

**City of Culver City**  
**Special Report from the City Manager and the Fire Chief**  
**Conditions at the Culver Ice Arena – 4545 Sepulveda Boulevard**

Date of Release: Thursday, February 13, 2014

Pursuant to the City Council's guiding policies of operating Culver City's local government with the greatest amount of transparency, while pursuing its primary mission of protecting the community's health, safety, and welfare, the City Manager's Office and the Culver City Fire Department have jointly prepared this Special Report on the current physical conditions at the Culver Ice Arena located at 4545 Sepulveda Boulevard.

There have been a number of questions, comments, concerns, and opinions shared regarding the Culver Ice Arena and the actions of the City relating to safety concerns. The City would like to provide the Culver City community and the broader public with this summary of information currently available and the actions the City has, and will, take to protect the public.

There are many persons, entities, and definitions involved in this complex situation. To provide complete clarity, following is a list of those important items:

- The City – Culver City
- The City Manager – John Nachbar
- The Fire Chief – Chris Sellers
- The Property – 4545 Sepulveda Boulevard Culver City, CA
- The Ice Arena – The Culver Ice Arena located on the Property
- The Ice Rink – The frozen ice surface located at the Property
- The Refrigeration System – The refrigeration apparatus that maintains the frozen condition of the Ice Rink
- The Property Owner – Michael Karagozian, as Trustee of Miron Karagozian Trust
- The Operator – Mr. John Jackson

## ***General Chronology of Events***

Over the course of the last several weeks the following events have occurred relating to the future of the Ice Arena:

- At the City Council meeting of **January 13, 2014**, a large number of members of the public provided in excess of 90 minutes of comments during the public comment period. In summary, the majority of comments urged the City Council to take all actions in their power to allow the continued operation of the Ice Arena because there was information that the owner had entered into a lease with Planet Granite to convert the Property to a climbing gym. During those comments, a number of persons raised a question regarding possible hazardous conditions relating to the Refrigeration System at the Ice Arena.
- On **January 14, 2014**, City staff received information from the Operator that the Ice Arena would be going out of business on February 2, 2014, and that he would be vacating the premises on February 15, 2014. There was a concern about the closure of the Ice Arena due to the quantity of anhydrous ammonia (an extremely hazardous substance) used in the Refrigeration System. The Ice Arena is required to meet the requirements of the California Accidental Release Program (CAL- ARP), a State Regulatory Agency. CAL-ARP requires a higher level of oversight due to the potential risk to the public's health and safety.
- Staff immediately contacted Los Angeles County Health Hazardous Materials Unit (County Hazmat), who have the overall responsibility for hazardous materials in Culver City and informed them of this development. In accordance with applicable law, County Hazmat reiterated the requirement for the Property Owner to submit a Facility Closure Plan (FCP) and that the Culver City Fire Department (CCFD) needed to remind the operator and/or owner of their responsibility to prepare and submit such a FCP to ensure the safe and timely removal of all hazardous materials from the Property.
- Staff met with the Operator to discuss his plans for closing the Culver Ice Arena and to check on the status of a FCP. He stated that he had called for all utilities to be turned off on February 15, 2014, and that he did not know that he was responsible for submitting a FCP. At that time, the Operator gave the Fire Department Inspectors the Property Owner's mailing address and phone number.

- On **January 17, 2014**, a Notice and Order to Abate Hazardous Materials (Notice) was sent via registered mail to both the Property Owner and the Operator to submit a FCP per Section 5001.5 of the California Fire Code (CFC). Due to the short time frame involved with the proposed closure as provided by the Operator (closure on 02/15/2014), a copy of the Notice was hand delivered to the Operator at the Property. That afternoon, staff contacted the Property Owner by phone to discuss the Notice and the need for an expedited response to ensure the safe removal of the hazardous materials at the Property. The Property Owner stated that he and his new tenant, Planet Granite, would be handling the transition and that they would be contacting City staff.
- Staff received a call from Mr. Dan Schalit, a representative of Planet Granite. He stated that Planet Granite had received a copy of the Corrective Notices requiring a FCP from the Property Owner. He said that although his company had no obligation under the terms of their lease agreement with the Property Owner or any authority from the Property Owner, that Planet Granite would like to do whatever they could to facilitate the safe decommissioning of the Ice Arena. Mr. Schalit stated that Planet Granite had hired PIC Environmental to do some preliminary testing at the Property and to prepare a FCP. He emphasized that his company had no authority or obligation to implement any portion of the FCP.
- Over the course of that week, numerous conversations were had between various City staff members, the Property Owner, the Current Operator, and representatives of Planet Granite. During these conversations, both the Property Owner and the Operator would not accept responsibility for the safe decommissioning of the Ice Rink.
- A representative of Planet Granite visited the City Manager in his office and shared with him Planet Granite's concerns about safety issues at the Property. Planet Granite, in the course of its due diligence efforts, had among other things retained refrigeration expertise to examine and evaluate the Ice Rink's Refrigeration System. Planet Granite expressed to the City Manager their concern about the safety and reliability of the Refrigeration System, especially due to the fact that a significant amount of anhydrous ammonia functions as the primary refrigerant in the system and the Refrigeration System's proximity to a densely populated residential neighborhood.
- At the City Council meeting of January 27, 2014, Planet Granite's concerns about this situation were communicated to the public both orally and in the written materials they distributed. The document contains the following statements:

“...the ammonia coolant used in the system is a significant and potentially dangerous environmental and health risk, especially for those living closest to the facility.” Later in the same document, it continues to say: “A shutdown of the refrigeration system without appropriate removal of the coolant can lead to leakage or in a worst case scenario, rupture from excessive pressure build up and release of ammonia vapor.”

- As of **January 29, 2014**, the City had not received a FCP, and all communications to that point indicated that the Property Owner was not accepting responsibility for the state of his Property, and that the Operator was going to walk away from his business on February 15, 2014. On January 29, 2014, a second Notice was issued (via US Mail and fax) to the Property Owner and hand delivered to the Operator. Staff from CCFD and the City Attorney’s Office met with the Operator to personally relay the urgency of the current circumstances and the need to safely decommission the Ice Rink. Staff reasserted concerns that an improper shut down of the equipment could cause a major release of ammonia into the surrounding neighborhood and that the Operator shared the responsibility with the Property Owner for the safe decommissioning of the Ice Rink.
- Despite having provided two official Notices and after having a number of in-person and telephone conversations with the Property Owner and the Operator, the Operator and the Property Owner continued to refuse to take appropriate action to address the dangerous conditions at the Culver Ice Arena and the safe decommissioning of the Ice Rink. In response to the inaction of the Property Owner and Operator, the City discussed options to address the hazards present at the Property in order to protect the public health, safety, and welfare.

### ***City Engages Experts to Assist in Assessing the Situation***

Recognizing the complexity of the situation, the City consulted with experts in the fields of ice rink operation, refrigeration system, and environmental remediation to obtain experienced assistance in the safe decommissioning process.

The safe decommissioning of an ice rink is a rare occurrence. To ensure the City was operating with proper and expert information, City staff reached out to the Environmental Protection Agency, Southern California Air Quality Management District, CAL-ARP, Los Angeles County Site Mitigation Unit, and Los Angeles County Emergency Response Team. It was recommended that the City contact an

environmental specialist and refrigeration specialist to assist us with the decommissioning.

Additionally, the City Manager, through his communications with a person who coordinated the efforts of AEG and the Los Angeles Kings, shared the concerns raised by Planet Granite to discern if any similar concerns arose as a result of any due diligence investigations undertaken while evaluating the facility as part of their interest in the Property. Mr. Nachbar was told there were problems with the facility, and that the City was right to be concerned, especially due to the Ice Arena's proximity to a residential neighborhood. The City Manager was referred to Mr. Bill Clements of Complete Thermal Services, Inc. The City was informed that Complete Thermal Services, Inc. has been servicing the Culver Ice Arena for more than 20 years and would be intimately familiar with the current system and would also be a good resource from which to obtain information about the Arena's current condition.

During a conversation with the City Manager, Mr. Clements conveyed that the Refrigeration System was at or near the end of its useful life. He also outlined what would be required to safely remove the anhydrous ammonia present in the system and the complications that would present themselves with the melting of the ice and the importance of making sure the Refrigeration System is not turned off before the anhydrous ammonia can be safely removed.

In addition, when CCFD staff spoke with Mr. Bill Clements about the current condition of the Culver Ice Arena, he relayed his observations that the situation is not good, there are a lot of problems, it is an old system and it has outlived its useful life, and if that system is going to continue to operate as an ice rink, it has to have all new equipment. Mr. Clements presented himself to City staff as being very familiar with the Ice Arena, competent in refrigeration systems, and understanding of the situation. The City decided it would be beneficial to retain Mr. Clements as a resource.

The City also contracted with Alliance Industrial Refrigeration Services, Inc. (Alliance) to provide a comprehensive Assessment of the Ice Arena facility and to evaluate environmental safety issues and the mechanical integrity of the anhydrous ammonia and refrigeration systems. After Alliance completed its Assessment, City staff held a conference call with representatives of Alliance. During that call, Alliance stated that the mechanical integrity does not meet industry standards and is in need of major repairs. Consistent with its Assessment, Alliance has provided the following recommendations: (1) based on industry standards, deficiencies should be repaired and other remedial measures should be implemented prior to continuing the operation of the Ice Arena; (2) in order to safely perform the necessary repairs, the anhydrous ammonia should be

removed from the Refrigeration System; and (3) an audit should be performed under Cal/ARP to ensure the safety of continued operations at the Ice Arena.

### ***City's Actions to Address Public Safety Concerns***

Based upon conversations with the Property Owner, the publically expressed intentions of the Operator to vacate the premises and discontinue utility services, and the uncertainty of any duties with respect to rink decommissioning/hazardous materials abatement imposed upon Planet Granite by the private lease between them and the Property Owner, the City's immediate concern became ensuring that the Refrigeration System remained energized until it could be properly and safely decommissioned, with special concern for safely removing the anhydrous ammonia.

The City issued Notices and Orders to the Operator and Property Owner to maintain the system. The City contacted Southern California Edison (SCE) to ensure power remains on at the facility in the case the account was not transferred to the Property Owner upon vacation by the Operator. The City ordered the Property Owner to immediately take the necessary actions to have the SCE account transferred to his name so there would be no loss of continuity of electricity service to the Property, especially the Refrigeration System. The Property Owner took such action the next day.

CCFD also confirmed the Property Owner made arrangements with Golden State Water Company to ensure there would be no loss of continuity of water supply to the rink as well.

After the City was notified that Planet Granite was not going to take any further action with respect to the FCP, staff contacted the Property Owner to discuss the report prepared by Alliance and the deficiencies noted (a link to this report is provided at the end of this Special Report). Staff further inquired about his progress toward completing a FCP as contained in the Notice and Order. The Property Owner informed City staff that any decommissioning was on hold and then abruptly ended the telephone call.

Subsequently, the Property Owner called the City Manager to inform the City it was his intent to reopen the Ice Arena under a different operator. Mr. Nachbar reiterated to him the City's concerns about the dangerous state of the Refrigeration System. The Property Owner made it clear that he did not accept what the City was conveying to him about the condition of the facility, that he thought the City's consultant was biased, and that there was nothing wrong with the current system.

## ***Information Related to Anhydrous Ammonia***

CCFD has provided the following so the public has access to accurate information on the health effects of exposure to anhydrous ammonia and to explain CCFD's concerns about the potential impact to the community.

### **Anhydrous Ammonia Health Hazards**

Anhydrous ammonia is a colorless compressed liquefied gas with a distinct pungent odor. It is classified primarily as a toxic hazard but also has corrosive and flammability characteristics. Anhydrous ammonia, a gas in its normal state, is stored in liquefied form in pressurized tanks.

A catastrophic release of 100 gallons of liquefied anhydrous ammonia would create an 11,250 cubic foot vapor cloud. The anhydrous ammonia vapor cloud would then start to mix with the surrounding air and travel downwind. Though anhydrous ammonia is lighter than air, it has a tendency to bind with the moisture in the air and stay close to the ground.

Exposure to anhydrous ammonia can cause severe injuries and death. Specific organs affected by exposure include the lungs, upper respiratory tract, eyes, and skin. 300 parts per million is considered immediately dangerous to life and health (IDLH). Short (15 minute) exposures to concentrations of 2% anhydrous ammonia in air have resulted in fatalities.

Link to Material Safety Data Sheet (MSDS):

<http://www.airgas.com/documents/pdf/001003.pdf>

Link to article discussing anhydrous ammonia and community risk:

<http://www.foreffectivegov.org/is-anhydrous-ammonia-a-risk-to-your-community>

Link to article about an Olympic skater severely injured by anhydrous ammonia:

<http://www.theprovince.com/sports/Canada+Olympic+sweetheart+Karen+Magnussen+living+nightmare+after+accident+ruined+life/9428148/story.html>

## First Responder Guidance

The 2012 Emergency Response Guidebook (ERG) was developed jointly by Transport Canada (TC), the U.S. Department of Transportation (DOT), the Secretariat of Transport and Communications of Mexico (SCT) for use by fire fighters, police, and other emergency services personnel who may be the first to arrive at the scene of a hazardous materials release. It is the primary guide used to aid first responders in quickly identifying the specific hazards of the material involved and protecting themselves and the general public during the initial response phase of the incident. According to the requirements of the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA, 29 CFR 1910.120), and regulations issued by the U.S. Environmental Protection Agency (EPA, 40 CFR Part 311), first responders must be trained on how to properly use the ERG.

