW (GPM)	STATIC (PSI)	RESID. (PSI)	
1	16-Apr-07	City	City	Plato Blvd & Chester St	Fillmore Ave & Plato Blvd	4160	91.0	85.0	4.5 in. port; C=0.747; Pitot=85

Maintenance Recommendations:

None.

Note: The above maintenance recommendations are of such nature that compliance can normally be accomplished without contractors and without significant expenditure of capital and/or labor. Nonetheless, they are considered important from a loss prevention standpoint and it is urged that they be promptly completed.

Underwriting Summary

Construction

The St. Paul site consists of 2 contiguous buildings, the 240 Building and the 260 Building. The two buildings are 70 ft. apart except that they are connected by a dock on the east side of the buildings. Both buildings are subdivided into various freezers and coolers.

Connecting Dock

The 240 Building is 1=2 and 2 story office built in 1970. Wall construction is brick veneer on concrete block for the nonfreezer portions and insulated panels for the freezer portions. The roof is a metal deck on steel bar joists supported by unprotected steel columns and is about 25 ft. high. The roof cover is a fully adhered single ply rubber membrane over the nonfreezer portions and a ballasted single ply membrane over the freezer portions. The fire rating of the roof cover is unknown.

The 260 Building is 1=2 built in 1972. Wall construction is precast concrete for the nonfreezer portions and insulated panels for the freezer portions. The roof is a metal deck on steel bar joists supported by unprotected steel columns and is about 25 ft. high. The roof cover is a fully adhered single ply rubber membrane over the north 75% of the building with a ballasted single ply membrane over the remainder. The fire rating of the roof cover is unknown.

Internal partitions include a variety of construction styles such as metal panel sandwich walls, concrete block, combustible “composite” walls (plaster lathe finish over expanded polystyrene or other foam insulation), and drywall. Condition varies from good to poor with certain areas exhibiting exposed foam plastic insulation.

Total square footage is on the order 220,000 ft^2 with the 240 building being about 145,000 ft^2 and the 260 building being about 75,000 ft^2.

240 Building

260 Building

Freezer Wall – Exposed Expanded Polystyrene

Freezer Wall – Exposed Expanded Polystyrene

Processes

The site is operated as a distribution warehouse for food products, mostly frozen. The majority of the facility is occupied with freezers containing multiple row racking to 23 ft. Loading docks are located on the east and west ends. Offices house management and sales staff.

There were previously some tenants in the freezer areas, but these tenants are now gone. The only tenants remaining are in the office spaces.

Special Hazards

High-Piled Storage: In the 240 Building is 240 Cheese Room (50°F) and the 240 Freezer (-3°F). In the 260 Building is the 260 Freezer (-3°F), the 260 Cheese Room (50°F), the B Dry Goods Warehouse and the 260 Tenant Freezer that is currently vacant.

Since the roof height is the same in both buildings at about 25 ft., each storage area has a similar arrangement with multiple row racks to approximately 23 ft. high storage. The products are frozen foods in corrugated boxes (Class 2 commodity) and dry food products (class 3 commodity). Aisles are 8 ft. minimum. No solid shelves are present nor is any sprinkler protection present.

HID Lighting: HID lighting is present. Most lamps are equipped with suitable shields. All lamps are cycled on/off at least weekly if not daily.

Forklift Battery Charging: The forklift battery charging area is located on the West Dock. There is no ventilation and this needs to be addressed.

Common Hazards

Boilers: There is a small natural gas fired hot water heating boiler located in a detached Boiler Building along the east wall of the 240 Building. This boiler used to be used to heat glycol that was circulated in a heating loop contained in the floors of the 240 Building freezers. However, this boiler is no longer used as it was found that the floors could be heated adequately by just circulating the glycol through the loop using one of two glycol pumps. But, the boiler is still fully connected and could be used.

