



# The Industrial Solutions Group

Providing World Class, Innovative Solutions

## Utilities Master Plan

- Utilities Master Plan
- Energy Reduction



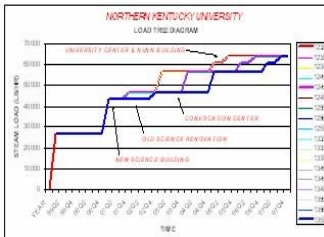
New Boiler House

**The Challenge:** A rapidly expanding university was straddled with a utility system that was too small and located in the wrong place. The client needed to handle campus growth without 'breaking the bank' on utility systems.

### ISG's Innovative Solution

ISG developed a steam and refrigeration system Master Plan which resulted in:

- A very cost efficient installation of new utility systems and building.
- Reduced life cycle costs — resulting in the most economical approach to providing for the university's long-term needs.
- An aesthetically attractive building combined with a new below-grade utility tunnel.
- System efficiencies such as primary/secondary pumping systems, innovative use of control systems for energy-efficient system staging and the use of high efficiency equipment were employed to minimize operating costs while maximizing reliability.



Load Tree Diagram

### Benefits to Client

- With the addition of the New Boiler House the university's future expansion plans can be more easily achieved.
- Overall energy costs have been reduced by more than 15% by installing the energy-efficient systems .