



## **Safe and Healthy Environment** **For Minneapolis Firefighters**

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Minneapolis Fire Department

The Minneapolis Fire Department is requesting modifications to the current Indoor Space Temperature Policy. The current space temperature setpoints do not allow for the rapid cooling and warming of internal body temperatures needed to effectively recover from the extreme temperatures that fire fighters are exposed to while performing their services to the public. Additionally, strict compliance with the policy has become a morale issue for the staff. The Fire Department has worked cooperatively with Property Services to live within the current policy and have been meeting on a regular basis since inception to provide feedback and input on how to manage energy efficiently and still maintain a healthy environment for the Fire Department staff.

### **Supporting Information**

Firefighters are donning heavy and restrictive thermal barrier gear when responding not just to fires but to false alarms, motor vehicle accidents, hazardous material incidents, rescues, and outside fires small or large in nature. Maintaining the appropriate core body temperature is critical to the health and safety of firefighters. Firefighters are exposed to many different situations that could jeopardize their safety when exposed to over heated environments; on multiple hot and humid days, just donning their personal

protective gear could send them into a heat stressed state because it can raise core body temperatures to dangerous levels. Their ability to have an environment in which to cool their core temperature rapidly is essential for preparing to respond to the next emergency.

Currently in the summer firefighters return to a fire station that is between 74-78°F, which does not allow for rapid cooling of their core body temperature. According to OSHA, any process or environment that will raise the core body temperature raises the risk of heat stress. Emergency operations, especially those that require firefighters to wear semi-permeable or impermeable protective clothing, place firefighters at extreme risk of heat related injuries. Treatment for heat related injuries or exposure to high air temperatures is rapid cooling. Minnesota Administrative Rules 5205.0110 Indoor Workroom Ventilation and Temperature Subp.2a. B. addresses indoor air temperatures for employees. The rule states that employees shall not be exposed to indoor environmental heat conditions in excess of the value of 77° F with a heavy work load. This is a two-hour time-weighted average permissible heat exposure limit. Firefighters who are exposed to high air temperatures and who have increased their core temperature return to the station and are again exposed to another high air temperature environment. This dramatically reduces their chances of cooling down and physically recovering

In winter, firefighters are also exposed to an extremely cold and harsh environment. Firefighters are at high risk of hypothermia and frost bite when responding to emergencies and fires. Hypothermia reduces the core body temperature below normal causing confusion, abnormal heart rates, and delirium. Frost bite can occur quickly when operating in sub-zero temperatures in hands, feet, ears, and face. Firefighters need the ability to warm themselves with a higher temperature than 68°F after returning to the station.

### Recommendation

Consideration should be given to the Minneapolis firefighters with regards to the Indoor Space Temperature Policy. The optimal change to the policy would be to set summer indoor air temperature to 73-75°F. The optimal change for winter months would be 70-72°F. Not only would this help with cooling and heating firefighters' core temperatures, but it will also

improve morale for the Minneapolis firefighters and reduce the risk of injuries due to temperature.

Also, the Fire Department requests that temperature controls at the stations be modified over time to allow for the Fire Department to be able to increase or decrease setpoints for limited periods of time to allow for more rapid heating or cooling of the firefighters core body temperatures on a given day and time.

The Fire Department is to committed working in partnership with Property Services to manage its stations in an environmentally responsible manner.

The following is the City of St. Paul Fire Department Policy:

### **GENERAL ORDER # 06-05**

December 4, 2006

**TO: All Fire Personnel**  
**FROM: Fire Chief Doug Holton**  
**SUBJECT: Energy Conservation in the Fire Stations**

As a result of the tremendous energy costs to heat and cool Fire Department buildings the following guidelines must be strictly adhered to. It is the responsibility of the Fire Captain to ensure that these procedures are followed.

**WINTER/HEATING SEASON:**

- 1.) Thermostats set to 58 degrees on the apparatus floor
- 2.) Keep apparatus doors closed during heating season
- 3.) Living quarters thermostats set to 68 degrees
- 4.) Keep windows closed (including workout areas).
- 5.) Lights and electrical appliances off when not in use

**SUMMER/AIR-CONDITIONING SEASON:**

- 1.) Doors to the exterior and apparatus floor closed
- 2.) Living quarters thermostats set to 72 degrees
- 3.) Humidifiers off during air-conditioning season
- 4.) Keep windows closed (including workout areas).
- 5.) Lights and electrical appliances off when not in use

Resources:

<http://www.revisor.mn.gov/rules/id=5205.0110>

Retrieved: 7/14/10

<http://www.osha.gov/SLTC/emergencypreparedness/guides/heat.html>

Retrieved: 7/14/10

<http://www.seattle.gov/dpd/greenbuilding>

Retrieved: 7/14/10

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