



• August 15-18, 2010 • Dallas, Texas •  
• Dallas Convention Center •



# *Ignorance is Expensive*

*Daryl Cox*

*Oak Ridge National Laboratory*

# Ignorance is Expen\$ive

- **Far too often we don't know . . .**
  - **What function needs doing,**
  - **Why it should be done, and**
  - **When it should be done.**
- **The result is increased cost**

# When opportunity knocks . . .

- A facility in need
- A program with resources
- An application past its time

# Industrial Facilities Initiative (IFI)

- Partnership between FEMP and ITP
- Uses the Save Energy Now methodology
- Serves Federal industrial customers
- Technical expertise from:
  - Oak Ridge National Laboratory
  - Industrial Assessment Centers
  - ITP BestPractices Qualified Specialists



# Industrial Energy Assessments

- Entire industrial process assessments
- Targeted system assessments
  - Steam
  - Process Heating
  - Compressed Air
  - Pumps/Fans/Motors
  - Chilled Water
  - Service Water
  - Mission-specific Requirements
- Potential evaluations
  - Combined Heat and Power
  - New Emerging Technologies
  - Renewable Energy Opportunities

# System Level Energy Efficiency

- **What is the goal?**
- **How should we do it?**
- **What do we need?**

# System Level Energy Efficiency

- **What is the goal?**
  - **Results, not parameters**
  - **Use current needs**
  - **Too many options are costly**

# System Level Energy Efficiency

- What is the goal?
- **How should we do it?**
  - What are the options?
  - What are the costs?
  - Should I do anything?