The ERG identifies anhydrous ammonia as a toxic inhalation hazard and prescribes specific initial isolation and protective action distances in the event of a release. An "Initial Isolation Distance" is a distance (radius) which defines a circle within which persons may be exposed to dangerous concentrations of the released material. All persons within this distance should be evacuated first. The "Protective Action Distance" predicts the size of downwind areas, in the shape of a square or rectangle, which could be effected by a cloud of toxic gas. People in this area should be evacuated and/or sheltered in-place inside buildings. The choice of evacuating or sheltering in place depends on a number of factors. For some cases, evacuation may be the best option; in others, sheltering in-place may be the best course. Sometimes, these two actions may be used in combination.

The ERG provides distances for both small (defined as 55 gallons or less) and large (over 55 gallons) anhydrous ammonia spills. The list is further subdivided into daytime and nighttime situations. This is necessary due to varying atmospheric conditions which greatly affect the size of the hazardous area. The distances change from daytime to nighttime due to different mixing and dispersion conditions in the air. During the night, the air is generally calmer causing the material to linger and create a dense toxic zone. During the day, a more active atmosphere will cause the material to disperse resulting in a lower material concentration in the surrounding air.



	1 <sup>st</sup> Action of First Responders  Isolate in all Directions	Then  Protect Persons Downwind to a Distance of
Small Spill Day	100 feet	0.1 miles
Small Spill Night	100 feet	0.1 miles
Large Spill Day	500 feet	0.5 miles
Large Spill Night	500 feet	1.3 miles

*Source: 2012 Emergency Response Guidebook , p. 292*

It should be noted that the ERG is designed to provide guidance to first responders during the initial action phase of a hazardous materials release (generally 30 minutes). Beyond the 30 minute mark, other references and additional weather information (e.g., relative humidity and temperature) will be used to refine the downwind areas predicted to be impacted by the chemical plume.

#### CCFD Planning Efforts

CCFD has conducted pre-incident planning to facilitate the mitigation of an anhydrous ammonia release at the Property. The planning efforts include: pre-defined incident objectives, communications plans, specialized resources, chemical reference information, oblique aerial photography, building maps, and isolation and protective action distance map overlays.

The map overlays have been developed for 20 release scenarios (e.g., small, large, day, night, and different wind directions). An analysis of Culver City's 2013 weather information indicates a generally southwesterly wind (i.e., wind coming from the southwest) is the most prevalent.

ERG protective action distance map overlays were used to evaluate the impact to the surrounding community. Per the ERG, a 100 gallon release of anhydrous ammonia at night with a southwesterly wind is predicted to impact an estimated 5,000 residents, including persons at Culver City High School, Culver City Middle School, Farragut Elementary School, West LA College, and two shopping centers.

Link to Map with Isolation and Evacuation Zones:

<http://culvercity.box.com/100gallonsnight>

Per the ERG, a 100 gallon release of anhydrous ammonia during the day with a southwesterly wind is predicted to impact an estimated 2000 residents, including persons at Culver City High School, Culver City Middle School, and retail stores.

Link to Map with Isolation and Evacuation Zones:

<https://culvercity.box.com/100gallonsday>

Computer modeling software is used to more accurately predict a chemical plume using specific material release and weather factors. This map was generated for the following factors: anhydrous ammonia, 100 gallons, 66° F, 5 mph wind from SW, 25% cloud cover (daytime).

Link to Map with Isolation and Evacuation Zones:

<https://culvercity.box.com/100gallonsweather>

## ***Conclusion***

Based upon the totality of information available to the City, especially the observations and determinations provided by experts in the refrigeration and ice rink operation fields, as well as the potential impacts to the Community from an anhydrous ammonia release, the City concluded that the current state of certain systems at the Culver Ice Arena is a potential threat to the public health, safety, and welfare, and the City has already taken certain actions and may be compelled to take other actions. Immediately upon becoming aware of the conditions at the Culver Ice Area, the City acted promptly to obtain information from experts in ice rink operations and refrigeration systems to assess the situation at the Property. The City has provided the Property Owner and the Operator with significant time to fulfill their responsibilities with respect to addressing the hazardous conditions at the Property. Based upon their lack of action to date, the City is considering all of its options to ensure the continued protection of the public health, safety, and welfare in accordance with applicable law and the City Council's clear and primary policy of keeping the Culver City community safe.

The City has maintained the confidentiality of certain sensitive information regarding the status of the Ice Arena until such time as the City was prepared to implement crucial security and safety measures to protect the public. Now that the City is implementing those measures, the City is providing the Culver City Community with this Special Report, including a copy of the Assessment prepared by Alliance regarding the current condition of the Property, along with other relevant documents related to this matter (see list and links below).

### List of Documents

1. Notice and Order to Abate Hazardous Materials #1
2. Planet Granite Document Distributed at City Council Meeting of January 27, 2014
3. Notice and Order to Abate Hazardous Materials #2
4. Alliance Assessment of Culver Ice Arena

**FIRE DEPARTMENT**



(310) 253-5925

FAX (310) 253-5937

CHRISTOPHER SELLERS  
Fire Chief

9770 CULVER BOULEVARD, CULVER CITY, CALIFORNIA 90232-0507

MICHAEL BOWDEN  
Fire Marshal

FIRE PREVENTION BUREAU

Jan 14, 2014

Mike Karagozian  
5740 N. Palm Ave. Suite 103  
Fresno, CA 93704

[COPY]

Re: **Culver City Ice Rink - Hazardous Materials Plan**

Dear Mr. Karagozian,

The Culver City Fire Department (CCFD) has been informed by Mr. John Jackson, the ice rink operator, that he will no longer be operating the Culver City ice rink and that the power will be shut off on February 15, 2014. He stated that as the tenant, he is not responsible for the existing equipment or any hazardous materials at this site. As you may know, due to the use and quantity of ammonia (an extremely hazardous substance), and other hazardous materials, this facility is required to be operated under strict federal and state requirements (CAL-ARP). If your plan is to keep the ice rink, it will need to remain in full compliance with all Cal-ARP hazardous materials program requirements. If it is your intention to cease the ice rink operations, then a permit must be obtained from the CCFD which shall include an approved Facilities Closure Plan per the 2013 California Fire Code (CFC), Section 5001.5. Furthermore, in order to avoid the possibility of releasing any hazardous materials into the environment through a premature shut down of the equipment, the ice rink cooling processes shall remain operational until the closure plan has been approved.

The Facility Closure Plan shall be prepared by a qualified engineer or specialist in accordance with CFC Section 104.7.2 and submitted to the Fire Prevention Division for approval. The closure plan shall be submitted at least 30 days prior to the facility closure. No plan has yet been submitted to the Fire Department and we are under the impression that the tenant plans to cease operations shortly, which may result in the release of hazardous materials if not done properly. Per CFC Section 5001.6.3, the Facility Closure Plan shall demonstrate that hazardous materials which are stored, dispensed, handled or used in the facility will be transported, disposed of or reused in a manner that eliminates the need for further maintenance and any threat to public health.

and safety. In addition, the ice and the resulting liquid may also be considered a hazardous material and shall be removed in accordance with the approved Facility Closure Plan. Enclosed you will find copies of our Order to Comply, and copies of the applicable Sections of the 2013 California Fire Code.

Please contact me at your earliest opportunity to discuss the resolution of these issues.

Thank you for your prompt attention.

***Jesse Luna, Fire Inspector***

Culver City Fire Department

Tel: 310-253-5930

[jesse.luna@culvercity.org](mailto:jesse.luna@culvercity.org)

(310) 253-5925  
Fire Prevention

FIRE DEPARTMENT

# Culver CITY

Fax (310) 253-5937  
Fire Prevention

Christopher Sellers  
Fire Chief

9770 CULVER BOULEVARD, CULVER CITY, CALIFORNIA 90232-0507

MICHAEL BOWDEN  
FIRE MARSHAL

FIRE PREVENTION BUREAU

## Order to Comply

Notice of conditions not in compliance with Local and/or State Codes

<input checked="" type="checkbox"/> Initial Warning	First Notice	Second Notice
Noncompliance will result in fees	\$100.00 Fine	\$500.00 Fine

**Noncompliance will result in administrative fees, plus a citation and/or other legal action by the City Attorney's Office.**

Business Name: Culver City Ice Rink	Phone: 310-398-5710
Site Address: 4545 Sepulveda Bl. Culver City, CA 90230	
Building Owner: Mike Karagozian	Phone: 559-916-9069

Notice is hereby given that on the above described property, which appears to be owned or controlled by you, conditions exist which constitute violations of the California Fire and/or Building Code. The violations shall be corrected on or before the date listed below.

Issued By: J. Luna	Date of Issuance: 01/14/2014
Title: Fire Inspector	Phone: 310-253-5930

Item No.	Section No.	Conditions to be Corrected	Date to be corrected by:
			Immediate
1	2013 CFC Sec: 5001.6	Facility Closure Plan. When a facility closure plan is required in accordance with Section 2701.5 to terminate storage, dispensing, handling or use of hazardous materials, it shall be submitted to the fire code Official (Culver City Fire Dept.) at least 30 days prior to facility closure. (See attachment)	
2	2013 CFC Sec: [A] 104.7.2	Technical assistance. The fire code official (CCFD) is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional. (See attachment)	
3	2013 CFC Sec: 5001.5	Permits. When required by the fire code official, permittees shall apply for approval to permanently close a storage, use or handling facility. (See attachment)	

Receipt of this notice is hereby acknowledged this _____ day of _____,	
Signature:	Title:
Print Name:	Date Resolved:

Notice mailed by Certified Mail, return Receipt Requested on (Date):

Notes:

## NOTICE OF ADMINISTRATIVE CHARGES

### CHARGES

Culver City Municipal Code Ordinance 9.02.315 authorizes administrative assessment cost recovery charges relating to the enforcement of the Municipal Code.

It shall be a violation for any person, firm, entity or corporation to fail to comply within the prescribed time with "Orders to Comply" issued by the Culver City Fire Department.

Where the violation has not been corrected within the time period prescribed, additional compliance inspection(s) shall be assessed one hundred dollars (\$100) for the first additional inspection and

If compliance is still not achieved, a further administrative charge of five hundred (\$500) per each additional inspection required shall be assessed. **Such violations also will be subject to separate criminal prosecution.**

### APPEALS

The "Initial Warning" cannot be appealed. If you wish to contest the First and subsequent Notices and Order to Comply and/or administrative fee assessment, you must file a written objection with the City Clerk's office within ten (10) days of receipt of such Notice and Order to Comply. All appeals will be heard by the Municipal Code Appeals Committee. The hearing will be informal and you will be advised of the hearing date.

If you wish to appeal your Order to Comply and Administrative Assessment, you should be advised:

1. The Municipal Code Appeals Committee cannot change the provision of the Municipal Code or the Fire Code. If you believe that either Code is unreasonable, too harsh, too lenient, or unfair, and if you desire a change in the law, you must ask that the code be amended. Amendment of the Municipal Code is exclusively within the control of the City Council; amendments to provisions of the Fire Code shall be directed to the State Fire Marshal's Office.
2. If you wish to appeal, you must state your reason for your appeal. Reasons the Appeals Committee will consider are:
  - a) You are not the person responsible for causing or maintaining the violation;
  - b) The violation did not happen;
  - c) The condition noted does not violate the Code;
  - d) The time given to correct the violation was inadequate;
  - e) There are exceptional circumstances that the Appeals Committee should consider.

If you are unable to prove one of the reasons listed, it is unlikely that your appeal will be successful.

**5001.3.3.4 Spill mitigation.** Spill containment systems or means to render a spill harmless to people or property shall be provided where a spill is determined to be a plausible event and where such an event would endanger people or property.

**5001.3.3.5 Ignition hazards.** Safeguards shall be provided to minimize the risk of exposing combustible hazardous materials to unintended sources of ignition.

**5001.3.3.6 Protection of hazardous materials.** Safeguards shall be provided to minimize the risk of exposing hazardous materials to a fire or physical damage whereby such exposure could endanger or lead to the endangerment of people or property.

**5001.3.3.7 Exposure hazards.** Safeguards shall be provided to minimize the risk of and limit damage from a fire or explosion involving explosive hazardous materials whereby such fire or explosion could endanger or lead to the endangerment of people or property.

**5001.3.3.8 Detection of gas or vapor release.** Where a release of hazardous materials gas or vapor would cause immediate harm to persons or property, means of mitigating the dangerous effects of a release shall be provided.

**5001.3.3.9 Reliable power source.** Where a power supply is relied upon to prevent or control an emergency condition that could endanger people or property, the power supply shall be from a reliable source.

**5001.3.3.10 Ventilation.** Where ventilation is necessary to limit the risk of creating an emergency condition resulting from normal or abnormal operations, means of ventilation shall be provided.

**5001.3.3.11 Process hazard analyses.** Process hazard analyses shall be conducted to ensure reasonably the protection of people and property from dangerous conditions involving hazardous materials.

**5001.3.3.12 Pre-startup safety review.** Written documentation of pre-startup safety review procedures shall be developed and enforced to ensure that operations are initiated in a safe manner. The process of developing and updating such procedures shall involve the participation of affected employees.

**5001.3.3.13 Operating and emergency procedures.** Written documentation of operating procedures and procedures for emergency shut down shall be developed and enforced to ensure that operations are conducted in a safe manner. The process of developing and updating such procedures shall involve the participation of affected employees.

**5001.3.3.14 Management of change.** A written plan for management of change shall be developed and enforced. The process of developing and updating the plan shall involve the participation of affected employees.

**5001.3.3.15 Emergency plan.** A written emergency plan shall be developed to ensure that proper actions are taken in the event of an emergency, and the plan

shall be followed if an emergency condition occurs. The process of developing and updating the plan shall involve the participation of affected employees.

