

U of I South Chiller

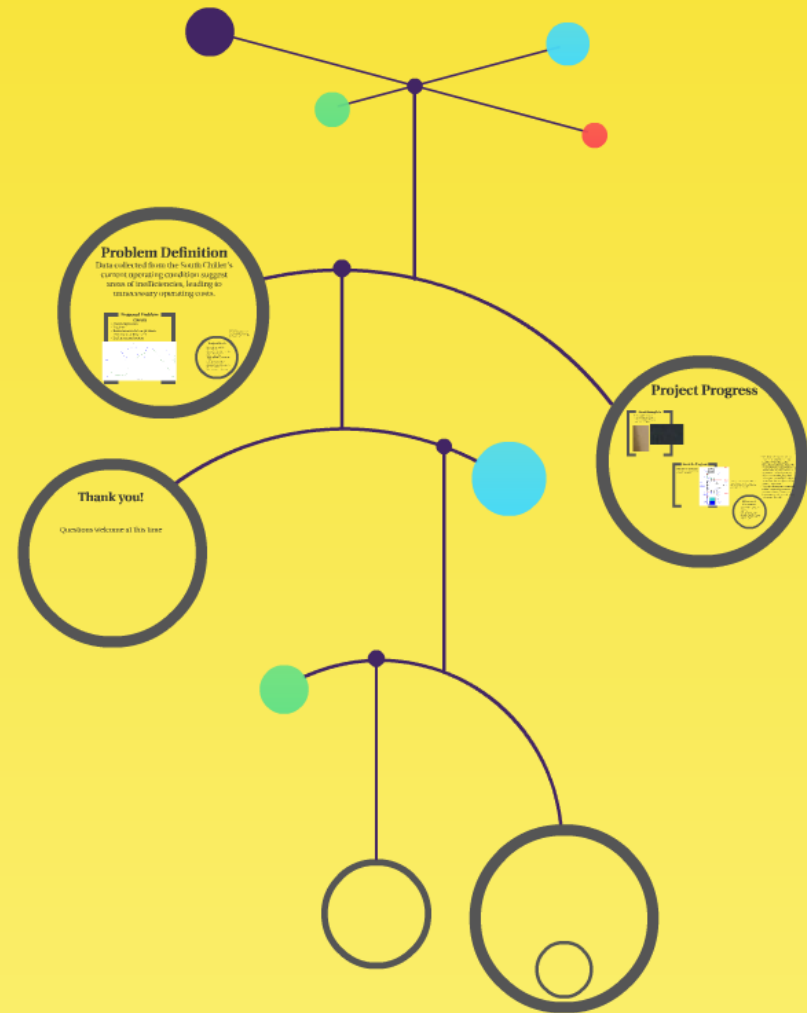
Team: Just Chillin'

