

Carbon Capture Plant FEED Study for Cement Manufacturing

DE-FE-0032220

Cement and Lime Decarbonization Workshop

July 19, 2023





U.S. DEPARTMENT OF
ENERGY



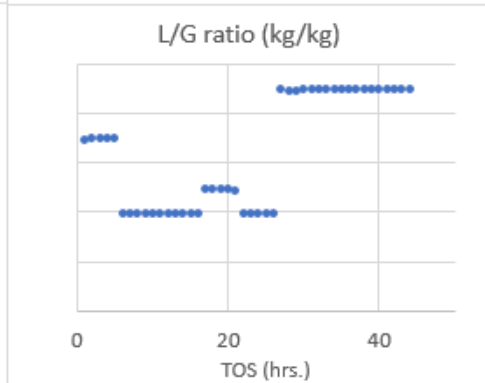
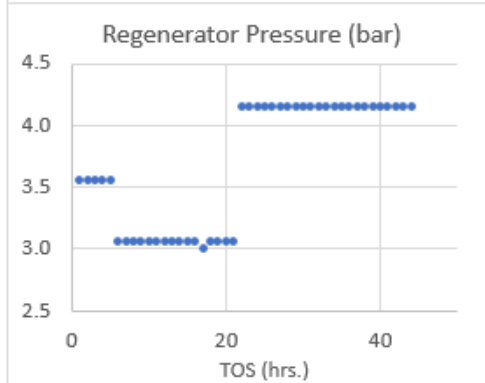
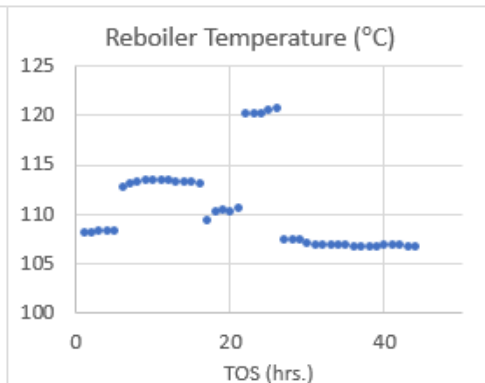
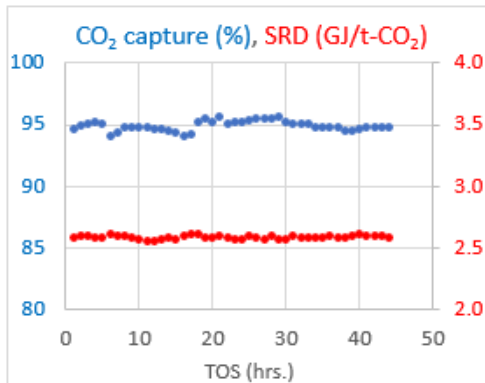
DE-FE0032220 : Carbon Capture Plant FEED Study for Cement Manufacturing