**5001.3.3.16 Accident procedures.** Written procedures for investigation and documentation of accidents shall be developed, and accidents shall be investigated and documented in accordance with these procedures.

**5001.3.3.17 Consequence analysis.** Where an accidental release of hazardous materials could endanger people or property, either on or off-site, an analysis of the expected consequences of a plausible release shall be performed and utilized in the analysis and selection of active and passive hazard mitigation controls.

**5001.3.3.18 Safety audits.** Safety audits shall be conducted on a periodic basis to verify compliance with the requirements of this section.

**5001.4 Retail and wholesale storage and display.** For retail and wholesale storage and display of nonflammable solid and nonflammable or noncombustible liquid hazardous materials in Group M occupancies and storage in Group S occupancies, see Section 5003.11.

**5001.5 Permits.** Permits shall be required as set forth in Sections 105.6 and 105.7.

When required by the fire code official, permittees shall apply for approval to permanently close a storage, use or handling facility. Such application shall be submitted at least 30 days prior to the termination of the storage, use or handling of hazardous materials. The fire code official is authorized to require that the application be accompanied by an approved facility closure plan in accordance with Section 5001.6.3.

**5001.5.1 Hazardous Materials Management Plan (HMMP).** Where required by the fire code official, an application for a permit shall include an HMMP. The HMMP shall include a facility site plan designating the following:

1. Access to each storage and use area.
2. Location of emergency equipment.
3. Location where liaison will meet emergency responders.
4. Facility evacuation meeting point locations.
5. The general purpose of other areas within the building.
6. Location of all above-ground and underground tanks and their appurtenances including, but not limited to, sumps, vaults, below-grade treatment systems and piping.
7. The hazard classes in each area.
8. Locations of all control areas and Group H occupancies.
9. Emergency exits.

*[For SFM] The HMMP shall comply with Health and Safety Code, Chapter 6.95, Sections 25500 through 25545, and Title 19, Division 2, Chapter 4.*



**5001.5.2 Hazardous Materials Inventory Statement (HMIS).** Where required by the fire code official, an application for a permit shall include an HMIS, such as Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III, Tier II Report or other approved statement. The HMIS shall include the following information:

1. Product name.
2. Component.
3. Chemical Abstract Service (CAS) number.
4. Location where stored or used.
5. Container size.
6. Hazard classification.
7. Amount in storage.
8. Amount in use-closed systems.
9. Amount in use-open systems.

*[For SFM] The HMIS shall comply with Health and Safety Code, Chapter 6.95, Sections 25500 through 25545, and Title 19, Division 2, Chapter 4.*

**5001.6 Facility closure.** Facilities shall be placed out of service in accordance with Sections 5001.6.1 through 5001.6.3.

**5001.6.1 Temporarily out-of-service facilities.** Facilities that are temporarily out of service shall continue to maintain a permit and be monitored and inspected.

**5001.6.2 Permanently out-of-service facilities.** Facilities for which a permit is not kept current or is not monitored and inspected on a regular basis shall be deemed to be permanently out of service and shall be closed in an approved manner. When required by the fire code official, permittees shall apply for approval to close permanently storage, use or handling facilities. The fire code official is authorized to require that such application be accompanied by an approved facility closure plan in accordance with Section 5001.6.3.

**5001.6.3 Facility closure plan.** When a facility closure plan is required in accordance with Section 5001.5 to terminate storage, dispensing, handling or use of hazardous materials, it shall be submitted to the fire code official at least 30 days prior to facility closure. The plan shall demonstrate that hazardous materials which are stored, dispensed, handled or used in the facility will be transported, disposed of or reused in a manner that eliminates the need for further maintenance and any threat to public health and safety.

## SECTION 5002 DEFINITIONS

**5002.1 Definitions.** The following terms are defined in Chapter 2:

**BOILING POINT.**

**CEILING LIMIT.**

**CHEMICAL.**

**CHEMICAL NAME.**

**CLOSED CONTAINER.**

**CONTAINER.**

**CONTROL AREA.**

**CYLINDER.**

**DAY BOX.**

**DEFLAGRATION.**

**DESIGN PRESSURE.**

**DETACHED BUILDING.**

**DISPENSING.**

**EXCESS FLOW CONTROL.**

**EXHAUSTED ENCLOSURE.**

**EXPLOSION.**

**FLAMMABLE VAPORS OR FUMES.**

**GAS CABINET.**

**GAS ROOM.**

**HANDLING.**

**HAZARDOUS MATERIALS.**

**HEALTH HAZARD.**

**IMMEDIATELY DANGEROUS TO LIFE AND HEALTH (IDLH).**

**INCOMPATIBLE MATERIALS.**

**LIQUID.**

**LOWER EXPLOSIVE LIMIT (LEL).**

**LOWER FLAMMABLE LIMIT (LFL).**

**MATERIAL SAFETY DATA SHEET (MSDS).**

**MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA.**

**NORMAL TEMPERATURE AND PRESSURE (NTP).**

**OUTDOOR CONTROL AREA.**

**PERMISSIBLE EXPOSURE LIMIT (PEL).**

**PESTICIDE.**

**PHYSICAL HAZARD.**

**PRESSURE VESSEL.**

**SAFETY CAN.**

**SECONDARY CONTAINMENT.**

**SEGREGATED.**

**SOLID.**

**STORAGE, HAZARDOUS MATERIALS.**

**SYSTEM.**

**TANK, ATMOSPHERIC.**

**TANK, PORTABLE.**

**TANK, STATIONARY.**

**TANK VEHICLE.**

**UNAUTHORIZED DISCHARGE.**

**USE (MATERIAL).**

**VAPOR PRESSURE.**

## DIVISION II ADMINISTRATION

the application of its provisions. Such interpretations, policies, procedures, rules and regulations shall be in compliance with the intent and purpose of this code and shall not have the effect of waiving requirements specifically provided for in this code.

**[A] 104.2 Applications and permits.** The fire code official is authorized to receive applications, review construction documents and issue permits for construction regulated by this code, issue permits for operations regulated by this code, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

**[A] 104.3 Right of entry.** Whenever it is necessary to make an inspection to enforce the provisions of this code, or whenever the fire code official has reasonable cause to believe that there exists in a building or upon any premises any conditions or violations of this code which make the building or premises unsafe, dangerous or hazardous, the fire code official shall have the authority to enter the building or premises at all reasonable times to inspect or to perform the duties imposed upon the fire code official by this code. If such building or premises is occupied, the fire code official shall present credentials to the occupant and request entry. If such building or premises is unoccupied, the fire code official shall first make a reasonable effort to locate the owner or other person having charge or control of the building or premises and request entry. If entry is refused, the fire code official has recourse to every remedy provided by law to secure entry.

**[A] 104.3.1 Warrant.** When the fire code official has first obtained a proper inspection warrant or other remedy provided by law to secure entry, an owner or occupant or person having charge, care or control of the building or premises shall not fail or neglect, after proper request is made as herein provided, to permit entry therein by the fire code official for the purpose of inspection and examination pursuant to this code.

**[A] 104.4 Identification.** The fire code official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

**[A] 104.5 Notices and orders.** The fire code official is authorized to issue such notices or orders as are required to affect compliance with this code in accordance with Sections 109.1 and 109.2.

**[A] 104.6 Official records.** The fire code official shall keep official records as required by Sections 104.6.1 through 104.6.4. Such official records shall be retained for not less than five years or for as long as the structure or activity to which such records relate remains in existence, unless otherwise provided by other regulations.

**[A] 104.6.1 Approvals.** A record of approvals shall be maintained by the fire code official and shall be available for public inspection during business hours in accordance with applicable laws.

**[A] 104.6.2 Inspections.** The fire code official shall keep a record of each inspection made, including notices and orders issued, showing the findings and disposition of each.

**[A] 104.6.3 Fire records.** The fire department shall keep a record of fires occurring within its jurisdiction and of facts concerning the same, including statistics as to the extent of such fires and the damage caused thereby, together with other information as required by the fire code official.

**[A] 104.6.4 Administrative.** Application for modification, alternative methods or materials and the final decision of the fire code official shall be in writing and shall be officially recorded in the permanent records of the fire code official.

**[A] 104.7 Approved materials and equipment.** All materials, equipment and devices approved by the fire code official shall be constructed and installed in accordance with such approval.

**[A] 104.7.1 Material and equipment reuse.** Materials, equipment and devices shall not be reused or reinstalled unless such elements have been reconditioned, tested and placed in good and proper working condition and approved.

**[A] 104.7.2 Technical assistance.** To determine the acceptability of technologies, processes, products, facilities, materials and uses attending the design, operation or use of a building or premises subject to inspection by the fire code official, the fire code official is authorized to require the owner or agent to provide, without charge to the jurisdiction, a technical opinion and report. The opinion and report shall be prepared by a qualified engineer, specialist, laboratory or fire safety specialty organization acceptable to the fire code official and shall analyze the fire safety properties of the design, operation or use of the building or premises and the facilities and appurtenances situated thereon, to recommend necessary changes. The fire code official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

**[A] 104.8 Modifications.** Whenever there are practical difficulties involved in carrying out the provisions of this code, the fire code official shall have the authority to grant modifications for individual cases, provided the fire code official shall first find that special individual reason makes the strict letter of this code impractical and the modification is in compliance with the intent and purpose of this code and that such modification does not lessen health, life and fire safety requirements. The details of action granting modifications shall be recorded and entered in the files of the department of fire prevention.

**[A] 104.9 Alternative materials and methods.** The provisions of this code are not intended to prevent the installation of any material or to prohibit any method of construction not specifically prescribed by this code, provided that any such alternative has been approved. The fire code official is authorized to approve an alternative material or method of construction where the fire code official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety.

**[A] 105.4.1 Submittals.** Construction documents and supporting data shall be submitted in two or more sets with each application for a permit and in such form and detail as required by the fire code official. The construction documents shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.

**Exception:** The fire code official is authorized to waive the submission of construction documents and supporting data not required to be prepared by a registered design professional if it is found that the nature of the work applied for is such that review of construction documents is not necessary to obtain compliance with this code.

**[A] 105.4.1.1 Examination of documents.** The fire code official shall examine or cause to be examined the accompanying construction documents and shall ascertain by such examinations whether the work indicated and described is in accordance with the requirements of this code.

**[A] 105.4.2 Information on construction documents.** Construction documents shall be drawn to scale upon suitable material. Electronic media documents are allowed to be submitted when approved by the fire code official. Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations as determined by the fire code official.

**[A] 105.4.2.1 Fire protection system shop drawings.** Shop drawings for the fire protection system(s) shall be submitted to indicate compliance with this code and the construction documents, and shall be approved prior to the start of installation. Shop drawings shall contain all information as required by the referenced installation standards in Chapter 9.

**[A] 105.4.3 Applicant responsibility.** It shall be the responsibility of the applicant to ensure that the construction documents include all of the fire protection requirements and the shop drawings are complete and in compliance with the applicable codes and standards.

**[A] 105.4.4 Approved documents.** Construction documents approved by the fire code official are approved with the intent that such construction documents comply in all respects with this code. Review and approval by the fire code official shall not relieve the applicant of the responsibility of compliance with this code.

**[A] 105.4.4.1 Phased approval.** The fire code official is authorized to issue a permit for the construction of part of a structure, system or operation before the construction documents for the whole structure, system or operation have been submitted, provided that adequate information and detailed statements have been filed complying with pertinent requirements of this code. The holder of such permit for parts of a structure, system or operation shall proceed at the holder's own risk with the building operation and without assurance that

a permit for the entire structure, system or operation will be granted.

**[A] 105.4.5 Corrected documents.** Where field conditions necessitate any substantial change from the approved construction documents, the fire code official shall have the authority to require the corrected construction documents to be submitted for approval.

**[A] 105.4.6 Retention of construction documents.** One set of construction documents shall be retained by the fire code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of approved construction documents shall be returned to the applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress.

**[A] 105.5 Revocation.** The fire code official is authorized to revoke a permit issued under the provisions of this code when it is found by inspection or otherwise that there has been a false statement or misrepresentation as to the material facts in the application or construction documents on which the permit or approval was based including, but not limited to, any one of the following:

1. The permit is used for a location or establishment other than that for which it was issued.
2. The permit is used for a condition or activity other than that listed in the permit.
3. Conditions and limitations set forth in the permit have been violated.
4. There have been any false statements or misrepresentations as to the material fact in the application for permit or plans submitted or a condition of the permit.
5. The permit is used by a different person or firm than the name for which it was issued.
6. The permittee failed, refused or neglected to comply with orders or notices duly served in accordance with the provisions of this code within the time provided therein.
7. The permit was issued in error or in violation of an ordinance, regulation or this code.

**[A] 105.6 Required operational permits.** The fire code official is authorized to issue operational permits for the operations set forth in Sections 105.6.1 through 105.6.46.

**[A] 105.6.1 Aerosol products.** An operational permit is required to manufacture, store or handle an aggregate quantity of Level 2 or Level 3 aerosol products in excess of 500 pounds (227 kg) net weight.

**[A] 105.6.2 Amusement buildings.** An operational permit is required to operate a special amusement building.

**[A] 105.6.3 Aviation facilities.** An operational permit is required to use a Group H or Group S occupancy for aircraft servicing or repair and aircraft fuel-servicing vehicles. Additional permits required by other sections of this code include, but are not limited to, hot work, hazardous materials and flammable or combustible finishes.

## DIVISION II ADMINISTRATION

[A] **105.6.4 Carnivals and fairs.** An operational permit is required to conduct a carnival or fair.

[A] **105.6.5 Cellulose nitrate film.** An operational permit is required to store, handle or use cellulose nitrate film in a Group A occupancy.