Boiler Building

The boiler is Bryan water tube hot water unit, M# CL-270W-CI, rated at 2,700,000 Btu/hr and 30 psi built in 1989. Gas train controls include: low and high gas pressure switches, two safety shut off valves with no bleed line in between and flame supervision. There is a separate pilot line with a single solenoid valve for a safety shut off valve. Since the boiler has not been used, the gas train safeties have not been tested. This needs to be done before firing the boiler again.

Electrical Systems: Power is purchased from the local utility and is supplied by underground line to utility owned transformers. Power distribution equipment is located in buildings and is of conventional design. Power distribution equipment is subjected to annual IR scans.

Refrigeration Systems: There are two separate engine rooms, one for each building, containing the ammonia refrigeration equipment.

Engine Room 1 (240 Building) is 2630 ft^2, constructed of concrete block walls, a metal deck roof and is not sprinkler protected. There are 7 ammonia compressors in the room, 3 low side compressors and 4 high side compressors for this two stage system. Only 1 low side compressor is needed for operations and two high side compressors are needed in the summer only with 1 compressor sufficient during all other times. Room volume is 65,500 ft^3, emergency exhaust ventilation is 25,891 cfm, ammonia alarm set point is 50 ppm with exhaust ventilation activation at 100 ppm.

Engine Room 2 (260 Building) is 1815 ft^2, constructed of concrete block and precast concrete walls, a metal deck roof and is not sprinkler protected. There are 6 ammonia compressors in the room, 3 low side compressors and 3 high side compressors for this two stage system. Generally, two compressors on the low side and two compressors on the high side are needed for operations. Room volume is 30,855 ft^3, emergency exhaust ventilation is 15,800 cfm, ammonia alarm set point is 50 ppm with exhaust ventilation activation at 100 ppm.

There are ammonia detectors in each engine room, each warehouse area and the docks. All ammonia detectors are tested monthly per the manufacturer's instructions and the emergency exhaust fan interlock is tested at the same time. The ammonia detectors are calibrated annually per the manufacturer's instructions. The site has three hand held ammonia detectors that there is a regular PM set up on each one for calibrations. Both engine rooms have manual emergency exhaust activation controls and E-Stops located outside the room.

Engine Room 1 E-Stop and Manual Exhaust Control

Engine Room 2 E-Stop and Manual Exhaust Control

Cooling Towers: None.

Computer and Electronic Equipment Rooms: Computer equipment is limited to networked computers. Data is backed up to corporate servers on an ongoing basis. Data backup protocols done on a corporate level are unknown.

Housekeeping: Housekeeping was noted to be good throughout.

Protection Features

Automatic Sprinklers: None.

Water Supply, Water Mains, and Fire Hydrants: There are three city fire hydrants located along the west side of the site on Chester St. There is an 8 inch city water main in Chester St. connecting to a 12 inch city water main in Plato Blvd connecting to a 16 inch city water main along US Hwy 52. There are no fire protection water connections to the plant.

Alarm Systems: Tyco Integrated Security, a UL Listed Central Station, monitors smoke detection in offices, six heat detectors also in the offices, six manual pull stations and ammonia detection.

Security Measures: There is no guard service or fencing. The site is lighted at night. There are contact switches on all exterior doors and motion detectors on the docks. The contact switches and motion detectors are monitored by Tyco Integrated Security. There are cameras on site monitoring the docks and engine rooms. These cameras are digitally recorded and can be monitored by management.

Portable Fire Extinguishers: An adequate number of portable fire extinguishers is present.

Management Programs

Plant Emergency Organization: There is an emergency action plan in place addressing evacuation, fire, severe weather, ammonia leakage, etc. The plan accounts for proper notification, coordination with responders, evacuation or staying in place and incident command. Drills are also conducted at least annually.

Self-Inspections: Tyco Integrated Security does bimonthly inspections testing the manual pull stations (6), heat detectors (6) and smoke detectors (16), which was last done May 22, 2013.

Impairment Handling: Not applicable.

