

Dry Sorbent Injection for Simultaneous MATS Compliance/SO₂ Removal

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SO₂, Hg, and HCl Removal with DSI
TEST RESULTS

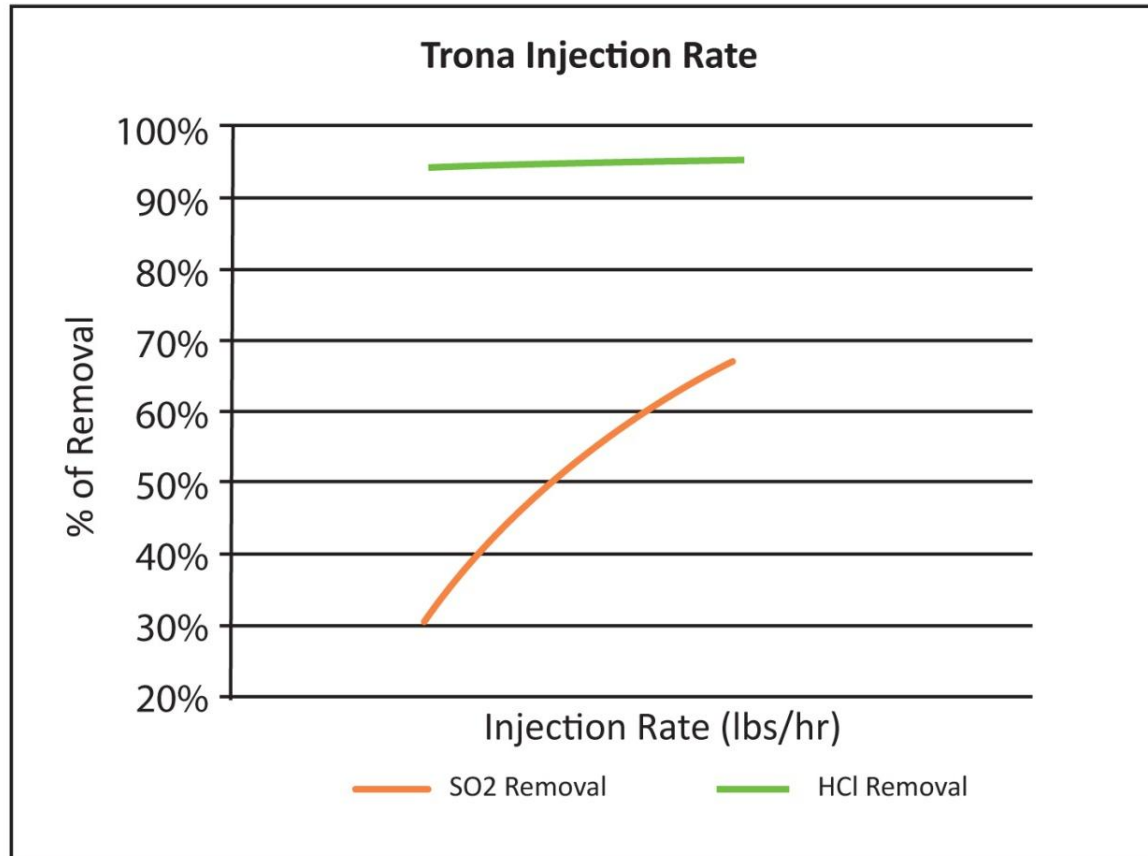
SO₂, Hg, HCl Removal Results from DSI Demonstration Tests