[A] **105.6.6 Combustible dust-producing operations.** An operational permit is required to operate a grain elevator, flour starch mill, feed mill, or a plant pulverizing aluminum, coal, cocoa, magnesium, spices or sugar, or other operations producing combustible dusts as defined in Chapter 2.

[A] **105.6.7 Combustible fibers.** An operational permit is required for the storage and handling of combustible fibers in quantities greater than 100 cubic feet (2.8 m<sup>3</sup>).

**Exception:** A permit is not required for agricultural storage.

[A] **105.6.8 Compressed gases.** An operational permit is required for the storage, use or handling at normal temperature and pressure (NTP) of compressed gases in excess of the amounts listed in Table 105.6.8.

**Exception:** Vehicles equipped for and using compressed gas as a fuel for propelling the vehicle.

**TABLE 105.6.8  
PERMIT AMOUNTS FOR COMPRESSED GASES**

TYPE OF GAS	AMOUNT (cubic feet at NTP)
Corrosive	200
Flammable (except cryogenic fluids and liquefied petroleum gases)	200
Highly toxic	Any Amount
Inert and simple asphyxiant	6,000
Oxidizing (including oxygen)	504
Pyrophoric	Any Amount
Toxic	Any Amount

For SI: 1 cubic foot = 0.02832 m<sup>3</sup>.

[A] **105.6.9 Covered and open mall buildings.** An operational permit is required for:

1. The placement of retail fixtures and displays, concession equipment, displays of highly combustible goods and similar items in the mall.
2. The display of liquid- or gas-fired equipment in the mall.
3. The use of open-flame or flame-producing equipment in the mall.

[A] **105.6.10 Cryogenic fluids.** An operational permit is required to produce, store, transport on site, use, handle or dispense cryogenic fluids in excess of the amounts listed in Table 105.6.10.

**Exception:** Permits are not required for vehicles equipped for and using cryogenic fluids as a fuel for propelling the vehicle or for refrigerating the lading.

**TABLE 105.6.10  
PERMIT AMOUNTS FOR CRYOGENIC FLUIDS**

TYPE OF CRYOGENIC FLUID	INSIDE BUILDING (gallons)	OUTSIDE BUILDING (gallons)
Flammable	More than 1	60
Inert	60	500
Oxidizing (includes oxygen)	10	50
Physical or health hazard not indicated above	Any Amount	Any Amount

For SI: 1 gallon = 3.785 L.

[A] **105.6.11 Cutting and welding.** An operational permit is required to conduct cutting or welding operations within the jurisdiction.

[A] **105.6.12 Dry cleaning.** An operational permit is required to engage in the business of dry cleaning or to change to a more hazardous cleaning solvent used in existing dry cleaning equipment.

[A] **105.6.13 Exhibits and trade shows.** An operational permit is required to operate exhibits and trade shows.

[A] **105.6.14 Explosives.** An operational permit is required for the manufacture, storage, handling, sale or use of any quantity of explosives, explosive materials, fireworks or pyrotechnic special effects within the scope of Chapter 56.

**Exception:** Storage in Group R-3 occupancies of smokeless propellant, black powder and small arms primers for personal use, not for resale and in accordance with Section 5606.

[A] **105.6.15 Fire hydrants and valves.** An operational permit is required to use or operate fire hydrants or valves intended for fire suppression purposes which are installed on water systems and accessible to a fire apparatus access road that is open to or generally used by the public.

**Exception:** A permit is not required for authorized employees of the water company that supplies the system or the fire department to use or operate fire hydrants or valves.

[A] **105.6.16 Flammable and combustible liquids.** An operational permit is required:

1. To use or operate a pipeline for the transportation within facilities of flammable or combustible liquids. This requirement shall not apply to the off-site transportation in pipelines regulated by the Department of Transportation (DOTn) nor does it apply to piping systems.
2. To store, handle or use Class I liquids in excess of 5 gallons (19 L) in a building or in excess of 10 gallons (37.9 L) outside of a building, except that a permit is not required for the following:
  - 2.1. The storage or use of Class I liquids in the fuel tank of a motor vehicle, aircraft, motorboat, mobile power plant or mobile heating plant, unless such storage, in the opinion of the fire code official, would cause an unsafe condition.

# PLANET GRANITE FACT SHEET: ECONOMIC CONTRIBUTION



## Commitment to Community Support:

Planet Granite has a long and significant history of community involvement and financial support, especially for youth at all of its locations as part of its company culture.

- Planet Granite **contributes on average \$100,000 annually** to local youth and community programs at its three locations, including Outward Bound, Big City Mountaineers and Environmental Traveling Companions. It intends to expand those contributions as it continues to add more locations, including local youth groups in Culver City and neighboring communities in the greater Los Angeles County area
- Additionally, Planet Granite **contributes upwards of \$50,000 in free access a year** to its locations for underserved youth in the local area, including partnering with local, small non-profit groups and government agencies such as first responders. In the 20 years Planet Granite has donated in-kind climbing days, **over 10,000 children have benefitted to an estimated total of \$1 million**

Planet Granite, founded in 1994 for the climbing community, has grown into one of the leaders of premier climbing experiences for people of all abilities. It offers enthusiasts a wide variety of bouldering and climbing terrain and the latest in training techniques for climbing, yoga and fitness. Its facilities offer the best in training for any outdoor pursuits or fitness level and are a social hub for friends.

Planet Granite began with a single gym, built entirely by the hands and private financial support of climbing enthusiasts. As it experienced significant growth it added new locations and built its trademark climbing structures of heights few competitors matched. It also decided to grow by having its employees work through a leadership track eventually leading to ownership of new locations.

Each location employs approximately 50 people, hired locally. These are managers, climbing coaches, front desk staff, yoga instructors and trainers.

### **Culver City Location:**

Planet Granite estimates directly spending approximately \$5 million on the project, including renovation of the existing structure, construction and installation of climbing walls and an addition to expand interior space with a commitment that funds will go to locally-hired contractors and vendors.

Planet Granite estimates **direct and indirect revenues at this location will exceed \$12 million a year** with people coming from both inside and outside the immediate community and extending their stay with after workout patronage of Culver City restaurants, bars, stores and theaters. The company also estimates a significant boost in local taxes generated as well to help support city agencies.

The Culver City Ice Arena currently uses an antiquated refrigeration system that relies on calcium chloride cooled by ammonia in freezing water for the rink. Calcium chloride is otherwise commonly known as road salt and poses no known environment or health hazard, however **the ammonia coolant used in the system is a significant and potentially dangerous environmental and health risk**, especially for those living closet to the facility.

A shutdown of the refrigeration system without appropriate removal of the coolant can lead to leakage or in a worst case scenario, rupture from excessive pressure build up and release of ammonia vapor.

Although **Planet Granite's lease does not begin until June of 2014**, the company believes strongly in an obligation to mitigate any potential environmental damage and makes a commitment to work with appropriate health and safety officials for **a safe, orderly and proper decommissioning of the refrigeration system**.

FIRE DEPARTMENT



(310) 253-5925

FAX (310) 253-5937

CHRISTOPHER SELLERS  
Fire Chief

9770 CULVER BOULEVARD, CULVER CITY, CALIFORNIA 90232-0507

MICHAEL BOWDEN  
Fire Marshal

FIRE PREVENTION BUREAU

**SECOND NOTICE AND ORDER TO ABATE HAZARDOUS MATERIALS**

January 29, 2014

Mike Karagozian, Trustee  
Miron Karagozian Trust  
5740 N. Palm Ave. Suite 103  
Fresno, CA 93704

*Via Facsimile 559-439-9723  
and First Class Mail*

Re Shut down of Culver City Ice Arena. 4545 Sepulveda Blvd, Culver City

Dear Mr. Karagozian:

As of this writing, the Culver City Fire Department (CCFD) has not been contacted by either you or your representatives with the submittal of a Facility Closure Plan, as requested in our letter dated January 14, 2014. This is an urgent matter requiring your immediate attention. CCFD has been informed that the operator of the Culver Ice Arena, situated on your real property located at 4545 Sepulveda Boulevard, Culver City, intends to shut down the ice rink operations on February 2, 2014 and vacate the premises by February 15, 2014. Failure to provide for the safe decommissioning of the hazardous materials at the ice rink will create an imminent hazard and unsafe condition under California Fire Code §110.1., constituting a public nuisance under Culver City Municipal Code (CCMC) §9.04.015.

Pursuant to California Fire Code (CFC) §109.2, and CCMC §9.04.010(DD), **as the property owner, you are responsible for the activity and the safe removal of all hazardous materials at that site.** Failure to follow the requirements of the CFC for closing the ice rink may result in the release of Anhydrous Ammonia, an extremely hazardous substance detrimental to the health, safety and welfare of the community. Failure to abate the hazardous substances may subject you to criminal prosecution in the Los Angeles Superior Court as well as civil fines, penalties and assessments. CFC §105.7.9 requires you to obtain a permit "to...abandon, remove... or close..." a facility regulated by Chapter 50 of the CFC. Due to the use and quantity of ammonia (an extremely hazardous substance), and other hazardous materials, the facility on your property is required to be operated under strict federal, state, and local requirements (CAL-ARP).

To avoid the possibility of the release of any hazardous materials (Anhydrous Ammonia) into the environment through a premature shut down of the equipment, **you are hereby ordered to do the following:**

1. **Maintain the ice rink cooling processes until a Facilities Closure Plan has been approved and a qualified licensed refrigeration contractor is on the premises to shut down your system.**

2. **Ensure that all necessary utilities for the maintenance and operation of the ice rink cooling processes continue to be provided until such time the system is appropriately shut down.**

Due to the proximity of your intended closure date, and your failure to notify our office of your intentions following our January 14, 2014 notice, pursuant to CFC §5001.5 you must submit a Facilities Closure Plan for placing the ammonia refrigerant system out of service to the Culver City Fire Prevention Office, **on or before January 31, 2014.**

In accordance with CFC §5001.6.3, the Facility Closure Plan shall demonstrate that hazardous materials which are stored, dispensed, handled or used in the facility will be transported, disposed of or reused in a manner that eliminates the need for further maintenance and any threat to public health and safety. Your Facilities Closure Plan shall include a timeline of events including but not limited to:

1. Date the Culver Ice Arena will close to the Public;
2. Date of evacuation and disposition of the Anhydrous Ammonia evacuated from the refrigeration system. Include the Contractor Company name, and contact information;
3. Date of removal and disposition of refrigerant oil, calcium chloride, and all other hazardous materials located on the premises;
4. Date of soil sample testing (Soil contamination and permafrost depth);
5. Date of sample testing of the cooling medium of calcium chloride, (contaminants).
6. Date the property is intended to be returned to you, the owner.

Failure to comply by 5:00 p.m., Friday, January 31, 2014, will result in the City taking actions to summarily abate the hazardous conditions at the ice rink under authority that includes but is not limited to CFC §110.3 and CCMC 9.04.095. You will be responsible for any and all costs of the abatement. You may also be subject to criminal prosecution and fines, as well as civil liability.

Enclosed you will find copies of the applicable Sections of the 2013 California Fire Code. Please immediately contact me at (310) 253-5925, or Battalion Chief Brian Savage at (949) 285-4288, to discuss the resolution of these issues.

Thank you for your prompt attention to this matter.



**Michael Bowden**  
**Fire Marshal**  
**Culver City Fire Department**  
9770 Culver Blvd.  
Culver City, CA 90232  
(310) 253-5926 Office  
(310) 253-5937 Fax

Encl.

cc: John Nachbar, City Manager  
Carol A. Schwab, City Attorney



FIRE DEPARTMENT



(310) 253-5925

FAX (310) 253-5937

CHRISTOPHER SELLERS  
Fire Chief

9770 CULVER BOULEVARD, CULVER CITY, CALIFORNIA 90232-0507

MICHAEL BOWDEN  
Fire Marshal

FIRE PREVENTION BUREAU

January 29, 2014

**SECOND NOTICE AND ORDER TO ABATE HAZARDOUS MATERIALS**

John Jackson, Operator  
Culver Ice Arena, LLC  
4545 Sepulveda Blvd.  
Culver City, CA 90230

*Via Personal Delivery*

Re: **Culver City Ice Arena Closure**

Dear Mr. Jackson:

The Culver City Fire Department has been informed that you intend to shut down the ice rink on the premises at 4545 Sepulveda Boulevard ("subject property" or "premises") on February 2, 2014 and that you further intend to vacate the premises by February 15, 2014. As the ice rink operator, you have a responsibility to the public to ensure that all hazardous materials and operations at the subject property have been decommissioned safely prior to your abandonment of the premises. Failure to follow the requirements of the California Fire Code (CFC) as you close your operations may subject you to criminal prosecution in the Los Angeles Superior Court as well as civil fines, penalties and assessments.

CFC §109.2 states that in addition to the owner's responsibility, "[i]f an occupant creates, or allows to be created, hazardous conditions in violation of this code, the occupant shall be held responsible for the abatement of such conditions." The maintenance of hazardous conditions on the premises also constitutes a public nuisance under Culver City Municipal Code §9.04.015. CFC §105.7.9 requires you to obtain a permit "to...abandon, remove... or close..." a facility regulated by Chapter 50 of the CFC. As you know, due to the use and quantity of ammonia (an extremely hazardous substance), and other hazardous materials, your facility is required to be operated under strict federal, state, and local requirements (CAL-ARP).