Ignition Source Control: Smoking is not permitted within buildings. A hot work permit system is in effect though some improvements to the current permit have been recommended. The site uses Infrared Consulting Services for annual IR surveys with the last one done July 23, 2012.

Management of Change: There is a formal Management of Change program in place. This program includes: an initial questionnaire regarding the change, a listing of key personnel (originator, engineering, compliance, contractor, etc.), review/screening of change, process hazard analysis if needed, updates of progress and changes during the project, tracking of safety, training and compliance items during the project, pre-start up safety review and start up authorization.

Public Protection

Public fire protection is provided by the fully paid St. Paul Fire Department. The City of St. Paul Fire Department has a total of 444 fire fighters at 15 stations with the closest station being Station 6 located at 33 Concord St, which is 1.2 miles away from Americold with an approximate 4 minute response time. Station 6 is manned 24/7 and is equipped with two Engines and a Medical Unit. Among the other 14 stations, the St. Paul Fire Department has nearly any equipment a modern fire department would have. The fire department does biannual tours of the site.

Natural Hazards and Other Exposures/Perils

Flood: The site is located approximately 1800 ft. south of the Mississippi River. An Army Corp of Engineers earth levee is located immediately east of the facility (located between Americold and the St. Paul Downtown Airport). According to FEMA flood Map Number 27123C0104G dated June 4, 2010, the site is located within the 500 year flood plain (shaded Zone X, 0.2% annual chance of flood) and protected by levee from the 100 year flood plain (Zone AE, 1% annual chance of flood).

The 100 year flood elevation is 707 ft. The Warehouse floor elevation is unknown, but is approximately 3 ft. above grade. Per Google Earth, grade elevation around the facility varies from 701 to 703 ft. indicating floor elevation varies from approximately 704 to 707 ft.

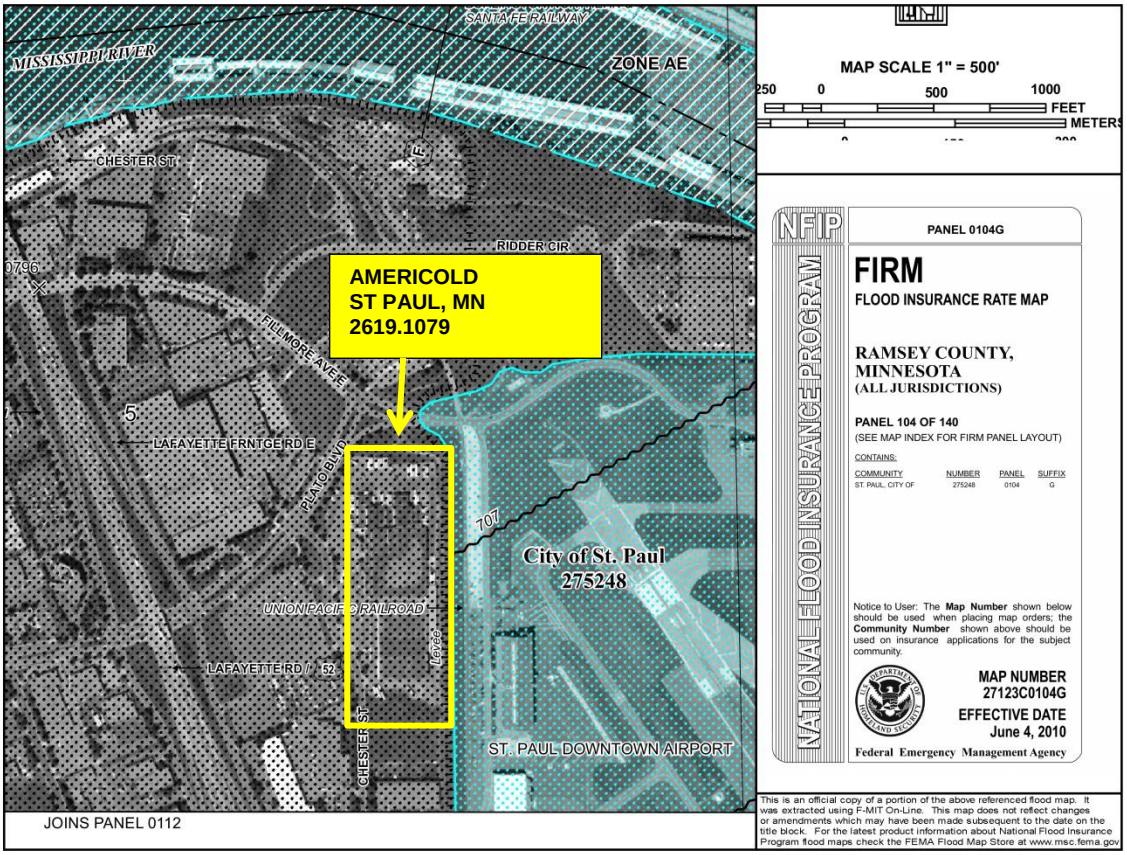
In a 100 year event with the levee staying intact, there should be no flooding of the facility. However, in a 100 year flood event with the levee breached, there should be very little water in the 240 Building with the water reaching floor elevation, but approximately 3 ft. of water in the 260 Building.