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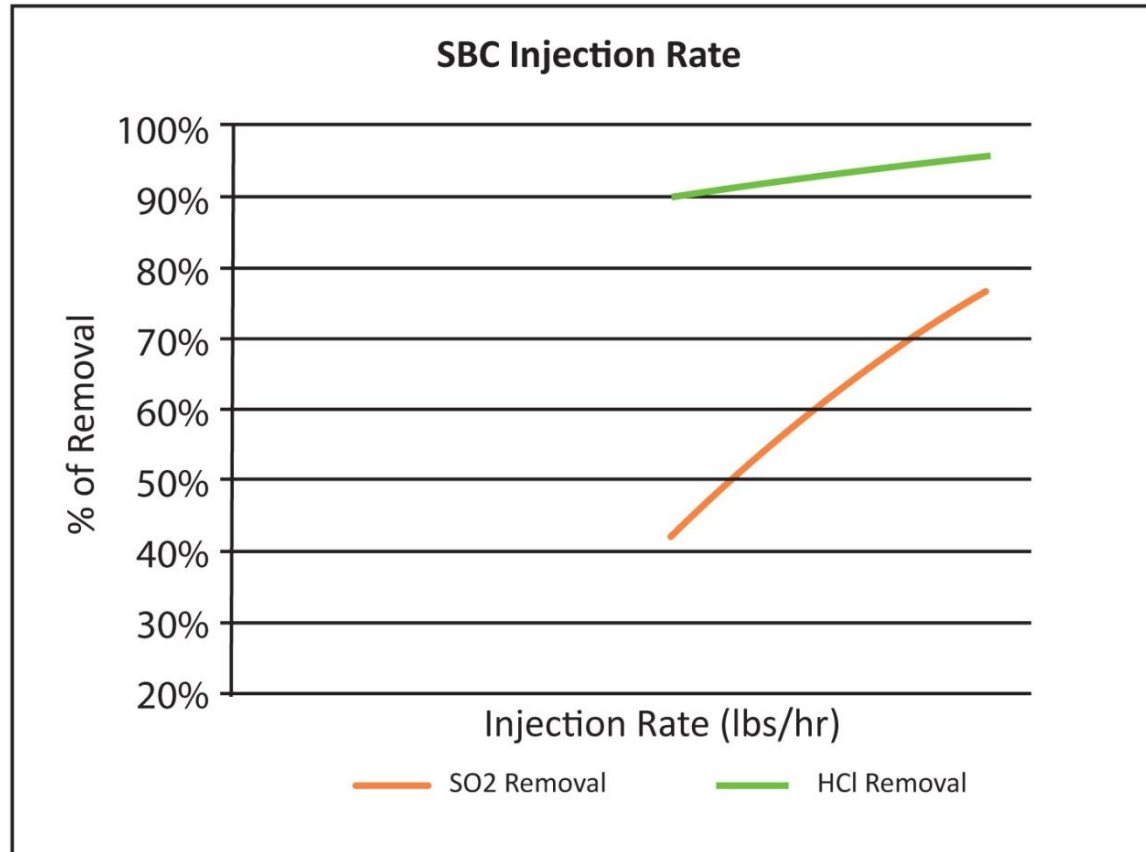


Multipollutant Removal with Trona Alone for E. Bit.



