



# Affiliated FM Risk Report

## Location Findings City of Greensboro

223 West Meadowview Road  
Greensboro, North Carolina 27406  
USA

### **All in One First Baseline Risk Evaluation**

Visit by: Daryl L. Gilbert  
Visit date: 15 October 2012  
Conference with: Mr. David Howell, Building Maintenance Manager

## Principal Site Activity

This LEED Gold facility was occupied in January of 2012 and is the sole Greensboro Transit Authority Operations/Maintenance Facility and Administrative Office.

## Understanding the Risk at this Facility

Housekeeping is very good at this modern, new facility. Several key human element programs are needed as well as two suggestions for improvement regarding our best advice for the dispensing of ignitable liquids (FP> 200°F).

## Management of Exposures

Certain potential hazards and conditions were evaluated at this facility. Completion of the following items will help lower both the frequency and severity of losses and minimize the possibility of costly interruptions to your business.

### 12-10-001 **Provide a documented loss prevention inspection program.**

A regular loss prevention inspection should be conducted to help ensure that policies are being followed and good conditions are being maintained. For example, these inspections should verify that fire extinguishers are in place, observe equipment operating conditions, verify natural hazard protection/equipment is in good repair, ensure smoke detectors work, verify fire doors are not blocked open, ensure accumulations of storage/debris are minimal, evaluate contamination/spoilage potentials and verify employees and contractors are following the local smoking/hot work policies. A checklist should be used when conducting the inspections so that key items are not overlooked. Corrective action should be taken, records reviewed by management and then kept on file for review.

<b>Status</b>	This suggestion for improvement will be studied. A target date could not be determined on the day of the visit.
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### 12-10-002 **Provide an emergency response plan.**

An Emergency Response Plan should be developed with personnel and alternates assigned to specific duties on all shifts. A written plan should define the scope and duties of all members. Members should include a person-in-charge, a person designated to call the fire department, a sprinkler control valve operator, personnel trained in the use of fire extinguishers, small hose and salvage techniques, and a person designated to shut down fuel and electric supplies to the affected area.

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**12-10-002 continued**

<b>Status</b>	This suggestion for improvement will be studied. A target date could not be determined on the day of the visit.
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**12-10-003 Provide an FM Global Hot Work permit program.**

The FM Global Hot Work Permit System should be used to supervise all hot work operations (such as cutting, welding, brazing, grinding, soldering, etc.) performed outside of any designated welding areas. A written policy statement should specify who has the authority to issue permits on all shifts. In addition, a constant fire watch should be continued for 1 hour after work is completed and the area should be monitored for an additional 3 hours after that.

<b>Status</b>	This suggestion for improvement will be studied. A target date could not be determined on the day of the visit.
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**12-10-004 Interlock all ignitable liquid pumps to shut down upon operation of automatic sprinklers.**

Improvements are needed regarding the handling of ignitable liquids. Presently, various lubricants (FP>200°F) are adequately stored in a CMU cutoff room on the lower level and piped to individual service bays upon demand as the fluids are added to various vehicles such as city buses.

<b>The Hazard</b>	The lack of a means to automatically shut off ignitable liquids being dispensed into a service bay could result in additional property damage from fire by supplying the existing fire with more fuel than if proper interlocking were provided. Wiring all ignitable liquid pumps to shut down upon the operation of the automatic sprinkler system could serve to ensure that additional fuels would not be inadvertently pumped into an area where a fire was present.
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<b>Technical Detail</b>	<p>Various ignitable liquids (FP&gt;200°F) are presently adequately stored in a CMU shutoff room on the lower floor.</p> <p>During this visit the following ignitable liquids were stored therein:</p> <ol style="list-style-type: none"> <li>1. Three 55 gal. steel drums of Lithium grease.</li> <li>2. Four 55 gal. steel drums of Mobil coolant/antifreeze.</li> <li>3. 280 gal. of engine coolant stored in a robustly constructed steel tank provided with leak detection.</li> <li>4. 280 gal. of gear oil stored in a robustly constructed steel tank provided with leak detection.</li> <li>5. 500 gal. of automatic transmission fluid stored in a robustly constructed steel tank provided with leak detection.</li> </ol>
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**12-10-004 continued**