The levee was built by the US Army Corps of Engineers and is maintained by the City of St. Paul. The levee appeared in excellent condition during this visit.

Spring flooding in 2010 was relatively severe along the upper Mississippi. NOAA reported peak river level at 18.38 ft. above flood stage on March 24, 2010.
(http://water.weather.gov/ahps2/crests.php?wfo=mpx&gage=stpm5)

The flood level datum is defined as 0 ft. = 683.62 (1929 Datum). Thus, the 2010 flood at 18.38 ft. corresponds to 702.0 ft. Other flooding in events reached:

- 2001 – 23.6 ft. (707.22 ft.)
- 1997 – 22.4 ft. (706 ft.)
- 1969 – 24.5 ft. (708.1 ft.)
- 1965 – 26 ft. (709.62 ft.)



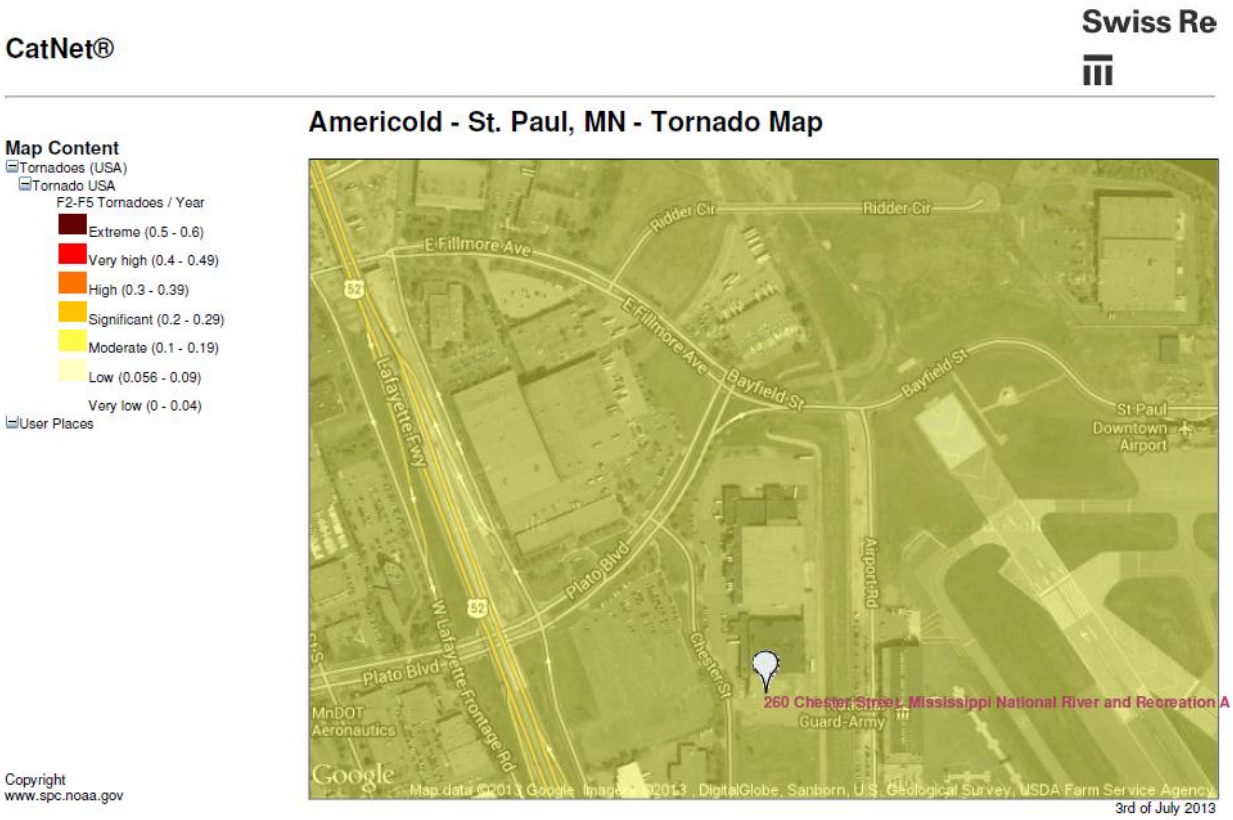
OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

