Shift Handover Report

Refinery: Sandy Point Refinery (150,000 bpd capacity)

Date: September 25, 2024

From: Jack Martinez (Day Technician)

To: Sarah Chen (Night Technician)

Subject: Optimization of Crude Preheat Train Equipment H-117 (Shell and Tube Heat Exchanger)

Hey Sarah,

Hope you're ready for an exciting night shift! We've been working hard on the H-117 optimization project today. Here's what we've accomplished and what needs to be done during your shift:

Day Shift Activities:

1. Reviewed 6-month historical performance data for H-117.

2. Collected current operating parameters (temperatures, flow rates).

3. Identified potential optimization areas: fouling, flow rates, and pressure drops.

4. Started thermal modeling using HTRI Xchanger Suite.

5. Consulted with process engineers about downstream impacts.

6. Began drafting an optimization plan.

Instructions for Night Shift:

1. Complete thermal modeling in HTRI Xchanger Suite:

- Finish model setup if needed

- Run simulations with different flow rates and temperatures

- Document all results

2. Analyze pressure drop data:

- Review historical data

- Calculate current drops and compare to specs

- Note any significant deviations

3. Perform fouling analysis:

- Check last three cleaning cycle records

- Calculate current fouling factor

- Compare to design factor

4. Prepare a preliminary report on findings:

- Identify bottlenecks

- Suggest immediate efficiency improvements

- Propose long-term modifications

5. Start drafting implementation procedures:

- Include safety precautions

- List required equipment adjustments

- Specify monitoring parameters

6. Coordinate with maintenance for any minor repairs or inspections.

7. Update PFDs and P&IDs if needed.

8. Prepare a briefing for tomorrow's day shift.

Dr. Elena Rodriguez, our process optimization engineer in Houston, is available for consultation if needed. Her contact number is in the control room.

Let me know if you have any questions. Good luck with the optimization work!

Best, Jack