To avoid the possibility of the release of any hazardous materials (Anhydrous Ammonia) into the environment through a premature shut down of the equipment, **you are hereby ordered to do the following:**

1. **Maintain the ice rink cooling processes until a Facilities Closure Plan has been approved and a qualified licensed refrigeration contractor is on the premises to shut down your system.**

*Culver City Employees take pride in effectively providing the highest levels of service to enrich the quality of life for the community by building on our tradition of more than seventy-five years of public service, by our present commitment, and by our dedication to meet the challenges of the future.*

John Jackson, Operator  
Culver Ice Arena, LLC  
January 29, 2014  
Page 2

2. **Ensure that all necessary utilities for the maintenance and operation of the ice rink cooling processes continue to be provided until such time the system is appropriately shut down.**

Due to the proximity of your intended closure date, and your failure to notify our office of your intentions following our previous notice dated January 14, 2014, pursuant to CFC §5001.5 you must submit a Facilities Closure Plan for placing the ammonia refrigerant system out of service, to the Culver City Fire Prevention Office, **on or before January 31, 2014.**

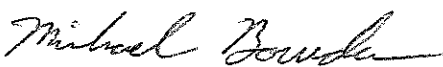
In accordance with CFC §5001.6.3, the Facility Closure Plan shall demonstrate that hazardous materials which are stored, dispensed, handled or used in the facility will be transported, disposed of or reused in a manner that eliminates the need for further maintenance and any threat to public health and safety. Your Facilities Closure Plan shall include a timeline of events, including but not limited to:

1. Date the Culver Ice Arena will close to the Public;
2. Date of evacuation and disposition of the Anhydrous Ammonia evacuated from the refrigeration system. Include the Contractor Company name, and contact information;
3. Date of removal and disposition of refrigerant oil, calcium chloride, and all other hazardous materials located on the premises;
4. Date of soil sample testing (soil contamination and permafrost depth);
5. Date of sample testing of the cooling medium of calcium chloride (contaminants);
6. Date the property is intended to be returned to the owner.

Failure to comply by 5:00 p.m., Friday, January 31, 2014, will result in the City taking actions to summarily abate the hazardous conditions at the ice rink under authority that includes but is not limited to CFC §110.3 and CCMC 9.04.095. You will be responsible for any and all costs of the abatement. You may also be subject to criminal prosecution and fines, as well as civil liability.

Enclosed you will find copies of the applicable Sections of the 2013 California Fire Code. Please immediately contact me at 310-253-5925, or Battalion Chief Brian Savage at (949) 285-4288, to discuss the resolution of these issues.

Thank you for your prompt attention to this matter.



**Michael Bowden**  
**Fire Marshal**  
**Culver City Fire Department**  
9770 Culver Blvd  
Culver City, CA 90232  
(310) 253-5926 Office  
(310) 253-5937 Fax

Encl.

cc: Mike A. Karagozian, property owner  
John Nachbar, City Manager  
Carol A. Schwab, City Attorney

same fails to comply with this code. Any portions that do not comply shall be corrected, and such portion shall not be covered or concealed until authorized by the fire code official.

**[A] 106.3 Concealed work.** It shall be the duty of the permit applicant to cause the work to remain accessible and exposed for inspection purposes. Whenever any installation subject to inspection prior to use is covered or concealed without having first been inspected, the fire code official shall have the authority to require that such work be exposed for inspection. Neither the fire code official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

**[A] 106.4 Approvals.** Approval as the result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel provisions of this code or of other ordinances of the jurisdiction shall not be valid.

## SECTION 107 MAINTENANCE

**[A] 107.1 Maintenance of safeguards.** Whenever or wherever any device, equipment, system, condition, arrangement, level of protection, or any other feature is required for compliance with the provisions of this code, or otherwise installed, such device, equipment, system, condition, arrangement, level of protection, or other feature shall thereafter be continuously maintained in accordance with this code and applicable referenced standards.

**[A] 107.2 Testing and operation.** Equipment requiring periodic testing or operation to ensure maintenance shall be tested or operated as specified in this code.

**[A] 107.2.1 Test and inspection records.** Required test and inspection records shall be available to the fire code official at all times or such records as the fire code official designates shall be filed with the fire code official.

**[A] 107.2.2 Reinspection and testing.** Where any work or installation does not pass an initial test or inspection, the necessary corrections shall be made so as to achieve compliance with this code. The work or installation shall then be resubmitted to the fire code official for inspection and testing.

**[A] 107.3 Supervision.** Maintenance and testing shall be under the supervision of a responsible person who shall ensure that such maintenance and testing are conducted at specified intervals in accordance with this code.

**[A] 107.4 Rendering equipment inoperable.** Portable or fixed fire-extinguishing systems or devices, and fire-warning systems, shall not be rendered inoperative or inaccessible, except as necessary during emergencies, maintenance, repairs, alterations, drills or prescribed testing.

**\* [A] 107.5 Overcrowding.** Overcrowding or admittance of any person beyond the approved capacity of a building or a portion thereof shall not be allowed. The fire code official, upon finding any overcrowding conditions or obstructions in

aisles, passageways or other means of egress, or upon finding any condition which constitutes a life safety hazard, shall be authorized to cause the event to be stopped until such condition or obstruction is corrected.

## SECTION 108 BOARD OF APPEALS

**[A] 108.1 Board of appeals established.** In order to hear and decide appeals of orders, decisions or determinations made by the fire code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the governing body and shall hold office at its pleasure. The fire code official shall be an ex officio member of said board but shall have no vote on any matter before the board. The board shall adopt rules of procedure for conducting its business, and shall render all decisions and findings in writing to the appellant with a duplicate copy to the fire code official.

**[A] 108.2 Limitations on authority.** An application for appeal shall be based on a claim that the intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply, or an equivalent method of protection or safety is proposed. The board shall have no authority to waive requirements of this code.

**[A] 108.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training to pass on matters pertaining to hazards of fire, explosions, hazardous conditions or fire protection systems, and are not employees of the jurisdiction.

## SECTION 109 VIOLATIONS

**[A] 109.1 Unlawful acts.** It shall be unlawful for a person, firm or corporation to erect, construct, alter, repair, remove, demolish or utilize a building, occupancy, premises or system regulated by this code, or cause same to be done, in conflict with or in violation of any of the provisions of this code. \*\*

**[A] 109.2 Owner/occupant responsibility.** Correction and abatement of violations of this code shall be the responsibility of the owner. If an occupant creates, or allows to be created, hazardous conditions in violation of this code, the occupant shall be held responsible for the abatement of such hazardous conditions.

**[A] 109.3 Notice of violation.** When the fire code official finds a building, premises, vehicle, storage facility or outdoor area that is in violation of this code, the fire code official is authorized to prepare a written notice of violation describing the conditions deemed unsafe and, when compliance is not immediate, specifying a time for reinspection.

**[A] 109.3.1 Service.** A notice of violation issued pursuant to this code shall be served upon the owner, operator, occupant or other person responsible for the condition or violation, either by personal service, mail or by delivering the same to, and leaving it with, some person of responsibility upon the premises. For unattended or abandoned

locations, a copy of such notice of violation shall be posted on the premises in a conspicuous place at or near the entrance to such premises and the notice of violation shall be mailed by certified mail with return receipt requested or a certificate of mailing, to the last known address of the owner, occupant or both.

**[A] 109.3.2 Compliance with orders and notices.** A notice of violation issued or served as provided by this code shall be complied with by the owner, operator, occupant or other person responsible for the condition or violation to which the notice of violation pertains.

**[A] 109.3.3 Prosecution of violations.** If the notice of violation is not complied with promptly, the fire code official is authorized to request the legal counsel of the jurisdiction to institute the appropriate legal proceedings at law or in equity to restrain, correct or abate such violation or to require removal or termination of the unlawful occupancy of the structure in violation of the provisions of this code or of the order or direction made pursuant hereto.

**[A] 109.3.4 Unauthorized tampering.** Signs, tags or seals posted or affixed by the fire code official shall not be mutilated, destroyed or tampered with, or removed, without authorization from the fire code official.

**[A] 109.4 Violation penalties.** Persons who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, install, alter, repair or do work in violation of the approved construction documents or directive of the fire code official, or of a permit or certificate used under provisions of this code, shall be guilty of a **[SPECIFY OFFENSE]**, punishable by a fine of not more than **[AMOUNT]** dollars or by imprisonment not exceeding **[NUMBER OF DAYS]**, or both such fine and imprisonment. Each day that a violation continues after due notice has been served shall be deemed a separate offense.

**[A] 109.4.1 Abatement of violation.** In addition to the imposition of the penalties herein described, the fire code official is authorized to institute appropriate action to prevent unlawful construction or to restrain, correct or abate a violation; or to prevent illegal occupancy of a structure or premises; or to stop an illegal act, conduct of business or occupancy of a structure on or about any premises.

## SECTION 110 UNSAFE BUILDINGS

**[A] 110.1 General.** If during the inspection of a premises, a building or structure, or any building system, in whole or in part, constitutes a clear and inimical threat to human life, safety or health, the fire code official shall issue such notice or orders to remove or remedy the conditions as shall be deemed necessary in accordance with this section, and shall refer the building to the building department for any repairs, alterations, remodeling, removing or demolition required.

**[A] 110.1.1 Unsafe conditions.** Structures or existing equipment that are or hereafter become unsafe or deficient because of inadequate means of egress or which constitute

a fire hazard, or are otherwise dangerous to human life or the public welfare, or which involve illegal or improper occupancy or inadequate maintenance, shall be deemed an unsafe condition. A vacant structure which is not secured against unauthorized entry as required by Section 311 shall be deemed unsafe.

**[A] 110.1.2 Structural hazards.** When an apparent structural hazard is caused by the faulty installation, operation or malfunction of any of the items or devices governed by this code, the fire code official shall immediately notify the building code official in accordance with Section 110.1.

**[A] 110.2 Evacuation.** The fire code official or the fire department official in charge of an incident shall be authorized to order the immediate evacuation of any occupied building deemed unsafe when such building has hazardous conditions that present imminent danger to building occupants. Persons so notified shall immediately leave the structure or premises and shall not enter or re-enter until authorized to do so by the fire code official or the fire department official in charge of the incident.

**[A] 110.3 Summary abatement.** Where conditions exist that are deemed hazardous to life and property, the fire code official or fire department official in charge of the incident is authorized to abate summarily such hazardous conditions that are in violation of this code.

**[A] 110.4 Abatement.** The owner, operator or occupant of a building or premises deemed unsafe by the fire code official shall abate or cause to be abated or corrected such unsafe conditions either by repair, rehabilitation, demolition or other approved corrective action.

## SECTION 111 STOP WORK ORDER

**[A] 111.1 Order.** Whenever the fire code official finds any work regulated by this code being performed in a manner contrary to the provisions of this code, or in a dangerous or unsafe manner, the fire code official is authorized to issue a stop work order.

**[A] 111.2 Issuance.** A stop work order shall be in writing and shall be given to the owner of the property, or to the owner's agent, or to the person doing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order, and the conditions under which the cited work is authorized to resume.

**[A] 111.3 Emergencies.** Where an emergency exists, the fire code official shall not be required to give a written notice prior to stopping the work.

**[A] 111.4 Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable to a fine of not less than **[AMOUNT]** dollars or more than **[AMOUNT]** dollars.

**5001.3.3.4 Spill mitigation.** Spill containment systems or means to render a spill harmless to people or property shall be provided where a spill is determined to be a plausible event and where such an event would endanger people or property.

**5001.3.3.5 Ignition hazards.** Safeguards shall be provided to minimize the risk of exposing combustible hazardous materials to unintended sources of ignition.

**5001.3.3.6 Protection of hazardous materials.** Safeguards shall be provided to minimize the risk of exposing hazardous materials to a fire or physical damage whereby such exposure could endanger or lead to the endangerment of people or property.

**5001.3.3.7 Exposure hazards.** Safeguards shall be provided to minimize the risk of and limit damage from a fire or explosion involving explosive hazardous materials whereby such fire or explosion could endanger or lead to the endangerment of people or property.

**5001.3.3.8 Detection of gas or vapor release.** Where a release of hazardous materials gas or vapor would cause immediate harm to persons or property, means of mitigating the dangerous effects of a release shall be provided.

**5001.3.3.9 Reliable power source.** Where a power supply is relied upon to prevent or control an emergency condition that could endanger people or property, the power supply shall be from a reliable source.

**5001.3.3.10 Ventilation.** Where ventilation is necessary to limit the risk of creating an emergency condition resulting from normal or abnormal operations, means of ventilation shall be provided.

**5001.3.3.11 Process hazard analyses.** Process hazard analyses shall be conducted to ensure reasonably the protection of people and property from dangerous conditions involving hazardous materials.

**5001.3.3.12 Pre-startup safety review.** Written documentation of pre-startup safety review procedures shall be developed and enforced to ensure that operations are initiated in a safe manner. The process of developing and updating such procedures shall involve the participation of affected employees.

**5001.3.3.13 Operating and emergency procedures.** Written documentation of operating procedures and procedures for emergency shut down shall be developed and enforced to ensure that operations are conducted in a safe manner. The process of developing and updating such procedures shall involve the participation of affected employees.

**5001.3.3.14 Management of change.** A written plan for management of change shall be developed and enforced. The process of developing and updating the plan shall involve the participation of affected employees.

**5001.3.3.15 Emergency plan.** A written emergency plan shall be developed to ensure that proper actions are taken in the event of an emergency, and the plan

shall be followed if an emergency condition occurs. The process of developing and updating the plan shall involve the participation of affected employees.

**5001.3.3.16 Accident procedures.** Written procedures for investigation and documentation of accidents shall be developed, and accidents shall be investigated and documented in accordance with these procedures.

**5001.3.3.17 Consequence analysis.** Where an accidental release of hazardous materials could endanger people or property, either on or off-site, an analysis of the expected consequences of a plausible release shall be performed and utilized in the analysis and selection of active and passive hazard mitigation controls.