Levee Looking North from 240 Building

Levee Looking South from 240 Building

Windstorm: This site is subject to 90 mph 3 second gusts, surface roughness C and is subject to tornados at the rate of 3 tornados per year per 10,000 sq. miles per FM Global Data Sheet 1-28, *Wind Design*. Roof design information was unavailable. The exposure is considered moderate due to the tornado exposure. The SwissRe tornado map below also shows a moderate tornado exposure.



Earthquake: Risk is in Seismic Zone >500 per FM Global Data Sheet 1-2, *Earthquakes*. Zone >500 includes areas where moderate to severe shaking is not expected to reoccur within an average recurrence interval of >500 years indicating there is little earthquake exposure. Peak ground acceleration per the USGS is 2.2% (2% probability in 50 years).

Other Exposures: The St. Paul Downtown Airport is located immediately east of the site on the other side of the levee with Runway 14 approximately 600 ft. from the northeast corner of the 240 Building. The site is not in the direct flight path of the runway. The FIRM flood map and the Google Earth map on the first page of the report both depict the airport runway in relation to the client facility. All other buildings are 250+ ft. away from risk.

Business Interruption and Interdependency Features

There is a formal contingency plan in place regarding the loss of power, and thus cooling, to the site. Freezer and cooler temperatures are monitored once (weekends) or twice (during week) daily. In case of loss of power, the first thing done is to keep all doors closed and allow no activity in the rooms. The rooms will maintain temperature for approximately two days doing this. During these two days, local management would be checking on which other Americold locations (140 in the US) could accommodate their product and which trucking companies could provide transportation or simply storage in refrigerated trailers. The site maintains a list of 14 Americold facilities within 12 hours trucking time of this site and a list of five trucking companies that can provide trailers and transportation. If a transformer is lost, the local utility can provide a replacement transformer within 24 hours and this has been verified with the utility.

LOSS ESTIMATES

(All Values in US Dollars)

ANTICIPATED PROBABLE LOSS:

P.D. $17,200,000 B.I. $1,400,000 Total $18,600,000

The Anticipated Probable Loss estimate assumes all fire protection systems work as installed and emergency response personnel (both site PEO and public agencies) act in accordance with existing plans. Under these circumstances, the worst case loss would involve fire occurring in the main freezer of the 240 Building during nonoccupied hours. Due to no fire detection in the freezers, but only in the offices, and no sprinkler protection, the fire would be expected to burn uncontrolled destroying this building. The fire department would be notified by passerby and should be able to make a stand in the East Dock and keep the fire from spreading to the 260 Building. The PD loss estimate is (145,000 ft^2 / 220,000 ft^2) x $26,094,000 = $17,198,318 (round up to $17.2 million).

