About Talecris

• Company that inherited the assets and 60-year history of Bayer HealthCare’s blood plasma business.

• Develops and produces critical-care treatments for people with life-threatening disorders in a variety of therapeutic areas including immunology, pulmonology and hemastasis.

• Manufacturing facility located in Clayton, NC.
Current Conditions

• Site required minimum relative humidity level of NLT 35% for Class C and D manufacturing areas.


• Humidification achieved using Clean Steam in duct or unit mounted humidifiers.

• 47 Manufacturing AHUs at 655,500 cfm.
Why Change?

- ASHRAE Standard 55-2004 superseded 55-1992 stating that the standard no longer specified a minimum humidity level.

- On site study proved low relative humidity has no correlation to environmental monitoring data (statistical analysis for C and D). (chart)

- Significant capital and operational costs could be avoided.
Humidification requires additional maintenance and time that could be allocated elsewhere.

- $90 per year per humidifier
- 25 humidifiers currently in use
- $2160 per year total
Humidification requires additional city water usage to provide the amount of steam necessary for the process.

- 4,769,047 gal per year
- $4.11 per 1,000 gal
- $19,600 per year
Humidification adds additional loading to the wastewater treatment plant. All of the water used in the humidification process must be treated.

- 1,907,590 gal per year
- $5.45 per 1000 gal
- $10,396 per year
In order to produce steam for humidification, the city water must be converted to WFI water.

- 2,861,457 gal per year
- $50 per 1,000 gal
- $143,072 per year total
Steam Generation

Humidification requires additional steam production.

- 26,011,831 lbs plant steam per year
- 23,879,714 lb clean steam per year
- $164,071 per year
Gas Usage

Additional steam production leads to extra consumption of natural gas.
Power Consumption

Unnecessary humidification requires extra power to produce.
Costs

Costs are incurred in all of the categories discussed due to the unnecessary humidification.
Cost Savings – Operational Yearly

• Clean steam cost: $14.25 / 1000 lbs
• Total clean steam use: 23.8 MM lbs/year

TOTAL Cost Saved: $340,000 / year
Cost Savings – Capital

Clean Steam Generation  $1.8MM
WFI Generation  $1.2MM
RO Generation  $1.2MM
WWTP  $0.7MM
Plant Steam  $2.0MM
TOTAL  $6.9MM
Summary

• Successfully reduced lower limit requirement for relative humidity from 35% to 10%.

• Predicted annual savings of $340,000.

• Significantly reduced future capital costs for utility generating equipment.