**5001.3.3.18 Safety audits.** Safety audits shall be conducted on a periodic basis to verify compliance with the requirements of this section.

**5001.4 Retail and wholesale storage and display.** For retail and wholesale storage and display of nonflammable solid and nonflammable or noncombustible liquid hazardous materials in Group M occupancies and storage in Group S occupancies, see Section 5003.11.

**5001.5 Permits.** Permits shall be required as set forth in Sections 105.6 and 105.7.

When required by the fire code official, permittees shall apply for approval to permanently close a storage, use or handling facility. Such application shall be submitted at least 30 days prior to the termination of the storage, use or handling of hazardous materials. The fire code official is authorized to require that the application be accompanied by an approved facility closure plan in accordance with Section 5001.6.3.

**5001.5.1 Hazardous Materials Management Plan (HMMP).** Where required by the fire code official, an application for a permit shall include an HMMP. The HMMP shall include a facility site plan designating the following:

1. Access to each storage and use area.
2. Location of emergency equipment.
3. Location where liaison will meet emergency responders.
4. Facility evacuation meeting point locations.
5. The general purpose of other areas within the building.
6. Location of all above-ground and underground tanks and their appurtenances including, but not limited to, sumps, vaults, below-grade treatment systems and piping.
7. The hazard classes in each area.
8. Locations of all control areas and Group H occupancies.
9. Emergency exits.

*[For SFM] The HMMP shall comply with Health and Safety Code, Chapter 6.95, Sections 25500 through 25545, and Title 19, Division 2, Chapter 4.*

**5001.5.2 Hazardous Materials Inventory Statement (HMIS).** Where required by the fire code official, an application for a permit shall include an HMIS, such as Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III, Tier II Report or other approved statement. The HMIS shall include the following information:

1. Product name.
2. Component.
3. Chemical Abstract Service (CAS) number.
4. Location where stored or used.
5. Container size.
6. Hazard classification.
7. Amount in storage.
8. Amount in use-closed systems.
9. Amount in use-open systems.

*[For SFM] The HMIS shall comply with Health and Safety Code, Chapter 6.95, Sections 25500 through 25545, and Title 19, Division 2, Chapter 4.*

**5001.6 Facility closure.** Facilities shall be placed out of service in accordance with Sections 5001.6.1 through 5001.6.3.

**5001.6.1 Temporarily out-of-service facilities.** Facilities that are temporarily out of service shall continue to maintain a permit and be monitored and inspected.

**5001.6.2 Permanently out-of-service facilities.** Facilities for which a permit is not kept current or is not monitored and inspected on a regular basis shall be deemed to be permanently out of service and shall be closed in an approved manner. When required by the fire code official, permittees shall apply for approval to close permanently storage, use or handling facilities. The fire code official is authorized to require that such application be accompanied by an approved facility closure plan in accordance with Section 5001.6.3.

**5001.6.3 Facility closure plan.** When a facility closure plan is required in accordance with Section 5001.5 to terminate storage, dispensing, handling or use of hazardous materials, it shall be submitted to the fire code official at least 30 days prior to facility closure. The plan shall demonstrate that hazardous materials which are stored, dispensed, handled or used in the facility will be transported, disposed of or reused in a manner that eliminates the need for further maintenance and any threat to public health and safety.

## SECTION 5002 DEFINITIONS

**5002.1 Definitions.** The following terms are defined in Chapter 2:

**BOILING POINT.**

**CEILING LIMIT.**

**CHEMICAL.**

**CHEMICAL NAME.**

**CLOSED CONTAINER.**

**CONTAINER.**

**CONTROL AREA.**

**CYLINDER.**

**DAY BOX.**

**DEFLAGRATION.**

**DESIGN PRESSURE.**

**DETACHED BUILDING.**

**DISPENSING.**

**EXCESS FLOW CONTROL.**

**EXHAUSTED ENCLOSURE.**

**EXPLOSION.**

**FLAMMABLE VAPORS OR FUMES.**

**GAS CABINET.**

**GAS ROOM.**

**HANDLING.**

**HAZARDOUS MATERIALS.**

**HEALTH HAZARD.**

**IMMEDIATELY DANGEROUS TO LIFE AND HEALTH (IDLH).**

**INCOMPATIBLE MATERIALS.**

**LIQUID.**

**LOWER EXPLOSIVE LIMIT (LEL).**

**LOWER FLAMMABLE LIMIT (LFL).**

**MATERIAL SAFETY DATA SHEET (MSDS).**

**MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA.**

**NORMAL TEMPERATURE AND PRESSURE (NTP).**

**OUTDOOR CONTROL AREA.**

**PERMISSIBLE EXPOSURE LIMIT (PEL).**

**PESTICIDE.**

**PHYSICAL HAZARD.**

**PRESSURE VESSEL.**

**SAFETY CAN.**

**SECONDARY CONTAINMENT.**

**SEGREGATED.**

**SOLID.**

**STORAGE, HAZARDOUS MATERIALS.**

**SYSTEM.**

**TANK, ATMOSPHERIC.**

**TANK, PORTABLE.**

**TANK, STATIONARY.**

**TANK VEHICLE.**

**UNAUTHORIZED DISCHARGE.**

**USE (MATERIAL).**

**VAPOR PRESSURE.**

[A] **105.6.37 Pyroxylin plastics.** An operational permit is required for storage or handling of more than 25 pounds (11 kg) of cellulose nitrate (pyroxylin) plastics, and for the assembly or manufacture of articles involving pyroxylin plastics.

[A] **105.6.38 Refrigeration equipment.** An operational permit is required to operate a mechanical refrigeration unit or system regulated by Chapter 6.

[A] **105.6.39 Repair garages and motor fuel-dispensing facilities.** An operational permit is required for operation of repair garages, and automotive, marine and fleet motor fuel-dispensing facilities.

[A] **105.6.40 Rooftop heliports.** An operational permit is required for the operation of a rooftop heliport.

[A] **105.6.41 Spraying or dipping.** An operational permit is required to conduct a spraying or dipping operation utilizing flammable or combustible liquids, or the application of combustible powders regulated by Chapter 24.

[A] **105.6.42 Storage of scrap tires and tire byproducts.** An operational permit is required to establish, conduct or maintain storage of scrap tires and tire byproducts that exceeds 2,500 cubic feet (71 m<sup>3</sup>) of total volume of scrap tires, and for indoor storage of tires and tire byproducts.

[A] **105.6.43 Temporary membrane structures and tents.** An operational permit is required to operate an air-supported temporary membrane structure or a tent having an area in excess of 400 square feet (37 m<sup>2</sup>).

**Exceptions:**

1. Tents used exclusively for recreational camping purposes.
2. Tents open on all sides, which comply with all of the following:
  - 2.1. Individual tents having a maximum size of 700 square feet (65 m<sup>2</sup>).
  - 2.2. The aggregate area of multiple tents placed side by side without a fire break clearance of not less than 12 feet (3658 mm) shall not exceed 700 square feet (65 m<sup>2</sup>) total.
  - 2.3. A minimum clearance of 12 feet (3658 mm) to structures and other tents shall be provided.

[A] **105.6.44 Tire-rebuilding plants.** An operational permit is required for the operation and maintenance of a tire-rebuilding plant.

[A] **105.6.45 Waste handling.** An operational permit is required for the operation of wrecking yards, junk yards and waste material-handling facilities.

[A] **105.6.46 Wood products.** An operational permit is required to store chips, hogged material, lumber or plywood in excess of 200 cubic feet (6 m<sup>3</sup>).

**105.6.47 Additional permits.** In addition to the permits required by Section 105.6, the following permits shall be obtained from the Bureau of Fire Prevention prior to

engaging in the following activities, operations, practices or functions:

1. **Production facilities.** To change use or occupancy, or allow the attendance of a live audience, or for wrap parties.
2. **Pyrotechnics and special effects.** To use pyrotechnic special effects, open flame, use of flammable or combustible liquids and gases, welding, and the parking of motor vehicles in any building or location used for the purpose of motion picture, television and commercial production.
3. **Live audiences.** To install seating arrangements for live audiences in approved production facilities, production studios and sound stages. See Chapter 48.

[A] **105.7 Required construction permits.** The fire code official is authorized to issue construction permits for work as set forth in Sections 105.7.1 through 105.7.16.

[A] **105.7.1 Automatic fire-extinguishing systems.** A construction permit is required for installation of or modification to an automatic fire-extinguishing system. Maintenance performed in accordance with this code is not considered a modification and does not require a permit.

[A] **105.7.2 Battery systems.** A permit is required to install stationary storage battery systems having a liquid capacity of more than 50 gallons (189 L).

[A] **105.7.3 Compressed gases.** When the compressed gases in use or storage exceed the amounts listed in Table 105.6.8, a construction permit is required to install, repair damage to, abandon, remove, place temporarily out of service, or close or substantially modify a compressed gas system.

**Exceptions:**

1. Routine maintenance.
2. For emergency repair work performed on an emergency basis, application for permit shall be made within two working days of commencement of work.

[A] **105.7.4 Cryogenic fluids.** A construction permit is required for installation of or alteration to outdoor stationary cryogenic fluid storage systems where the system capacity exceeds the amounts listed in Table 105.6.10. Maintenance performed in accordance with this code is not considered an alteration and does not require a construction permit.

[A] **105.7.5 Emergency responder radio coverage system.** A construction permit is required for installation of or modification to emergency responder radio coverage systems and related equipment. Maintenance performed in accordance with this code is not considered a modification and does not require a permit.

[A] **105.7.6 Fire alarm and detection systems and related equipment.** A construction permit is required for installation of or modification to fire alarm and detection systems and related equipment. Maintenance performed in

accordance with this code is not considered a modification and does not require a permit.

**[A] 105.7.7 Fire pumps and related equipment.** A construction permit is required for installation of or modification to fire pumps and related fuel tanks, jockey pumps, controllers and generators. Maintenance performed in accordance with this code is not considered a modification and does not require a permit.

**[A] 105.7.8 Flammable and combustible liquids.** A construction permit is required:

1. To install, repair or modify a pipeline for the transportation of flammable or combustible liquids.
2. To install, construct or alter tank vehicles, equipment, tanks, plants, terminals, wells, fuel-dispensing stations, refineries, distilleries and similar facilities where flammable and combustible liquids are produced, processed, transported, stored, dispensed or used.
3. To install, alter, remove, abandon or otherwise dispose of a flammable or combustible liquid tank.

**[A] 105.7.9 Hazardous materials.** A construction permit is required to install, repair damage to, abandon, remove, place temporarily out of service, or close or substantially modify a storage facility or other area regulated by Chapter 50 when the hazardous materials in use or storage exceed the amounts listed in Table 105.6.20.

**Exceptions:**

1. Routine maintenance.
2. For emergency repair work performed on an emergency basis, application for permit shall be made within two working days of commencement of work.

**[A] 105.7.10 Industrial ovens.** A construction permit is required for installation of industrial ovens covered by Chapter 30.

**Exceptions:**

1. Routine maintenance.
2. For repair work performed on an emergency basis, application for permit shall be made within two working days of commencement of work.

**[A] 105.7.11 LP-gas.** A construction permit is required for installation of or modification to an LP-gas system.

**[A] 105.7.12 Private fire hydrants.** A construction permit is required for the installation or modification of private fire hydrants.

**[A] 105.7.13 Solar photovoltaic power systems.** A construction permit is required to install or modify solar photovoltaic power systems.

**[A] 105.7.14 Spraying or dipping.** A construction permit is required to install or modify a spray room, dip tank or booth.

**[A] 105.7.15 Standpipe systems.** A construction permit is required for the installation, modification or removal from service of a standpipe system. Maintenance performed in

accordance with this code is not considered a modification and does not require a permit.

**[A] 105.7.16 Temporary membrane structures and tents.** A construction permit is required to erect an air-supported temporary membrane structure or a tent having an area in excess of 400 square feet (37 m<sup>2</sup>).

**Exceptions:**

1. Tents used exclusively for recreational camping purposes.
2. Funeral tents and curtains, or extensions attached thereto, when used for funeral services.
3. Tents and awnings open on all sides, which comply with all of the following:
  - 3.1. Individual tents shall have a maximum size of 700 square feet (65 m<sup>2</sup>).
  - 3.2. The aggregate area of multiple tents placed side by side without a fire break clearance of not less than 12 feet (3658 mm) shall not exceed 700 square feet (65 m<sup>2</sup>) total.
  - 3.3. A minimum clearance of 12 feet (3658 mm) to structures and other tents shall be maintained.

## SECTION 106 INSPECTIONS

**[A] 106.1 Inspection authority.** The fire code official is authorized to enter and examine any building, structure, marine vessel, vehicle or premises in accordance with Section 104.3 for the purpose of enforcing this code.

**[A] 106.2 Inspections.** The fire code official is authorized to conduct such inspections as are deemed necessary to determine the extent of compliance with the provisions of this code and to approve reports of inspection by approved agencies or individuals. All reports of such inspections shall be prepared and submitted in writing for review and approval. Inspection reports shall be certified by a responsible officer of such approved agency or by the responsible individual. The fire code official is authorized to engage such expert opinion as deemed necessary to report upon unusual, detailed or complex technical issues subject to the approval of the governing body.

**[A] 106.2.1 Inspection requests.** It shall be the duty of the holder of the permit or their duly authorized agent to notify the fire code official when work is ready for inspection. It shall be the duty of the permit holder to provide access to and means for inspections of such work that are required by this code.