Members: Ali Almater

Darvin Thornton

Chris Thilmomy

Patrick Frome



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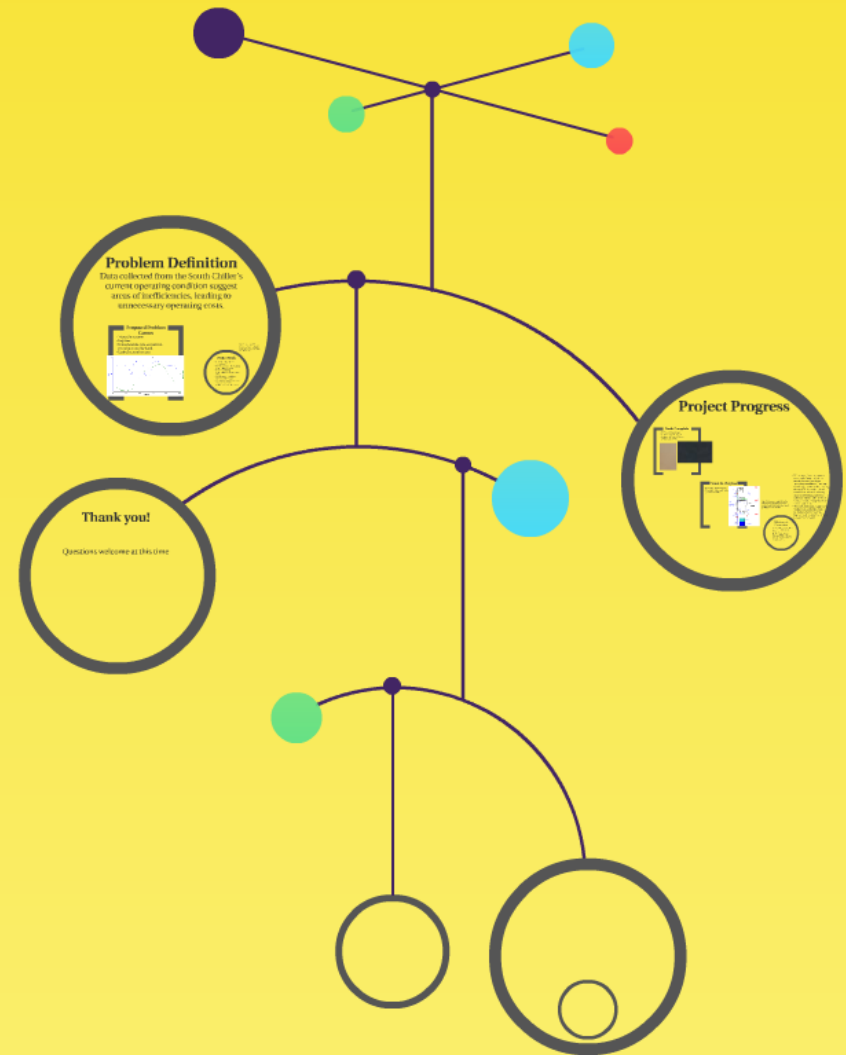
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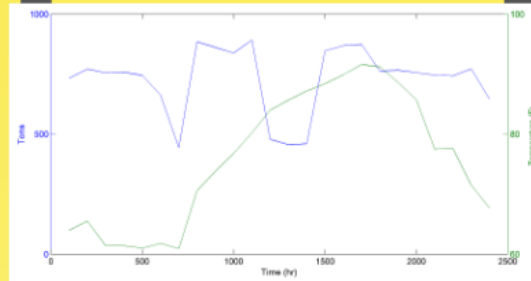


Problem Definition

Data collected from the South Chiller's current operating condition suggest areas of inefficiencies, leading to unnecessary operating costs.

Proposed Problem Causes

- Manual operation
- Lag time
- Instantaneous data acquisition; every hour, and by hand
- Lack of control system



