



RISK CONTROL MEMORANDUM

To:	Catholic Diocese of Green Bay Parishes, Schools & Other Facilities
Attn:	Maintenance Persons, Custodians, or Buildings and Grounds Committees
Date:	May 8, 2006
From:	Gwendolyn Arps – Risk Control Consultant Direct Line: 920-431-6265 e-mail: gwendolyn.arps@aon.com
Re:	Air Conditioning Season – Helpful Information Available

With the beautiful weather we have been enjoying this spring, it's time to start looking at what happens when the weather gets hot.

One of the many benefits of the Green Bay Diocese Religious Organization package policy is that it automatically includes Air Conditioning Machinery Coverage; underwritten and serviced by Hartford Steam Boiler & Inspection Insurance Company in partnership with Catholic Mutual Group. Hartford Steam (HSB) has been an industry leader in this specialty coverage since 1866.

To help you with seasonal start-up and numerous other heating – cooling – electrical and refrigeration operation and maintenance issues, 40 different equipment care documents and useful checklists are available from the HSB Website. Major topics include:

- Equipment Start-up, Shutdown & Maintenance
- Air Conditioning & Boiler Logs
- Maintenance Fact Sheets

We encourage you to obtain and utilize this material as we enter the cooling start-up season. Many non-seasonal topics are also available to assist you in maintaining your facilities equipment with proactive Risk Control measures.

To access this information through the HSB Website:

GO TO: <http://www.hsb.com/>

click on the "Quick Links" box in the lower right center
click on the "Equipment Care" dropdown box

A separate Internet window will open and the entire list appears – individual documents may then be selected and each will open for viewing, printing and saving as a PFD file.

Attached is a copy of the air conditioning start-up checklist. Please utilize this helpful guide as you prepare for the cooling season.

Thank you for this opportunity to be of service.

This and other Risk Control Memorandums are also available on the Diocese website at:

<http://www.gbdioc.org/facilities-a-properties/risk-management-insurance/risk-control-information-education/risk-control-memos.html>

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AIR CONDITIONING START-UP CHECKLIST.

This convenient Air Conditioning Checklist has been designed to help maximize reliability, economy, and fuel conservation in the operation of this equipment.

Information from our files indicates that a great many failures take place at start-up or early in the cooling season because of inoperative controls or safety devices. Most of these accidents could have been prevented if a little more attention had been paid to readying the equipment for service. We therefore recommend that the following measures be taken to ensure a trouble-free cooling season and reduce the likelihood of equipment malfunction.

The tips offered here are intended to complement and not replace the recommendation of the equipment manufacturer.

COMPRESSORS

- Energize the crankcase heaters for at least eight hours before start-up and before taking insulation resistance readings of hermetic motor windings. Crankcase heaters should be left energized for the rest of the season so that whenever the compressor is idle, the heater will prevent refrigerant "migration" to the crankcase.
- Test the lubricating oil for color and acidity, and check crankcase oil level.

MOTORS

- Check the air passages of open motors for cleanliness and obstructions.
- Check the condition of and lubricate bearings.
- Take insulation resistance readings. If the readings indicate less than one megohm resistance, don't start the motor. Check for the cause of the low resistance.

MOTOR CONTROLS

- Inspect starter contacts for deterioration from short cycling, arcing, or corrosion.
- Check terminal connections for tightness.
- Examine the overload protection for defects, and for proper size.
- Check mechanical linkages for binding and excessive looseness.
- Check timing devices for correct operating sequence.

OPERATING AND SAFETY CONTROLS

- Determine that the controls are properly calibrated and in working order particularly thermostatic controls, oil pressure safety switches and flow switches.

REFRIGERANT CIRCUITS

- Be sure the circuit is equipped with a moisture indicator and if moisture is indicated, install new liquid line filter/drier cores. Determine and correct the source of the moisture.
- Check the expansion valve for proper operation and superheat settings over the full range of operation.

CONDENSERS AND EVAPORATORS

- Ensure that proper cleaning of heat transfer surfaces for the type of unit in use has been completed prior to operation.
- Cooling towers: Check the baffles for tightness and soundness. Clean the baffles, sump and the spray nozzles. Check the make-up water valve for proper operation.

PUMPS

- Check the bearings, packings, shaft couplings, and seals. Lubricate bearings.

FANS

- Check for broken, cracked, bent or loose blades. Check hubs, fan shaft and bearings.
- Check the belt condition and belt tension.
- Replace air filters.

PIPING

- Check all piping supports for signs of distress.
- Check for external damage and excessive vibration.