As a result of this incident, all operations would be shut down for 1 month. At that time, operations in the 260 Building would resume. It would require an additional 11 months to rebuild the 240 Building. Business interruption would be [(1/12 months) x (100%) x ($1,970,000)] + [(11/12 months) x (66%) x ($1,970,000)] = $1,356,017 (round up to $1.4 million).

PROBABLE MAXIMUM LOSS:

P.D. $17,200,000 B.I. $1,400,000 Total $18,600,000

The Probable Maximum Loss estimate assumes a single fire protection system is out of service at the time of the incident and emergency response personnel (both site PEO and public agencies) act in accordance with existing plans, given potentially delayed notification due to the failure of the fire protection system. Under these circumstances, the worst case loss would involve the same scenario as the APL above with the same result.

MAXIMUM FORESEEABLE LOSS:

P.D. $26,100,000 B.I. $2,000,000 Total $28,100,000

The Maximum Foreseeable Loss estimate assumes complete failure of all active fire suppression systems and ineffective response from the site PEO and public agencies. Under these circumstances, the worst case loss would involve the same scenario as the APL above except without fire department response. With no fire department response, the fire would be expected to spread through the East Dock to the 260 Building resulting in a loss of that building as well. This would be a 100% loss of the site.

Values

(In US Dollars)

PROPERTY DAMAGE: (100%)		$26,094,000
Buildings	$22,017,000	
Machinery & Equipment	$ 2,604,000	
Miscellaneous	$ 1,473,000	
BUSINESS INTERRUPTION: (12 MONTHS)		$1,970,000
TOTAL P.D. & B.I.:		$28,064,000

Global Risk Consultants®

ADVISORY RECOMMENDATIONS REPORT

Fire and Associated Perils

for

AMERICOLD LOGISTICS

Central Division
240 Chester St.
St. Paul, MN 55107
GRC File No. 2619.1079

Date Visited: June 21, 2013

Prepared by: Jeff Sutton
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Conferred with: John Brisson, Facility Service Manager,
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We have agreed to place the following recommendations in this Advisory Recommendations Report rather than our formal Loss Prevention Report. However, we will continue to submit these recommendations until they have been completed, resubmitted on our formal Loss Prevention Report, or otherwise resolved. We urge they be given serious consideration especially in connection with future renovations and/or new construction at this facility.

10-01 **Automatic Sprinkler Protection.** Provide automatic sprinklers, designed in accordance with the latest edition of NFPA 13. Systems installed in freezers (or those coolers that can operate at sub-freezing temperatures) should be installed on double interlocked preaction systems.

Installed systems should be supplied by adequately sized water mains connected to the St. Paul city water system. Sprinkler risers should be located in riser rooms along exterior walls if at all possible. System piping for dry and preaction systems should utilize galvanized pipe.

Comments: The site was constructed in the early 1970's at which time applicable building and fire codes did not mandate sprinklers. At the current time, there are no plans to install sprinklers.

The recommendation is presented in general terms only. Specific design details including discharge density have not been developed given the stated position of the client. Specific details can be provided if needed (e.g. in case a cost estimate is desired from a sprinkler contractor).

10-02 **Combustible Construction Mitigation.** Certain walls feature expanded polystyrene foam insulation, covered with a variety of substrates including plaster, FRP, and metal. Available information suggests that composite foam walls consist of polystyrene mounted on structural substrate (typically concrete block) with some type of covering fastened in place. Unless covered with some type of thermal barrier, this type of construction style presents a risk of fast fire spread. Cementitious coating, wood, or heavy gauge metal are considered acceptable thermal barriers. All other types including FRP (dairy board) should be replaced or covered with an acceptable covering. In all cases where the existing cover has been damaged, repairs should be made.