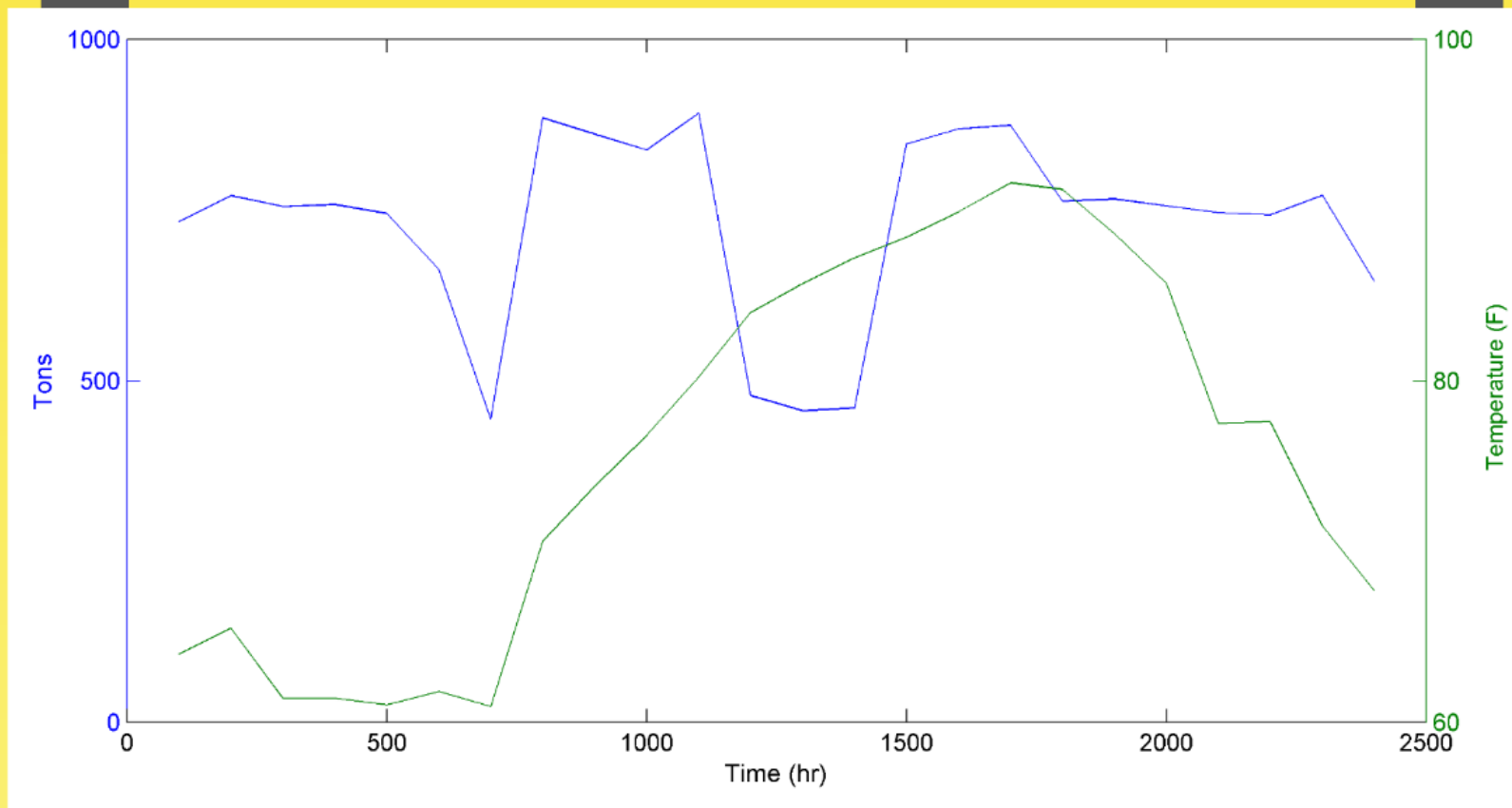
Note: Remove some text here to maintain clarity and conciseness. However, use these words during presentation so you are not reading directly from slides.

Project Goals

- Determine the chiller's operating cycle.
- Instrument the chiller to define thermodynamic states
- Develop a working thermodynamic system model (EES)
- Use the system model to validate inefficiencies
- Optimize the system model for greatest efficiencies
- Implement a control system

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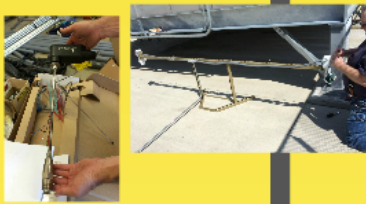
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Project Progress

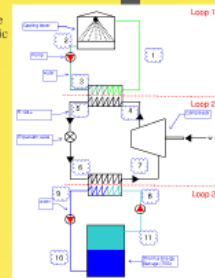
Goals Complete

- Instrument installation
- 1st draft of operating cycle
- 1st draft of thermodynamic system model (EES)



Goals In-Progress

- Final draft of operating cycle
- Final draft of thermodynamic system model (EES)



note: if we cannot have validation now, then say we will in the next week. meanwhile let them work on getting us access to ATS

- We currently have access to a room and computer but are unable to view the chiller operating conditions. Thus, we need a way to access the trending files in ATS. As such we don't need all access such as being able to set trending logs, but rather just to visually see them so we can take a snapshot. Low security clearance.
- This will allow us to capture the chiller's operating intervals instantaneously. Creating a higher resolution and accuracy for our math model.