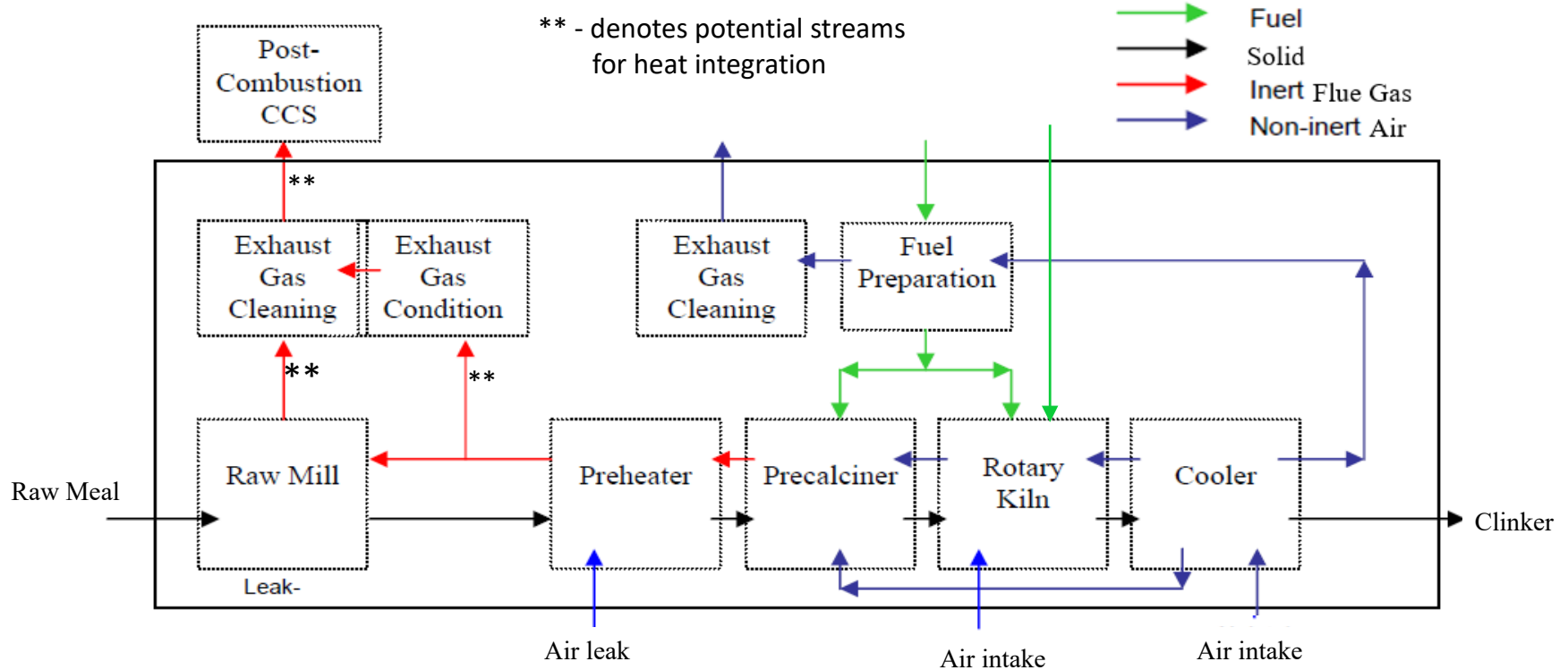
- Complete FEED study for CO₂ capture from cement flue gas using RTI's non-aqueous solvent (NAS) with 95% capture efficiency
- Develop AACE Class 3 cost estimate for a commercial 1,600,000 t-CO₂/year scale CO₂ capture system integrated with a cement facility
- Project Funding:

US DOE	\$3.68 MM
Cost-share	\$0.92 MM
TOTAL	\$4.60 MM
- Period of Performance (21 months)
April 14, 2023 – Jan 13, 2025



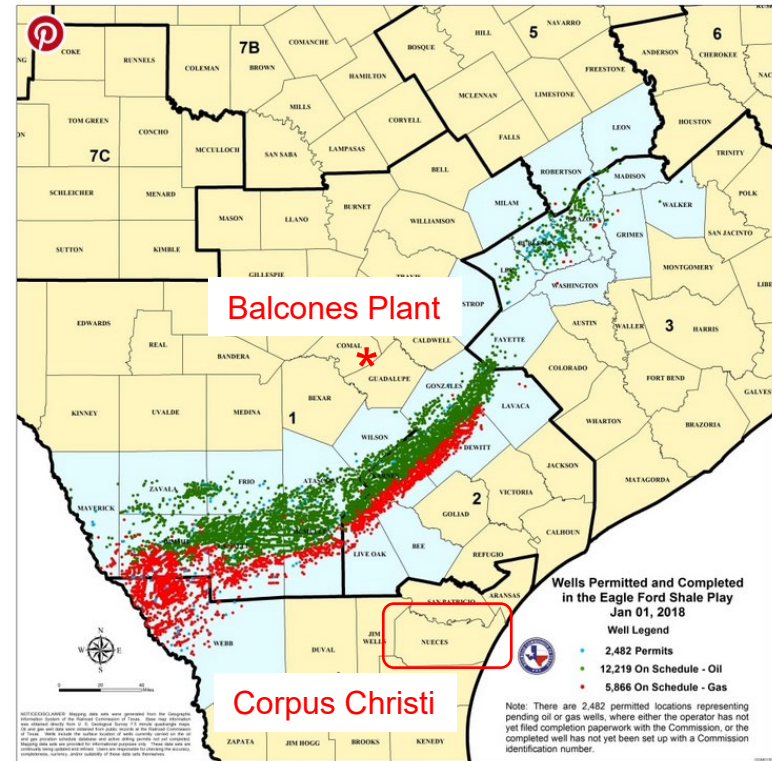


Block Flow Diagram – Cement Production



Next Steps & Collaboration Opportunities

- Complete FEED and perform business case analysis to assess process economics.
- Identify and develop CO₂ sequestration site and injection well
- Develop plans for CO₂ transportation and sequestration
 - Partner with other industrial sites for shared resources ?
- CO₂ utilization
 - scale of CO₂ captured is a challenge.



Eagle Ford shale



Thank you

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