Comments: Various walls and ceilings feature different construction styles as the facility evolved. Those featuring expanded/extruded polystyrene exist in select areas. All such walls do have some type of covering ranging from a cement type to FRP. While all types of expanded foamed plastic are highly combustible, polystyrene presents a very significant hazard. Burning polystyrene propagates quickly and generates relatively large amounts of heat. Coatings that do not afford any fire resistance (e.g. FRP) or those that are compromised could enable fire to spread behind such covers, preventing any type of effective manual response. Such a fire would likely spread into rack storage and burn until fuel was consumed.

Areas or rooms where such construction was noted includes

The vacant tenant freezer, walls and roof.
East wall of “A” freezer
North side of wall on the north side of “B” dry goods

Two items should be noted: (1) the list presented above should not be considered to be a definitive list of all such construction and (2) any type of foamed plastic insulation is combustible. Construction featuring polystyrene is highlighted as it does present a severe risk for an uncontrolled fire.

ATTACHMENT C:

WEEKLY INVENTORY CIRCA 2016/2017 INSPECTION
(1 PAGE)

INQ2510 **Daily Movements Inquiry** 6/15/21 15:25:53
POCSLV PINNACLE FOODS GROUP 10007 SSTPAUL#MA
Weekly record Display.

ALL

Type . . (Storage Code)
From Year 2021 and week 24

Year	Week	**Received*** Plts	Cases	***Dispatched Cases**** Total	Pick	Bulk Repln	Adjustd Cartons	*Stock OnHand* Plts	Cases
2017	19	189	189	104		104	0	6033	6039
2017	18	99	99	413		413	0	5761	5767
2017	17	446	446	616		616	0	6075	6081
2017	16	280	280	234		234	0	6245	6251
2017	15	188	188	494		494	0	6199	6205
2017	14	881	881	832		832	0	6565	6571
2017	13	681	681	554		554	0	6603	6609
2017	12	30	30	647		647	0	6359	6365
2017	11			660		660	0	6946	6952
2017	10			1092		1092	0	7606	7612
2017	9			986		986	0	8698	8704 +

INQ2510 **Daily Movements Inquiry** 6/15/21 15:25:53
POCSLV PINNACLE FOODS GROUP 10007 SSTPAUL#MA
Weekly record Display.

ALL

Type . . (Storage Code)
From Year 2021 and week 24

Year	Week	**Received*** Plts	Cases	***Dispatched Cases**** Total	Pick	Bulk Repln	Adjustd Cartons	*Stock OnHand* Plts	Cases
2017	8			644		644	0	9684	9690
2017	7			758		758	0	10328	10334
2017	6			882		882	0	11086	11092
2017	5			794		794	0	11968	11974
2017	4			814		814	0	12762	12768
2017	3			324		324	0	13576	13582
2017	2			174		174	0	13900	13906
2017	1						0	14074	14080
2016	53			78		78	0	14074	14080
2016	52						0	14152	14158
2016	51						0	14152	14158 +

INQ2510 **Daily Movements Inquiry** 6/15/21 15:25:53
POCSLV PINNACLE FOODS GROUP 10007 SSTPAUL#MA
Weekly record Display.

ALL

Type . . (Storage Code)
From Year 2021 and week 24

Year	Week	**Received*** Plts	Cases	***Dispatched Cases**** Total	Pick	Bulk Repln	Adjustd Cartons	*Stock OnHand* Plts	Cases
2016	50			624		624	0	14152	14158
2016	49			234		234	0	14776	14782
2016	48						0	15010	15015
2016	47						0	15010	15015
2016	46						0	15010	15015
2016	45						0	15010	15015
2016	44						0	15010	15015
2016	43						0	15010	15015
2016	42						0	15010	15015
2016	41						0	15010	15015