<p><b>Technical Detail</b></p>	<p>6. 1,000 gal. of engine oil stored in a robustly constructed steel tank provided with leak detection.</p> <p>7. 1,000 gal. of used engine oil stored in a robustly constructed steel tank provided with leak detection.</p> <p>8. A robustly constructed 280 gal. steel tank marked "not used" and provided with leak detection.</p> <p>The ignitable liquids cutoff room is provided with floor drains to route spills outside of the building. A roll-up door is provided to allow transfer of ignitable liquids without passing through the shop area.</p> <p>During the final conference the writer noted that rubber hoses are used to convey the ignitable liquids out of the various robust steel tanks listed above and it is our best advice that these be completely replaced with hard piping. At that time our best advice would be that fusible link safety shutoff valves be installed on all tanks to ensure that should there ever be a fire in the cutoff room the large supply of ignitable liquids would be isolated in each tank and hence could not contribute the size and intensity of the fire.</p> <p>Please submit the proposed system improvements to the Plan Review Department at FM Global 3460 Preston Ridge Rd. Suite 400 Alpharetta, GA 30005 and obtain approval prior to the commencement of this work. Electronic submissions may be sent to <a href="mailto:Plan.Review@fmglobal.com">Plan.Review@fmglobal.com</a>.</p>
<p><b>Status</b></p>	<p>This suggestion for improvement will be studied. A target date could not be determined on the day of the visit.</p>

**12-10-005**

**Interlock all ignitable liquid pumps to shut down upon operation of automatic sprinklers.**

Improvements are needed regarding the handling of ignitable liquids. Presently, diesel fuel and gasoline are dispensed inside the wash bay on the southern end of the lower level. At days end the whole fleet of buses and other vehicles return to GSA for refueling, washing and servicing as needed. Three large above-ground tanks are provided on the eastern edge of the property and the fuels are conveyed by underground piping to conventional pumps in a common concrete island at the entrance of the wash bay.

<p><b>The Hazard</b></p>	<p>The lack of a means to automatically shut off ignitable liquids being dispensed into the wash bay could result in additional property damage from fire by supplying the existing fire with more fuel than if proper interlocking were provided. Wiring all ignitable liquid pumps to shut down upon the operation of the automatic sprinkler system could serve to ensure that additional fuels would not be inadvertently pumped into an area where a fire was present.</p>
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**12-10-005 continued**

<b>Technical Detail</b>	<p>Two 20,000 gal. above ground tanks filled with diesel fuel and one 12,000 gal. above ground tank filled with gasoline are located on the eastern edge of the property.</p> <p>Please submit the proposed system improvements to the Plan Review Department at FM Global 3460 Preston Ridge Rd. Suite 400 Alpharetta, GA 30005 and obtain approval prior to the commencement of this work. Electronic submissions may be sent to <a href="mailto:Plan.Review@fmglobal.com">Plan.Review@fmglobal.com</a>.</p>
<b>Status</b>	<p>This suggestion for improvement will be studied. A target date could not be determined on the day of the visit.</p>

**Risk Reduction**

Recommendations that have been completed or otherwise removed are summarized in this section.

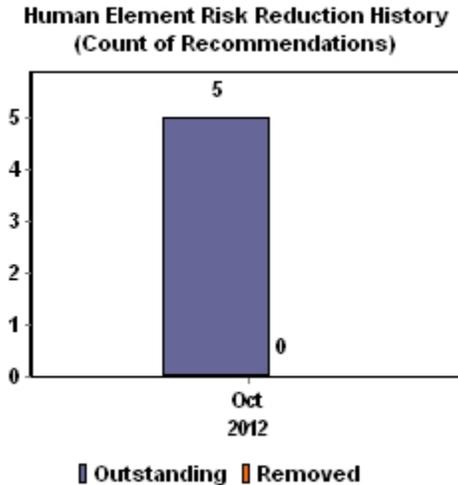
The "Counts" of recommendations referenced in this section include each part of multi-part recommendations except in cases where each part represents options to address a single deficiency. In such cases, the recommendation is only counted once.

**Physical Recommendations**

This is the first risk evaluation. **Physical** risk reduction will be quantified in a later report.

Human Element Recommendations

This is the first risk evaluation. **Human Element** risk reduction will be quantified in a later report.



Ongoing Services

FM Global is available to provide support in all areas of property loss prevention. These services include:

- Development of specifications for projects such as new construction, automatic protection systems and process safeguards
- Review of related project plans
- Assistance in implementing and managing loss prevention programs
- On site review and acceptance of completed projects
- Assistance in managing impaired protection systems

For access to these services, contact one of the following:

**Atlanta Operations:**  
 FM Global  
 Preston Ridge III  
 3460 Preston Ridge Suite 400  
 Alpharetta, GA 30005  
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 [1] (770) 777 3600

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## Reference Information

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### Location Findings

City of Greensboro  
223 West Meadowview Road  
Greensboro, North Carolina 27406  
USA

All in One  
First Baseline Risk Evaluation

<b>Visit by:</b>	Daryl L. Gilbert
<b>Visit date:</b>	15 October 2012
<b>Site Contact:</b>	Mr. David Howell, Building Maintenance Manager at +1 336 4306127, david.howell@greensboro-nc.gov
<b>Final Conference Attendees:</b>	Mr. David Howell, Building Maintenance Manager
<b>Location Index Number:</b>	002539.82-01
<b>Account Number:</b>	23-65911