**[A] 106.2.2 Approval required.** Work shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the fire code official. The fire code official, upon notification, shall make the requested inspections and shall either indicate the portion of the construction that is satisfactory as completed, or notify the permit holder or his or her agent wherein the





February 13, 2014

Mr. Mike Bowden  
Fire Marshall  
Culver City Fire Department  
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## ASSESSMENT OF CULVER CITY ICE ARENA REFRIGERATION SYSTEMS

### OVERVIEW

The City of Culver City has requested a full and comprehensive evaluation of the Culver City Ice Arena for the purpose of assessing environmental safety issues and mechanical integrity of the ammonia refrigeration system.

Alliance Industrial Refrigeration Services is a premier industrial refrigeration design / build contractor with over 150 years of combined engineering experience with complex ammonia refrigeration systems. Alliance provides Certified Industrial Refrigeration Operators (CIRO) technicians for all of our industrial ammonia facilities. Alliance CIRO Technicians have passed strenuous testing and hands on experience tested and certified by Refrigeration Engineers and Technicians Association (RETA) and are experienced with ammonia service and trouble shooting. This report is presented by David Smith P.E. with 47 years of refrigeration experience and register in the State of California as a Professional Engineer. David's education from Cal Poly San Luis Obispo, where he received his B.S Engineering degree with a refrigeration discipline gives a solid foundation for understanding the design and practices for safety and operations on Industrial ammonia Refrigeration Systems. Richard Dones is a Certified Industrial Refrigeration Operators (CIRO) with over 14 years' experience starting in the USMC as a refrigeration specialist. Richard oversees several industrial ammonia refrigeration facilities for safety and mechanical integrity compliance and is versed in the Cal/ARP PSM and HSM programs, which provide ammonia safety and awareness through its regulatory guidelines.

Alliance Industrial Refrigeration Services, Inc., submits its findings and professional opinion through this comprehensive evaluation of the Culver City Ice Arena refrigeration systems, as requested, for the purpose of assessing the following:

- Ammonia systems
- Equipment integrity
- System temperatures
- Superheats
- Electrical system

To achieve the anticipated objectives, Alliance recorded relevant data, verified the refrigerant for purity, verified system pressure drops, and inspected oils.

This report includes an analysis of the following findings:

- Deficiencies outline
- Usable life of equipment
- Equipment upgrade and/or replacement recommendations
- Preliminary size and tonnage for added equipment
- Recommended improvements to existing facility to meet regulatory compliance and PSM standards
- System integrity/option only
- Life and safety compliance items and recommendations

#### **DEFICIENCIES CRITICAL**

- Shutting down compressor valves 1 and 2 could result in a major ammonia release.
- Identify source and eliminate smell of ammonia in the compressor room.
- Overall lack of security should be addressed to prevent visual identification of tanks and valves. The valves should be properly secured to prevent possible theft of ammonia.
- Seismic bracing required to prevent overturn of hazardous waste barrels in event of a seismic event.
- Relief valves should vent into a diffusion tank, instead of into atmosphere due to close proximity to residents.

#### **DEFICIENCIES OUTLINE**

- The Number 2 compressor valve is not immediately identifiable and is not located within a reasonable proximity of the Number 1 valve. This situation has the potential of impeding the efforts of fire personnel by resulting in a potentially critical loss of time.

- No windsock exists. Used for indicating wind direction in the event of an ammonia release for evacuation purposes.
- Ammonia tanks are not clearly marked.
- Improper valve labeling. The valve labeled “Ammonia Main Suction” is actually a “discharge” valve. [Appendix, Page 4, Improperly Labeled Valve, Should Have been Discharge Valve.JPG]
- Unidentified source of ammonia odor detected in compressor room. No ammonia detection apparatus is observed. It is important to emphasize that the ammonia is located within immediate proximity to a high-density residential population and thus presents a potential community safety hazard.
- Deteriorated and frayed insulation observed. [Appendix, Page 5, Insulation Failing.JPG]
- The location of Number 1 and Number 2 valves is unclear.
- Shutting down compressor valves 1 and 2 could result in a catastrophic ammonia release. Therefore better instructions are necessary.
- Site sign details ammonia charge at 4,200 pounds, which is inconsistent with the Culver City Fire Department’s assessment of 1,500 pounds. This inconsistency should be addressed. [Appendix, Page 1: Ammonia Charge Indicating 4200lbs.JPG, ]
- Open plug (ammonia) detected on the condenser/heat exchange. [Appendix, Page 2: Condenser Tube and Shell Missing Valves Missing Plugs.JPG and Condenser Tube and Shell Placard.JPG]
- Year of relief valves and condensers are identical. All are out of date. [Appendix, Page 2: Chiller Relief Valves Out of Date.JPG]
- Surface rust observed on condenser/heat exchanger. [Appendix, Page 2: Condenser Vessel Corrosion.JPG]
- The piping and vessels currently secured by metal rod hangers and should be replaced with a bracing system capable of withstanding a seismic event.
- Several valves are without plugs.
- Horn and strobe are nonexistent. [Appendix, Page 7: No Horn and Strobes or Evacuation Map.JPG]
- Material Safety Data Sheet (MSDS) is obsolete. The posted document is dated 1989. [Appendix, Page 8: Outdated MSDS Onsite For Anhydrous Ammonia.JPG, Sulfuric Acid With No MSDS to Be found, No Proper Containment.JPG]
- Gate enclosing the compressor is rather low and can be easily breached.
- Compression tank has significant formation of exterior ice, indicative of internal corrosion.

#### **DEFICIENCIES OUTLINE (CONTINUED)**

- Discharge line on “off” compressor is cold, indicative of liquid refrigerant. Required refrigerant not being compressible would cause ammonia release.
- Assumed age of Vilter compressors assumed to be in the range of 30 to 40 years.

- Rear security camera is nonexistent.
- No eye wash station could be located. [Appendix, Page 7, No Eye Wash Station Outside Engine Room.JPG]
- Fire and slip and fall hazards abound within the engine room due to the sizable presence of extraneous items.
- No "Standard Operating Procedures" observed.
- No evidence of respirator fit test program observed.
- Significant heaving detected. [Appendix, Page 5: Major Floor Heaving From Ice Under Floor.JPG]
- Possible calcium chloride leak under ice, resulting in surface discoloration. [Appendix, Page 9, Previous Under Ice Pipe Repairs on Calcium Chloride System.JPG; Signs Of Possible Calcium Chloride Leak Under Ice.JPG, Signs Of Possible Calcium Chloride Leak Under Ice2.JPG; Signs Of Possible Calcium Chloride Leak Under Ice3.JPG]
- Oil barrel should be within a secondary containment area. Presently outside of a secure area. [Appendix, Page 4: NFPA Signage Not Up to Date.JPG; NFPA Signage Confusion.JPG, Page 6]

## **AMMONIA SYSTEMS**

- Condenser is in the range of 15 to 20 years of age.
- Eight-cylinder compressors are in the range of between 30 to 40 years of age. Compressors and cooling tower at end of usable life. [Appendix, Page 7, Cooling Tower Information.JPG; Cooling Tower Model Information.JPG; Corroded Piping.JPG; Emergency Valve Labeling Incorrect.JPG; EPA Number.JPG, Page 3]
- Two-cylinder compressors are aged 60+ years. At end of usable life. [Appendix, Page 10, Vilter 8-Cylinder Compressor Times 2.JPG]

## **EQUIPMENT UPGRADE AND/OR REPLACEMENT RECOMMENDATIONS**

- Recommend replacing all relief valves.
- Replacement of insulation recommended.
- Replacement of missing plugs recommended.
- Replacement of manual control system with an automatic control system recommended.
- Replacement of discharge check valve on Vilter compressor (8-cylinder) not currently being used [Appendix, Page 10, Vilter 8-Cylinder Compressor Times 2.JPG]

## **PRELIMINARY SIZE AND TONNAGE FOR ADDED EQUIPMENT**

## Refrigeration System Capacity

The refrigeration system for this facility has four (4) ammonia compressors total as listed below:

- Two (2) Vilter Multi-cylinder 440 series reciprocating compressors – Model # M12K448D with eight cylinders.
- Approximate capacity of each is 89 TR based on +5° F suction temperature, 79° F condensing temperature, and at 1200 RPM 9 maximum operating rpm for these compressors.

Note: These compressors, since they are belt driven, are most likely to be operating at a lower rpm and the capacity will be less than shown above.

- Two (2) Vilter Vertical Single Acting (VSA) twin-cylinder ammonia compressors (7-1/2" bore x 7-1/2" stroke). This compressor was most likely manufactured in the 1940s or early 1950s and may be in operation at this time. A rough compressor capacity rating for these two ammonia compressors is around 28 TR at 325 RPM each.

## RECOMMENDED IMPROVEMENTS TO EXISTING FACILITY TO MEET REGULATORY COMPLIANCE AND PSM STANDARDS

- Require implementation of automatic control system. Manual controls not operating presently. [Appendix, Page 1: Automatic Level Controls Not Being Utilized.JPG, Manual Loading Controls Instead Of Automatic.JPG, Page 5]
- Ammonia detection system required.
- Emergency Pressure Control System (EPCS)
- Relief valves should vent into a diffusion tank, instead of into atmosphere due to close proximity to residents. [Appendix, Page 6: Nearby Residents.JPG]
- Respirators should be moved off site if there exists no proper fit test program. [Appendix, Page 4: Fit Test Program? JPG]
- All missing valve plugs should be installed. [Appendix, Page 6: Missing Pipe Plugs.JPG; Missing Plugs.JPG Page 5; More Missing Pipe Plugs.JPG, Page 6]
- Waste oil should be in proper containment. [Appendix, Page 4: Improper Oil Containment.JPG, Improper Oil Containment2.JPG]
- Calcium chloride, which is incompatible with ammonia and highly toxic to skin, eyes, and respiratory organs, is not maintained within a proper containment area. Due to its incompatibility with ammonia it must be stored not less than 20 feet from the ammonia source. (CFC5003.2.2.2) [Appendix, Page 9, Propane Stored Right Next To Ammonia.JPG]

## **RECOMMENDED IMPROVEMENTS TO EXISTING FACILITY TO MEET REGULATORY COMPLIANCE AND PSM STANDARDS (CONTINUED)**

- Insulation should be removed on vessels and piping to inspect surfaces.
- Overall lack of security should be addressed to prevent visual identification of tanks and valves. The valves should be properly secured to prevent possible theft of ammonia. [Appendix, Page 1: Ammonia System Outside with Little to No Security.JPG]
- Better fencing is required to prevent physical intrusion to tanks and valves.
- Recalculation of ammonia inventory to achieve consistency between site estimate (4,200 pounds) and fire department estimate (1,500 pounds).
- Re-identify emergency valves that need to be closed in an emergency situation. [Appendix, Page 10: Poor emergency Instructions.JPG; Valve #1 Wrong Valve to Close in Emergency.JPG; Valve #2 Wrong Valve to Close.JPG]
- Better instructions required for piping and vessels needs evaluated.
- Recommend a certified refrigeration technician be assigned to maintain the facility on a full-time basis.
- Recommend installing additional cameras (presently only two exist) to monitor exterior activity and enhance facility security.
- Seismic bracing required to prevent overturn of hazardous waste barrels in event of a seismic event. [Appendix, Page 7: No Seismic Bracing.JPG, No Seismic On Ammonia Piping.JPG, Page 8; No Seismic Bracing On All Ammonia Piping.JPG, Page 8]
- Implement housekeeping procedures to clear away the overall condition of clutter.
- Identify source and eliminate smell of ammonia in the compressor room.
- Develop Standard Operating Procedures (SOP) for following processes: a) proper oil draining, b) emergency shutdown, c) evacuation [Appendix, Page 4, Improper Oil Draining Being Performed.JPG]
- Post evacuation maps throughout facility. None presently observed.
- Properly identify all ammonia storage tanks.
- Post current Material Safety Data Sheet (MSDS) throughout hazardous areas.
- Replace valve plugs where required.