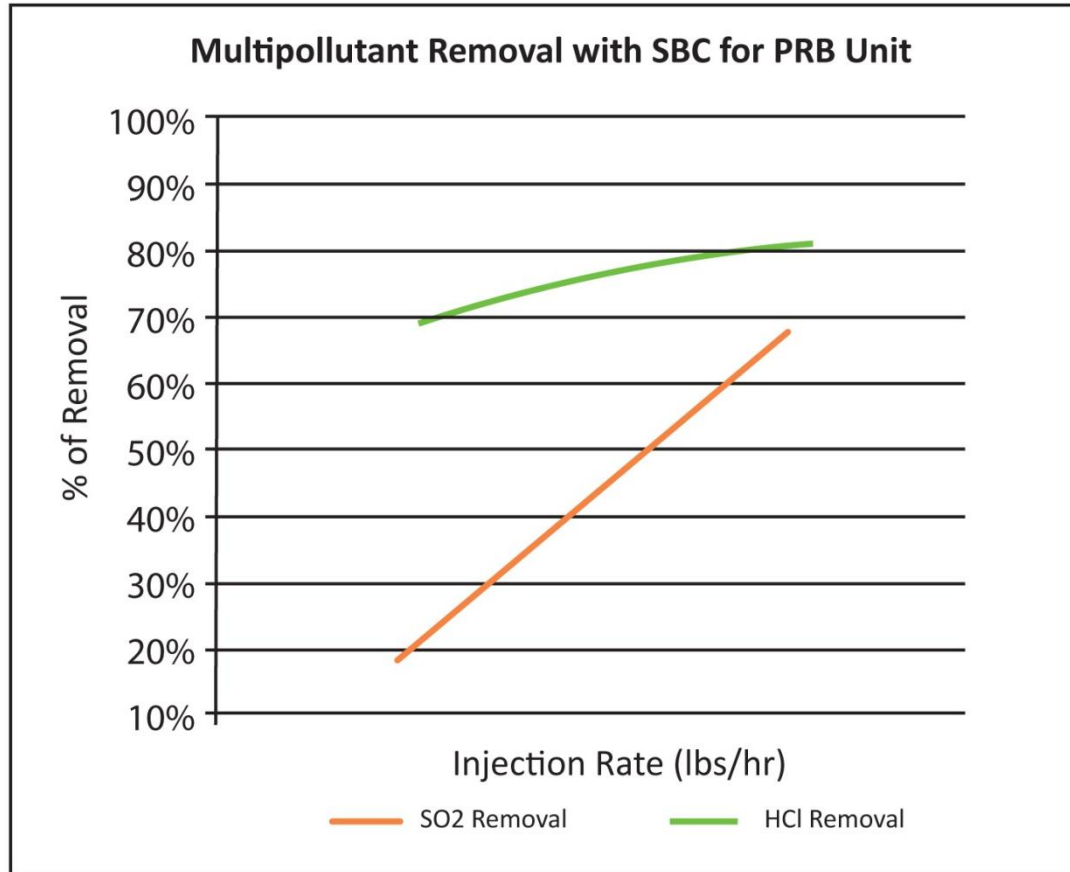
HCL Removal Typically 40% Higher than SO₂
Typically 40 TO 70% Hg Removal as a Co-Benefit

Multipollutant Removal with SBC Alone for E. Bit.



HCL Removal Typically 40% Higher than SO₂
Typically 40 TO 70% Hg Removal as a Co-Benefit