Milestones & Constraints

- Access to ATS so we can pull the data to be used within our system model
- Optimize the system model based on ATS data trends
- Implement control system (such as weather prediction system to help with lag times)

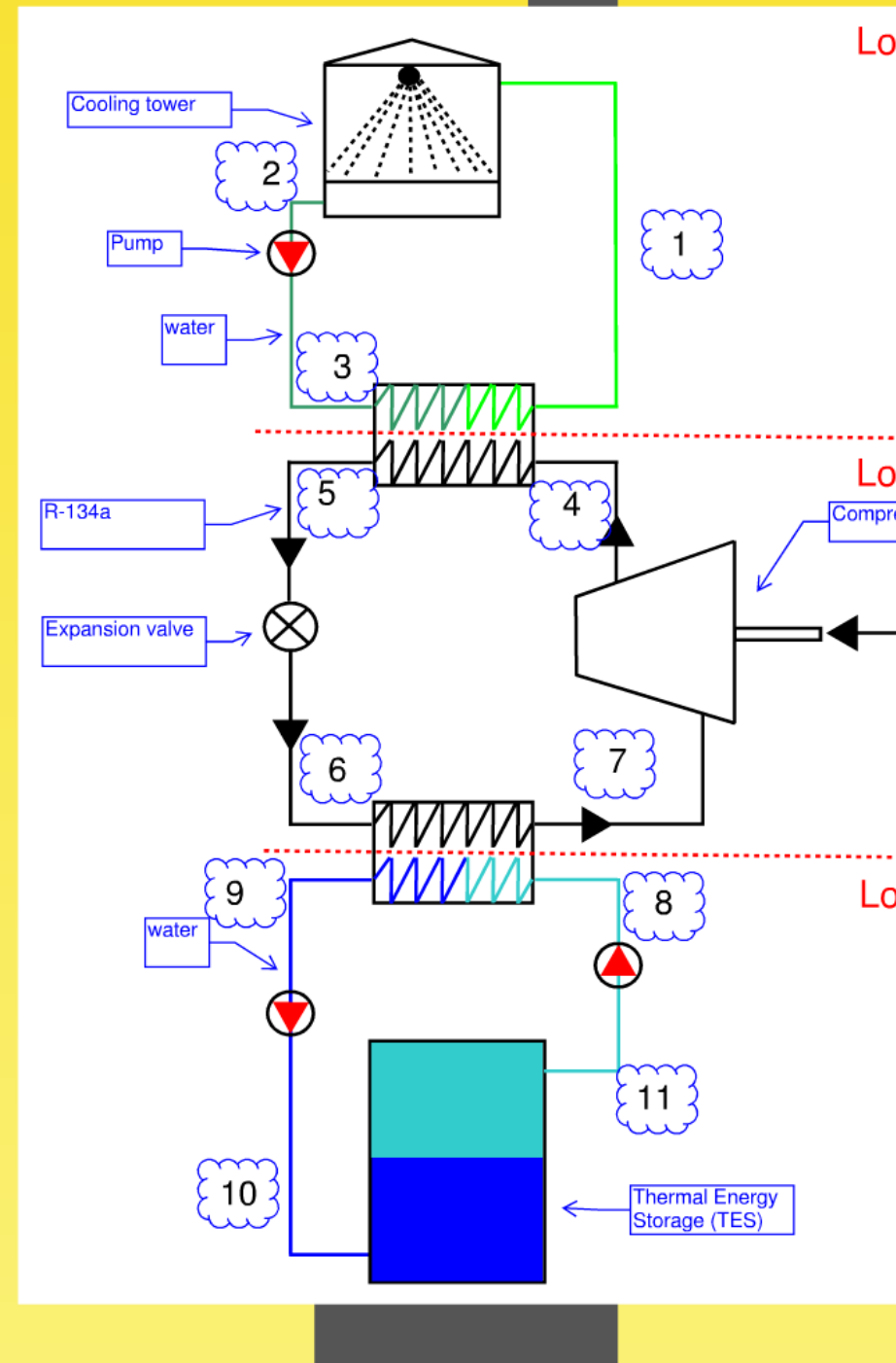
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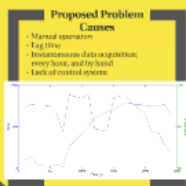


Thank you!