### **Conclusion and Recommendations:**

**Alliance is a member of the International Institute of Ammonia Refrigeration ("IIAR") and American Society of Heating Refrigeration and Air-Conditioning Engineers ("ASHRAE"). Under the IIAR standards of operations, and the ASHRAE standards, {IIAR Bulletin 109} the above recommendations should be implemented prior to reopening the facility as an ice rink. To safely perform any of the above identified repairs we recommend removal of ammonia from the system. After the IIAR and ASHRAE standards of operations recommendations are addressed, a Cal/ARP audit is recommended to be performed to ensure the safety and operations of the ice rink.**

Signature on File

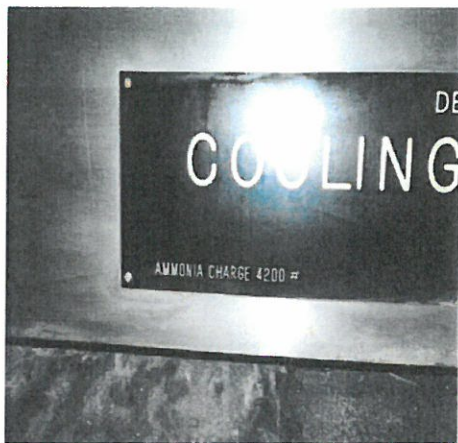
RICHARD DONES, INDUSTRIAL SERVICE MANAGER, CIRO

Signature on File

DAVID SMITH, P.E

CC: Alliance Environmental Safety Committee  
Alliance Life and Safety Officer

APPENDIX  
Page 1



Ammonia Charge Indicating 4200lbs.JPG



Chiller Identification Placard.JPG



Ammonia System Outisde With Little  
to no security.JPG



Chiller Relief Valve Identification Placard.JPG



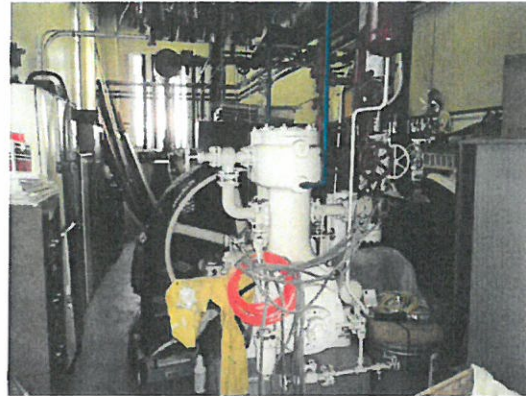
Automatic level controls not being utilized.JPG



**APPENDIX**  
**Page 2**



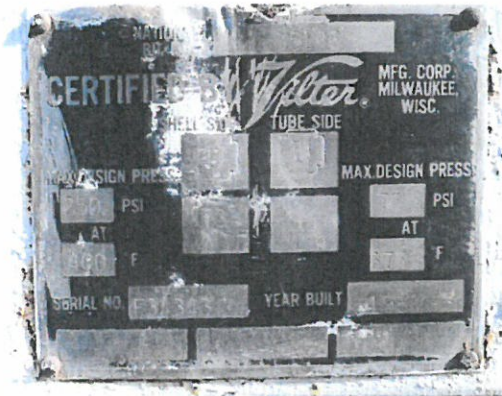
**Chiller Relief Valves Out of Date.JPG**



**Compressors in Compressor Room.JPG**



**Condenser Tube And Shell Missing Valves Missing Plugs.JPG**



**Condensor Tube and Shell Placard.JPG**



**Condenser Vessel Corrosion.JPG**

## Page 3



Cooling Tower Information.JPG



Emergency Valve Labeling Incorrect.JPG



Cooling Tower Model Information.JPG

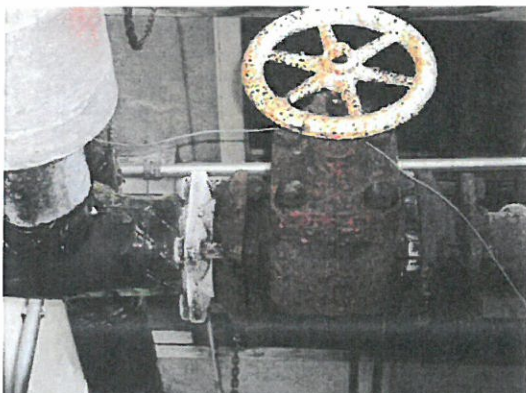
GENERATOR INFORMATION  
NAME WILLIE CITY Ice Skating  
ADDRESS 1545 Spalden Rd  
CITY Wilmington STATE GA ZIP 30404  
TEL 766-1444 PHONE 310-398-5719  
EPA WASTE #            CA WASTE # 221  
CONTENTS COMPOSITION Unlabeled Oil

PHYSICAL STATE: ☐ SOLID ☐ LIQUID ☐ GASEOUS ☐ OTHER  
HAZARDOUS PROPERTIES: ☐ FLAMMABLE ☐ TOXIC  
☐ CORROSIVE ☐ REACTIVITY ☐ OTHER  
MAN: 912A Hazardous waste liquid

D.O.S. PROPER SHIPPING NAME & UN CLAS NO WITH PREFIX

WASTE ACCUMULATION & PICK-UP RECORD		
START	PICK-UP	MANIFEST TRACKING NUMBER
11	3/7/02	866740688A
11	11	
11	11	
11	11	
11	11	

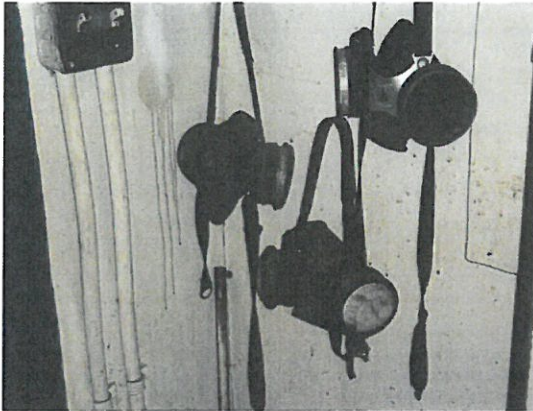
EPA Number.JPG



**Corroded Piping.JPG**



**APPENDIX**  
**Page 4**



**Fit Test Program?.JPG**



**Improper Oil Draining Being Performed.JPG**



**Improper Oil Containment.JPG**

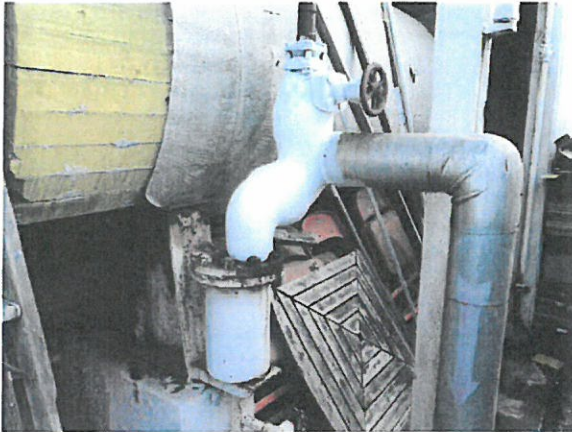


**Improperly Labeled Valve, Should Have been Discharge valve.JPG**



**Improper Oil Containment2.JPG**

**APPENDIX**  
**Page 5**



**Insulation Failing.JPG**



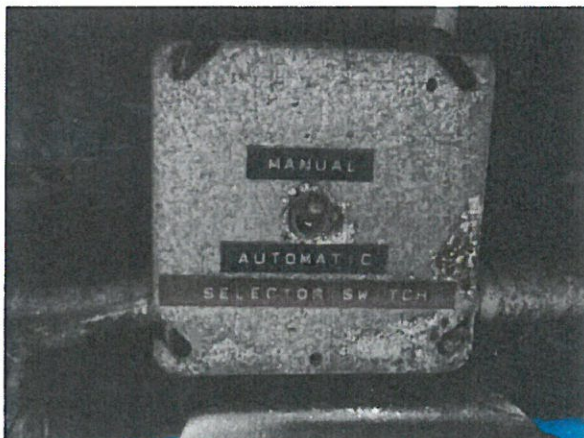
**Manual Loading Controls Instead of Automatic.JPG**



**Major Floor Heaving From Ice Under Floor.JPG**



**Missing Pipe Plugs**



**Manual Control Switch Instead Of Automatic.JPG**



**APPENDIX**  
**Page 6**



**Missing Plugs.JPG**



**More Nearby Residents.JPG**



**More Missing Pipe Plugs.JPG**



**NFPA Signage Confusion.JPG**



**Nearby Residents.JPG**

**APPENDIX**  
**Page 7**



**NFPA Signage Not Up to Date.JPG**



**No Horn and Strobes or Evacuation Map.JPG**



**No containment.JPG**



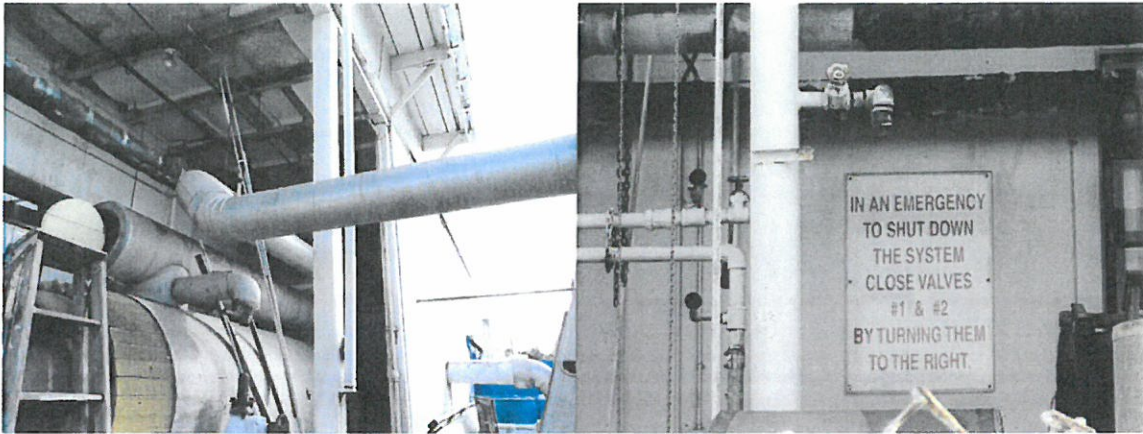
**No Seismic Bracing**



**No Eye Wash Station Outside Engine Room.JPG**



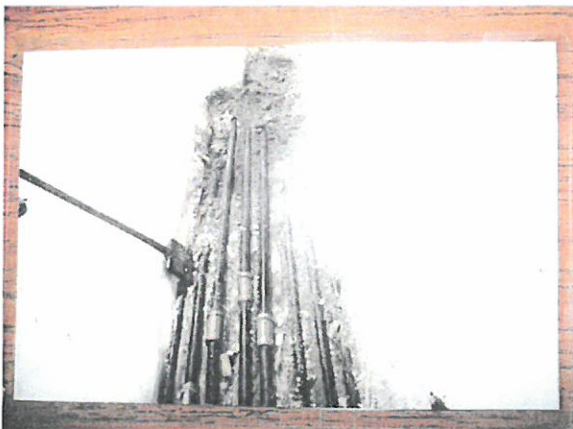
**APPENDIX**  
**Page 8**



**No Siesmic Bracing On All Ammonia Piping.JPG Poor emergency Insturctions.JPG**



**Outdated MSDS Onsite For Anhydrous Ammonia.JPG No Seismic Bracing On Ammonia Piping.JPG**

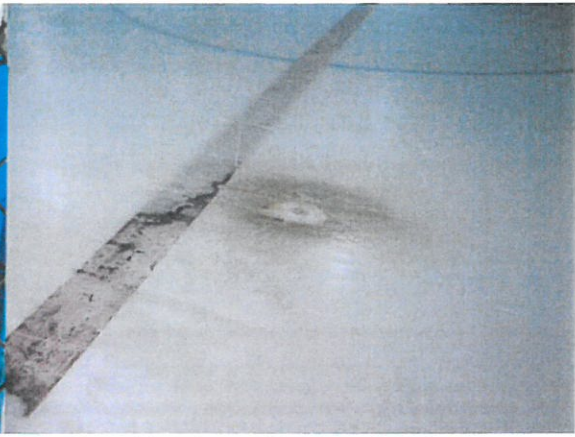


**Previous under ice pipe repairs on Calcium Chloride System.JPG**

**APPENDIX**  
**Page 9**



**Propane Stored Right Next To Ammonia.JPG**



**Signs Of Possible Calcium Chloride Leak Under Ice**



**Signs Of Possible Calcium Chloride Leak**



**Propane Stored Right Next To Ammonia.JPG**



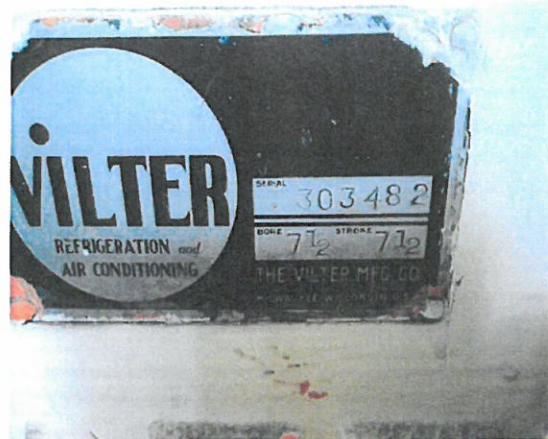
**Signs Of Possible Calcium Chloride Leak  
Under Ice2.JPG**



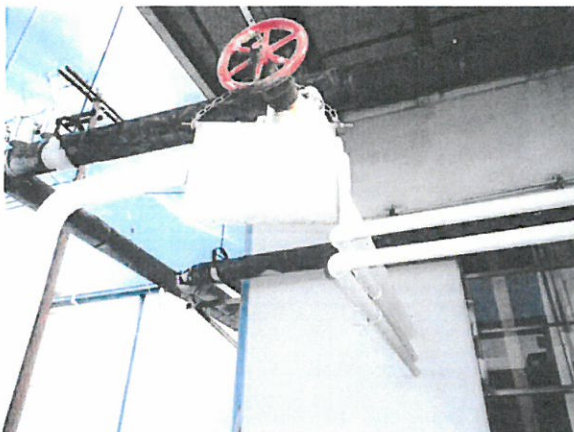
**APPENDIX**  
**Page 10**



**Sulfuric Acid With No MSDS to Be found,**



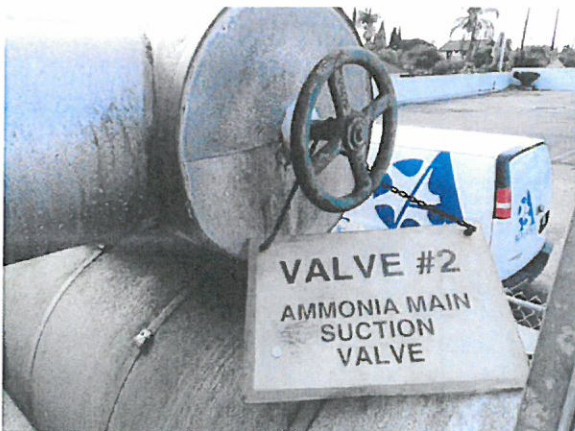
**Vilter 2-Cylinder Compressor Times 2.J**



**Valve #1 Wrong Valve to Close In Emergency.JPG**



**Vilter 8 Cylinder Compressor Times 2.JPG**



**Valve #2 Wrong Valve to Close.JPG**



**Vilter 8 Cylinder Compressor Times 2.JPG**