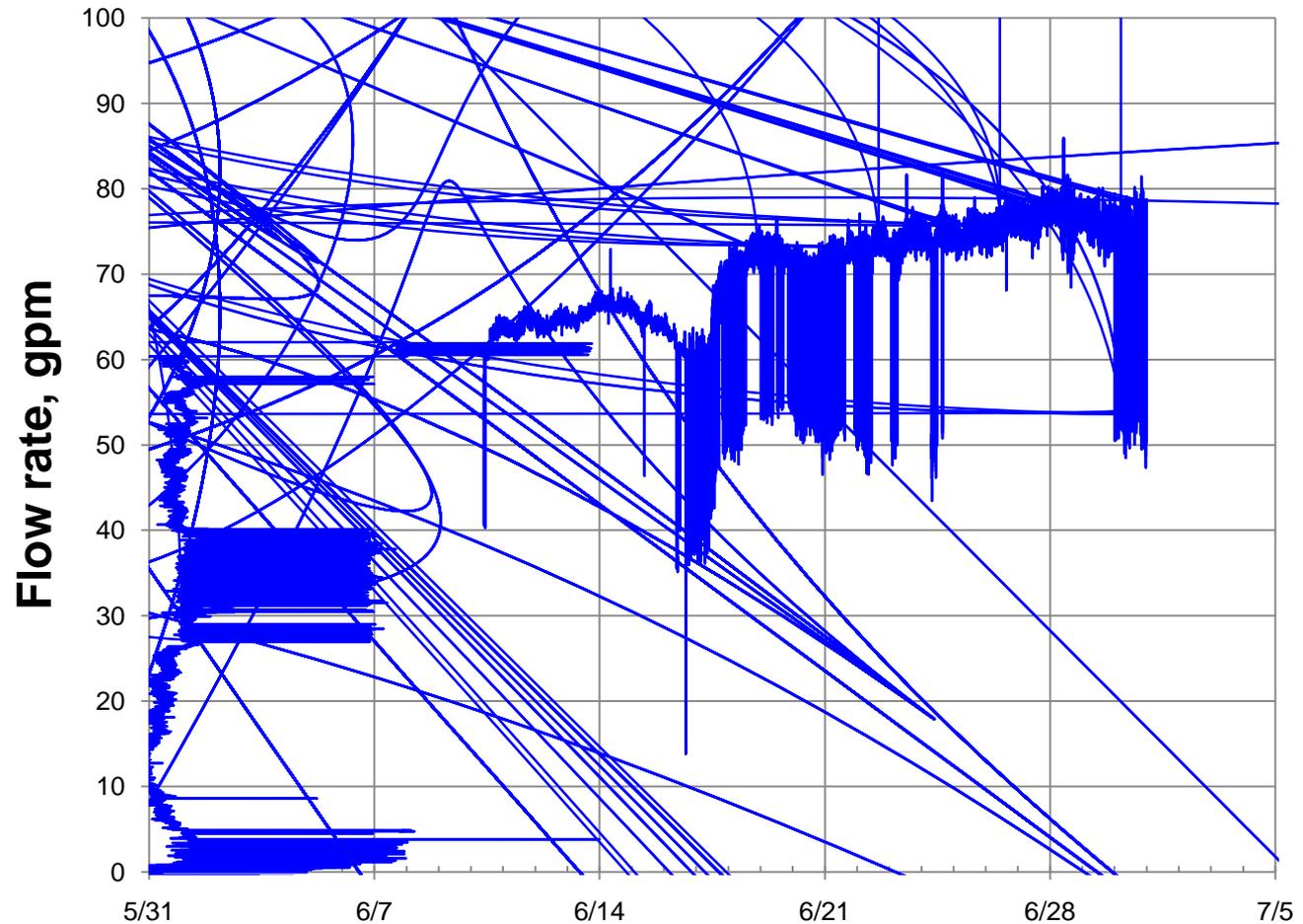
# System Level Energy Efficiency

- What is the goal?
- How should we do it?
- **What do we need?**
  - Specifications vs. requirements
  - Don't size to waste
  - Remember human factors