Questions welcome at this time

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Thank you!

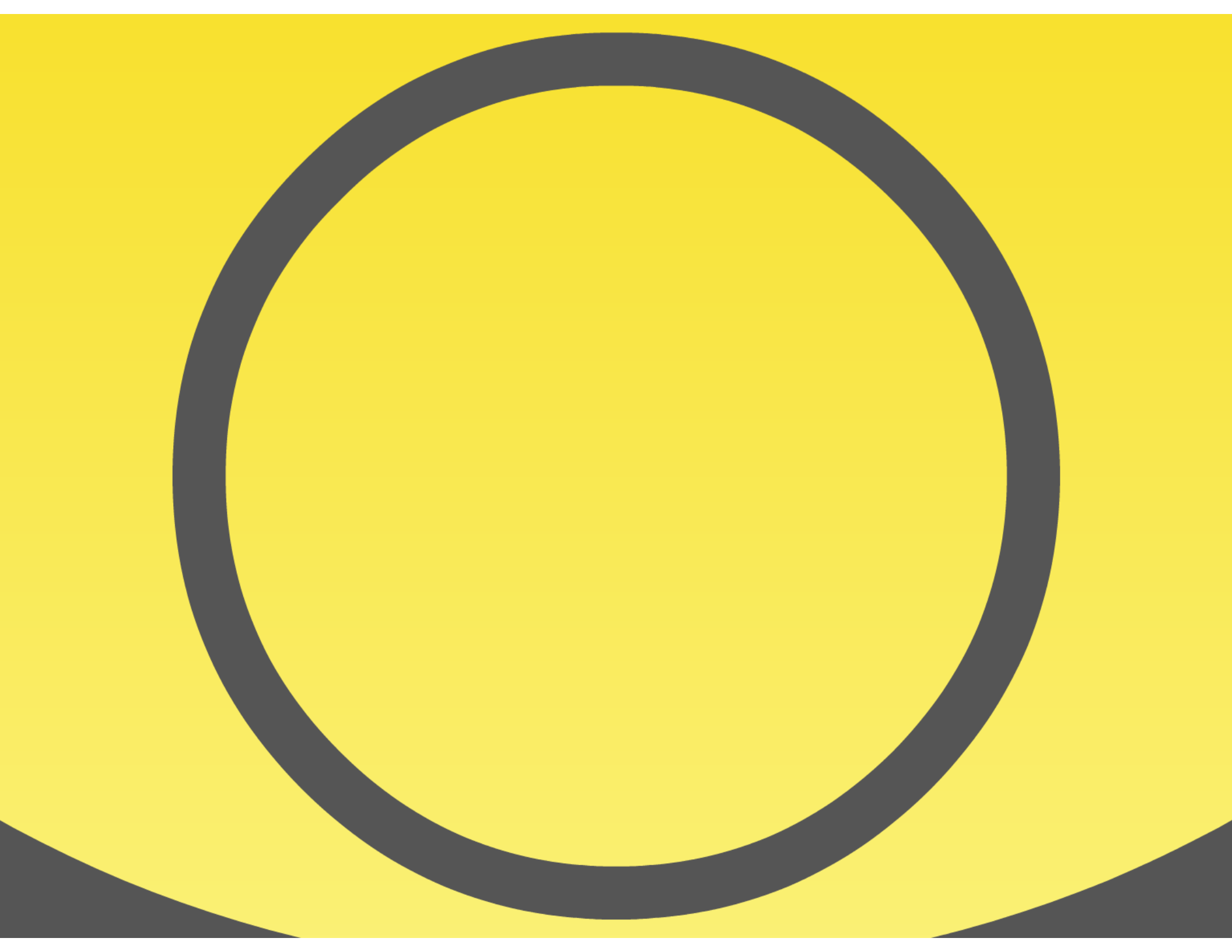
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Project Progress



The overall goal of this project is to improve the efficiency and reliability of the South Chiller's current operating condition. This is achieved by automating data acquisition, improving control system, and reducing manual operation. The project will also improve data accuracy, increase system uptime, reduce operating costs, and increase system capacity. The project will be completed by the end of the year.









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