WAGNER-MEINERT LLC
Engineers – Contractors

7617 Freedom Way
Fort Wayne, Indiana 46818
www.wagner-meinert.com

Phone: 260-489-7555
Fax: 260-489-7473

AMMONIA REFRIGERATION LEVEL II

"An In-Depth Discussion of Ammonia Refrigeration Systems"

The course uses Industrial Refrigeration II (published by The Refrigerating Engineers & Technicians Association) as a textbook. In addition to the in depth coverage of the text, additional information (Manufacturers' literature, other text, articles, videos, and bulletins) will be covered during the course.

The course syllabus includes:

DIRECT EXPANSION SYSTEMS
This section covers application and operation of expansion devices (Hand Expansion Valves, Fixed Flow Regulators, Adjustable Flow Regulators, and Thermal Expansion Valves) as they affect evaporators.

FLOODED SYSTEMS
The discussion on Flooded Systems centers around Evaporator Operation, Surge Drum Operations, and Level Control. During the discussion several types of liquid level control will be discussed, including the positive and negative attributes of each.

RECIRCULATED SYSTEMS
This showcases the roots and modern day applications of Recirculated Systems. This includes evaporator concerns, recirculator package designs, and mechanical refrigerant pump concerns, as well as the operation of pumper drums.

SECONDARY COOLANT SYSTEMS
Though the use of Brine Circulation Systems are on the decline, new applications of Ammonia Refrigeration systems are currently centering on secondary refrigerants. We discuss common applications and the pitfalls associated with them.

BOOSTER SYSTEMS

As the design temperatures of Ammonia Refrigeration Systems drop, some as low as -60 F, the use of Booster Systems (multi-stage compression systems) increases. We discuss chaining compressor into stages and the use of vessels and intermediate cooling.

HEAT FLOW IN REFRIGERATION SYSTEMS

This section discusses the factors controlling the transfer of heat and how these can be affected by operational changes..

ENTHALPY

This chapter is intended to cover the basics of the pressure-enthalpy (Mollier Ph) diagram and at the same time explain the relevance to assessing the efficiency and proper operation of the system.

THE PSYCHROMETRIC CHART

The Psychrometric Chart is a useful tool for the operator for understanding the unseen loads and factors that are affecting the operating refrigeration system as weather and seasons change.

EVAPORATOR DEFROST

One of the unavoidable features of low temperature cooling is that of frost accumulation on the evaporator coils. This chapter explains the most common methods of frost removal from conventional air units.

This seminar is specifically designed for Plant Managers, Operating Engineers, Maintenance Managers, Ammonia System Technicians, Ammonia System Operators, and Roundsman.
This course is designed for students who have completed the “Basic Ammonia Refrigeration” course. Attendees who have not completed the previous course should have experience in the operation of an Ammonia Refrigeration System, or knowledge of Ammonia Refrigeration Principles.

Seminar reservations may be made by contacting: Wagner-Meinert, LLC
260-489-7555

www.wagner-meinert.com