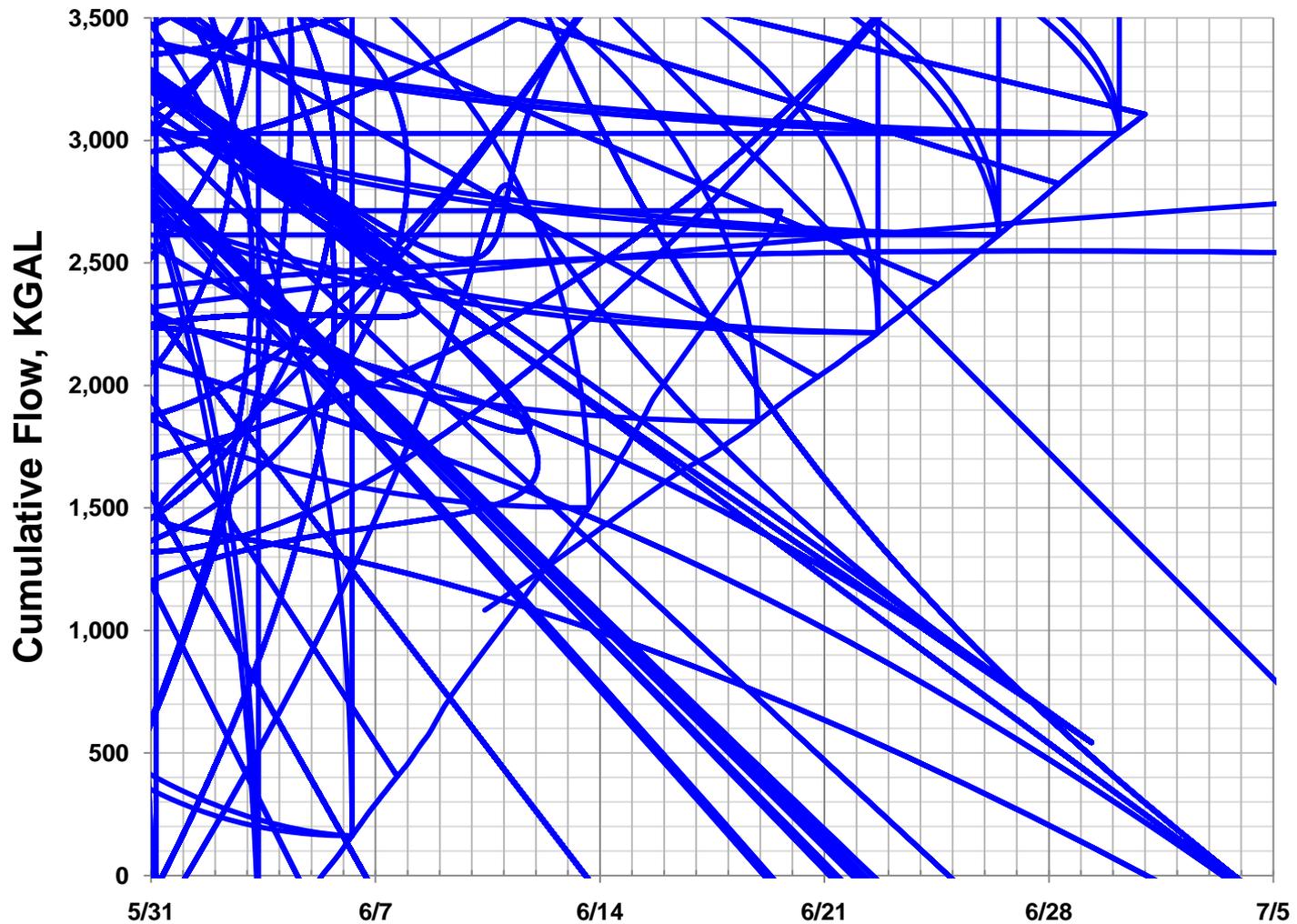
# Let's give life to the principles

- **For example**
  - **30 year-old air conditioning system**
  - **Domestic water used for condenser cooling**
  - **Is there an opportunity?**

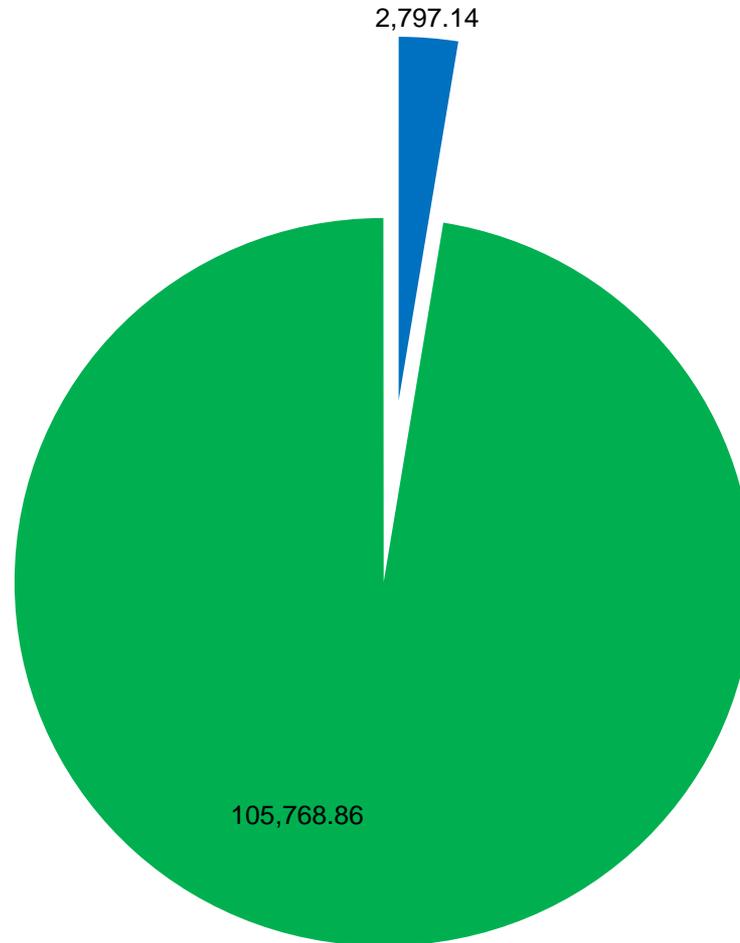
# Condenser water flow rate–June



# Cumulative condenser flow–June



# 2.6% of total site water consumption



# What is the Goal?

- **Maintain comfortable temperature . . .**
  - **But what is comfortable?**
  - **When is it needed?**

# How should we do it?

- **Forced air system**
  - Central or distributed systems

# What do we need?

- **Why replace existing capacity?**
  - **Four-day work week**
  - **One shift per day**
  - **Night time set-back**
  - **Close the doors**
  - **Raise the temperature**

# **Your mother was right!**

- **Don't shop for groceries when you are hungry—you will buy too much**
- **Engineers should not specify or operate equipment without first knowing what it needs to do, and when**

# More IFI Information...

[http://www1.eere.energy.gov/femp/program/industrial\\_facilities.html](http://www1.eere.energy.gov/femp/program/industrial_facilities.html)

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