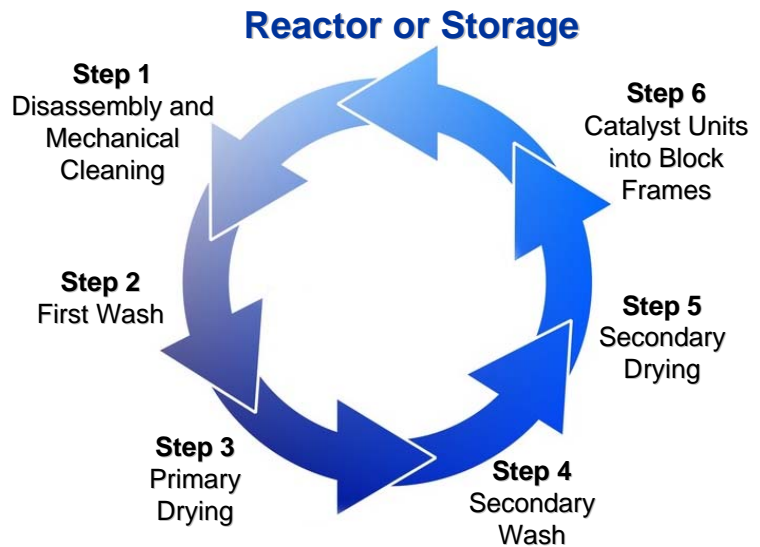


SCR Catalyst Cleaning and Regeneration

HITACHI POWER SYSTEMS AMERICA, LTD.

Hitachi, one of the original co-developers of NO_x removal catalyst, has also performed cleaning, rejuvenation and regeneration of catalyst since the late 1970's. Why would Hitachi offer this service? Because it is a viable alternative that Utilities in Europe have had success for many years and US Utilities are also interested in evaluating. Who better to regenerate catalyst than a catalyst fabricator with a long commitment to the industry with research and development which is second to none. This is evident in the many "firsts" that Hitachi has developed over the years including low SO₂ conversion catalyst and mercury oxidation catalyst for bituminous and PRB fuels. This new mercury oxidation technology is now being tested on regenerated catalyst for future applications.



Catalyst Cleaning/Regeneration

Hitachi's Regeneration Process:

- Evaluate existing operating conditions
- Perform a Laboratory Screen Test to determine the main cause for the catalyst activity decrease, feasibility of regeneration, regeneration process, and subsequent guarantees that can be offered.
- From the Screen Test, establish regeneration parameters and schedule
- Perform regeneration
- Once Regeneration Process is complete, the catalyst can be re-installed into the reactor or placed into a storage facility



HITACHI POWER SYSTEMS AMERICA, LTD.

Benefits of Having Hitachi Regenerate Your Catalyst

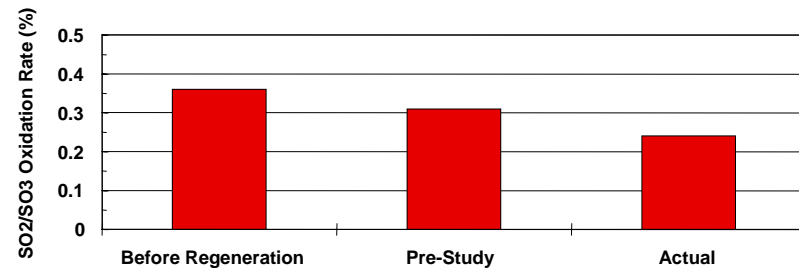
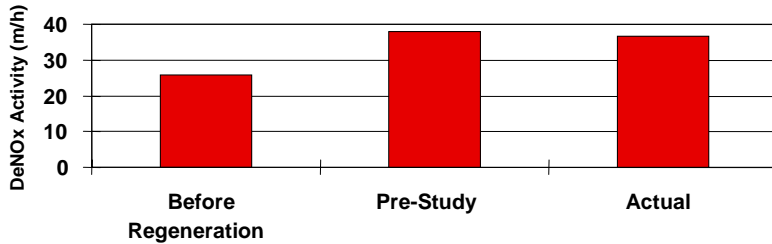
- Co-developer of SCR DeNOx catalyst
- Catalyst designer and manufacturer
- Cleaning and regenerating catalyst since 1970's
- R&D to lower SO₂ conversion and maximize Hg oxidation
- As a Catalyst manufacturer, Hitachi can determine the proper compounds to meet specific needs
- Cycle time is much shorter than new catalyst
- Cost of regeneration is 50 to 60% of new catalyst

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Typical Regeneration Cycle (Months)

Months	1	2	3	4	5	6	7
Testing	█	█	█				
Preparation				█	█		
Regeneration						█	█

E-on Catalyst Regeneration Results



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