Multipollutant Removal with SBC Alone for PRB Unit

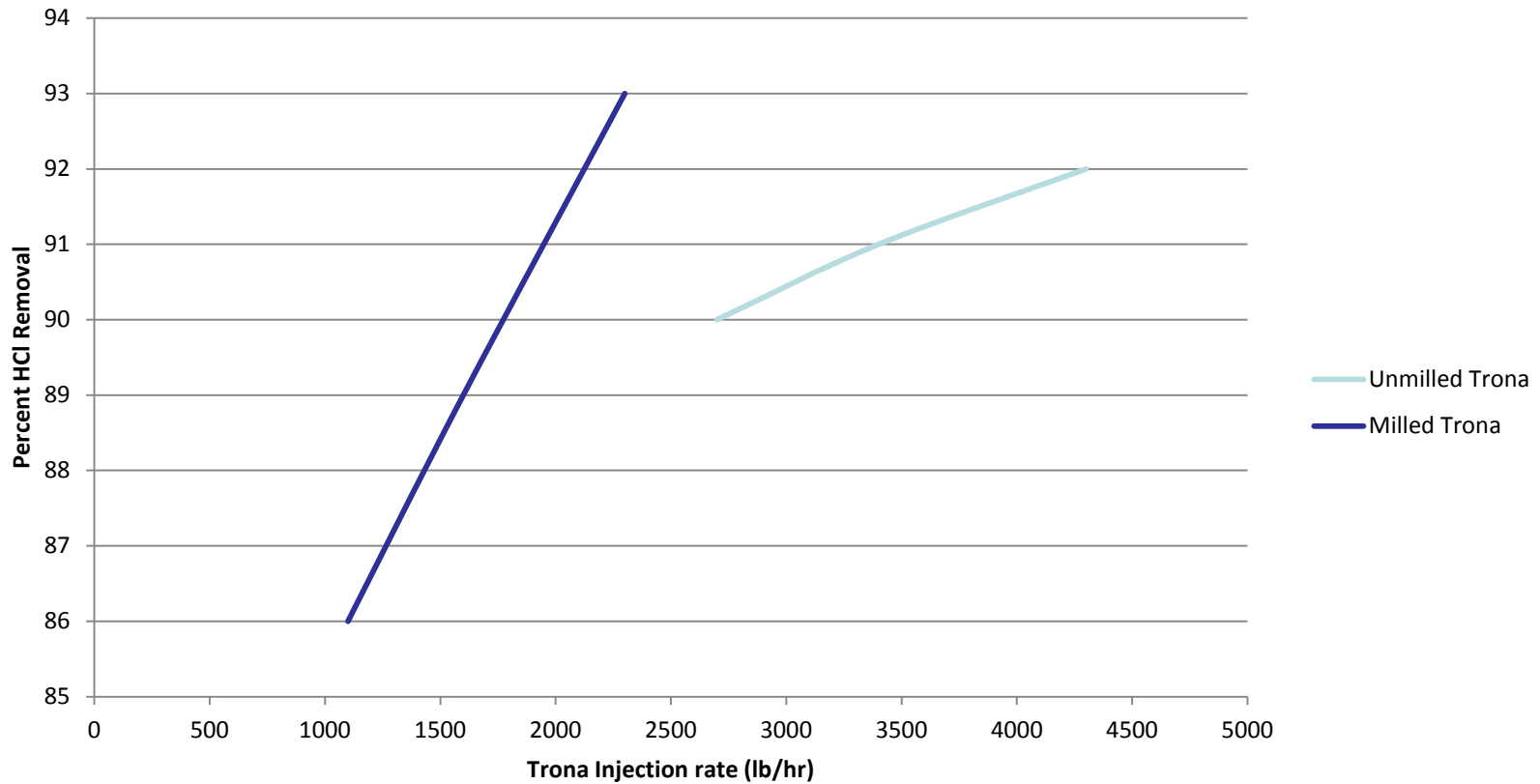


HCl Removal Typically Higher than SO₂
No Significant Hg Removal as a Co-Benefit

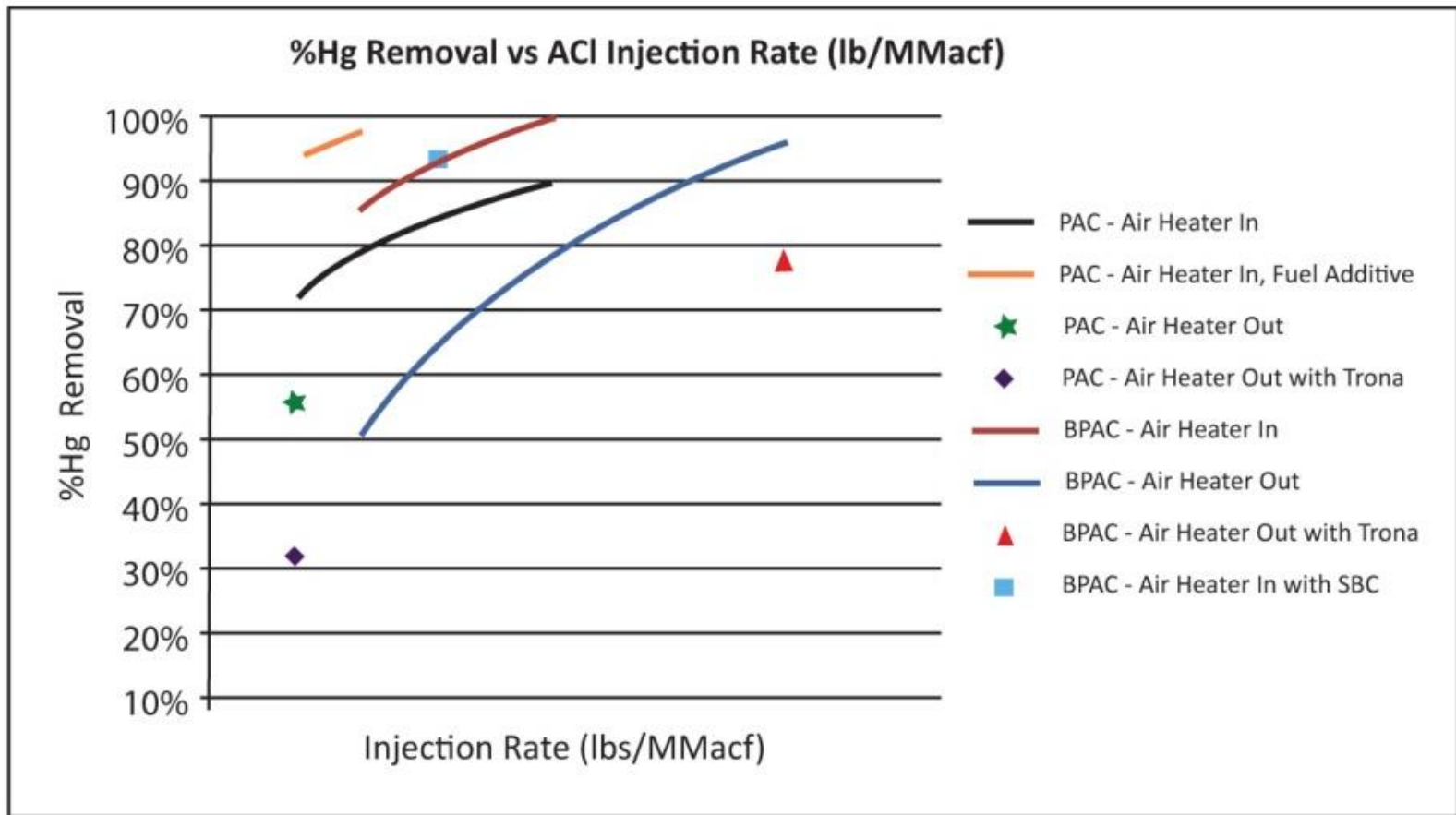
HCl Removal with Trona for PRB Unit



Trona Injection for HCl Removal PRB Unit



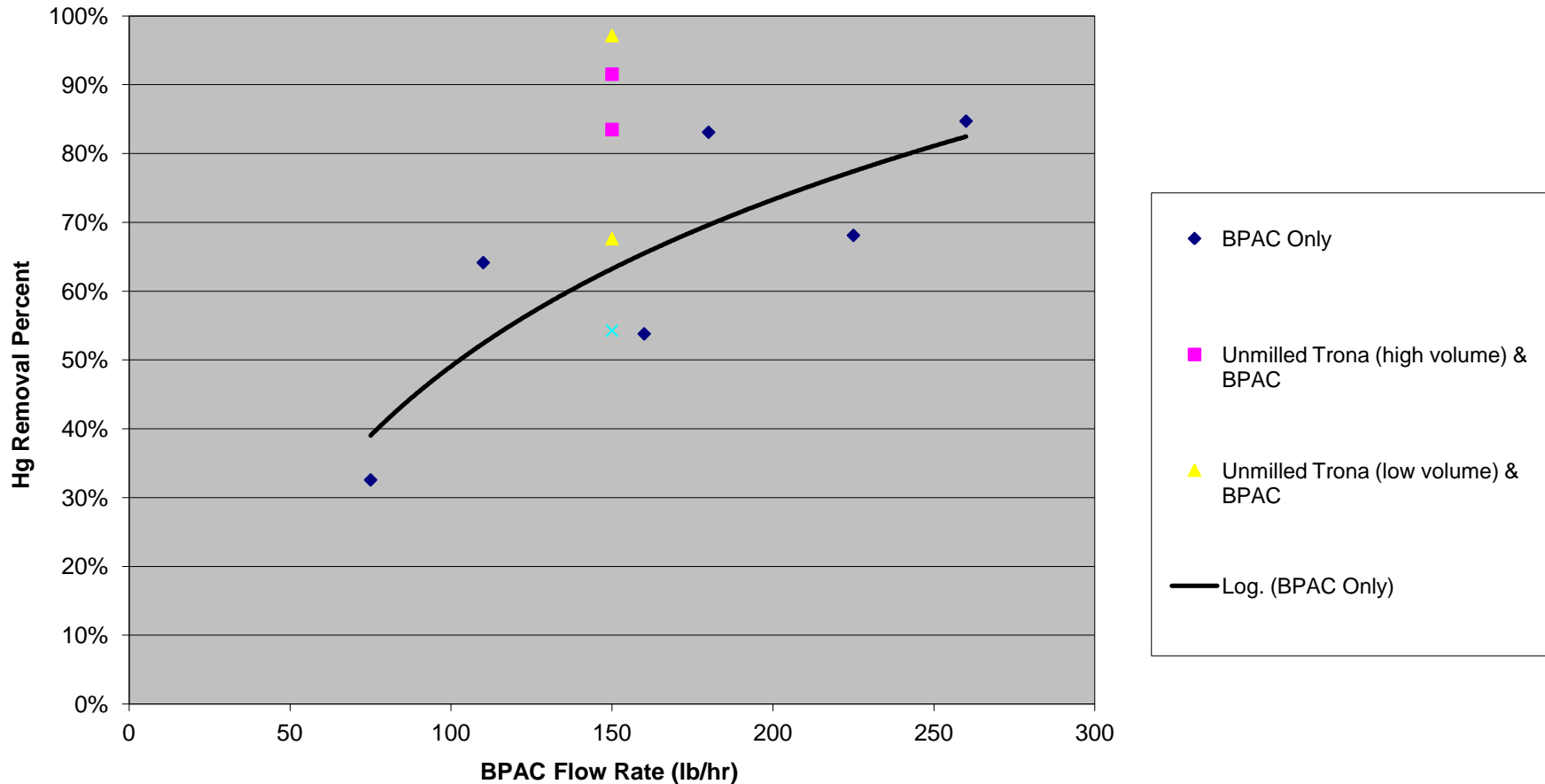
Mercury Removal for PRB Unit



Mercury Removal on E. Bituminous Unit



Hg Removal Percent BPAC Injection





SO₂, Hg, HCl Removal with DSI

CONCLUSIONS



Conclusions for E. Bituminous Fuels



- Trona and sodium bicarbonate demonstrated as effective sorbents for SO₂ and HCl removal, with a co-benefit of Hg removal for E. Bituminous coals
 - Hydrated Lime also effective at HCl removal with a Hg removal co-benefit
 - Over 90% SO₂ removal, up to 99% HCl removal, and up to 70% Hg removal
- Simultaneous high Hg removals for E. Bituminous coals requires mercury adsorbent injection
 - PAC or Brominated PAC typically used at AH outlet, with alkali sorbent at AH inlet for SO₃ removal
 - Over 90% Hg removal observed

Conclusions for PRB Fuels



- Fuel additive and PAC upstream of AH performs the best, but any trona/SBC injection must be at AH outlet
 - Otherwise, trona/SBC will react with halogen from fuel additive
- BPAC at AH inlet with trona/SBC at AH outlet performs very well
- BPAC and trona both at AH inlet can perform well in some cases
- Trona/SBC at AH inlet with BPAC injection at AH outlet is effective, but more BPAC needed
 - May be due to NO₂ formation and/or HCl removal upstream of BPAC
- ***Overall economics*** should drive decision



Questions ?



THANK
YOU

**For Further Information on
Dry Sorbent Injection Systems for SO₂, Hg and HCl Reduction**

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