

REINHOLD ENVIRONMENTAL Ltd.



**2013 NO_x-Combustion Round Table
& Expo Presentations**

February 18 & 19, 2013, in Salt Lake City, UT / Hosted by PacifiCorp

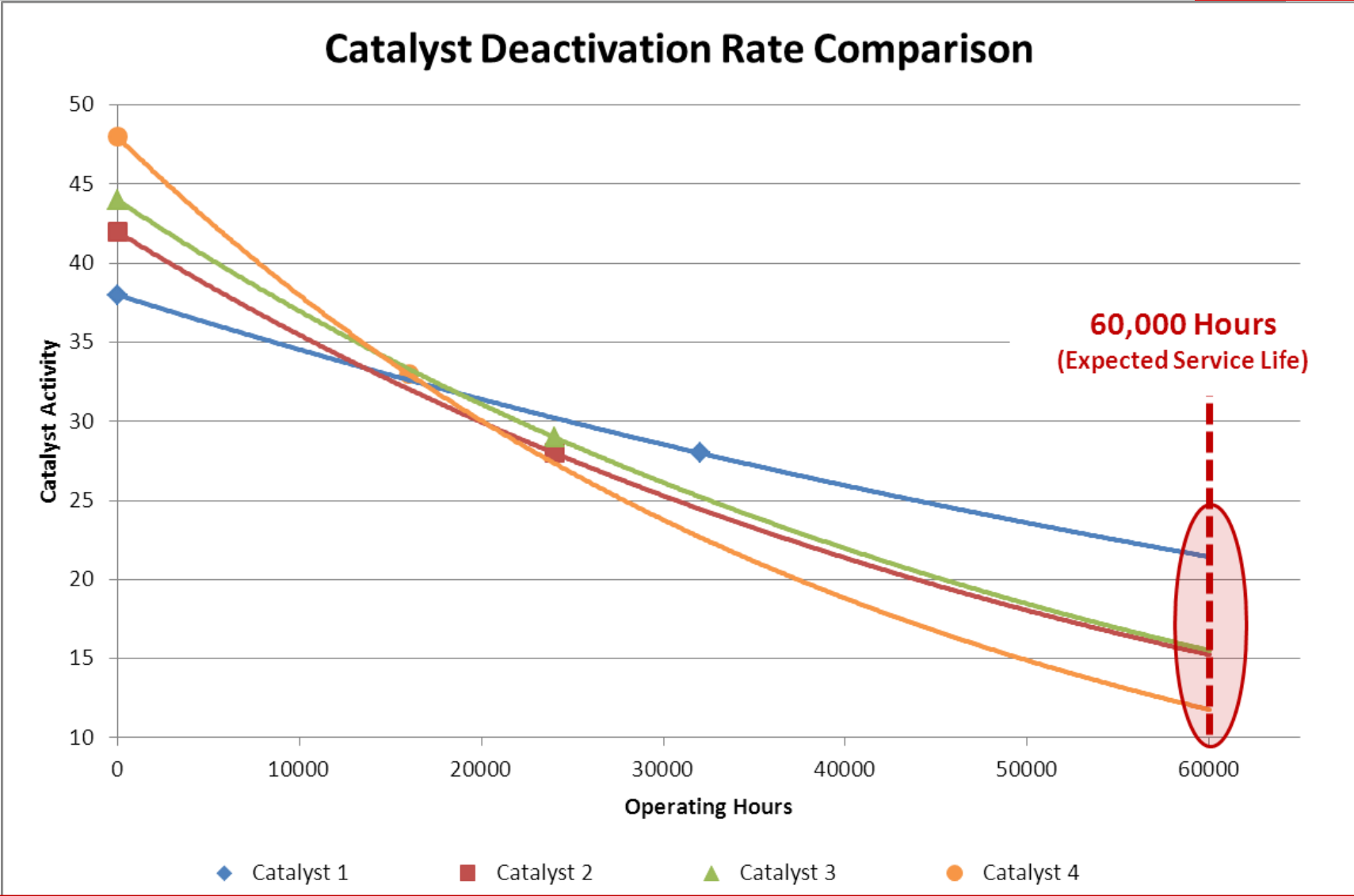
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Catalyst thickness and formulations have changed to address these issues and more...

- SO₂ conversion rate went down.
- Catalyst Deactivation was reduced.
- The Co-Benefit of Mercury Oxidation was enhanced

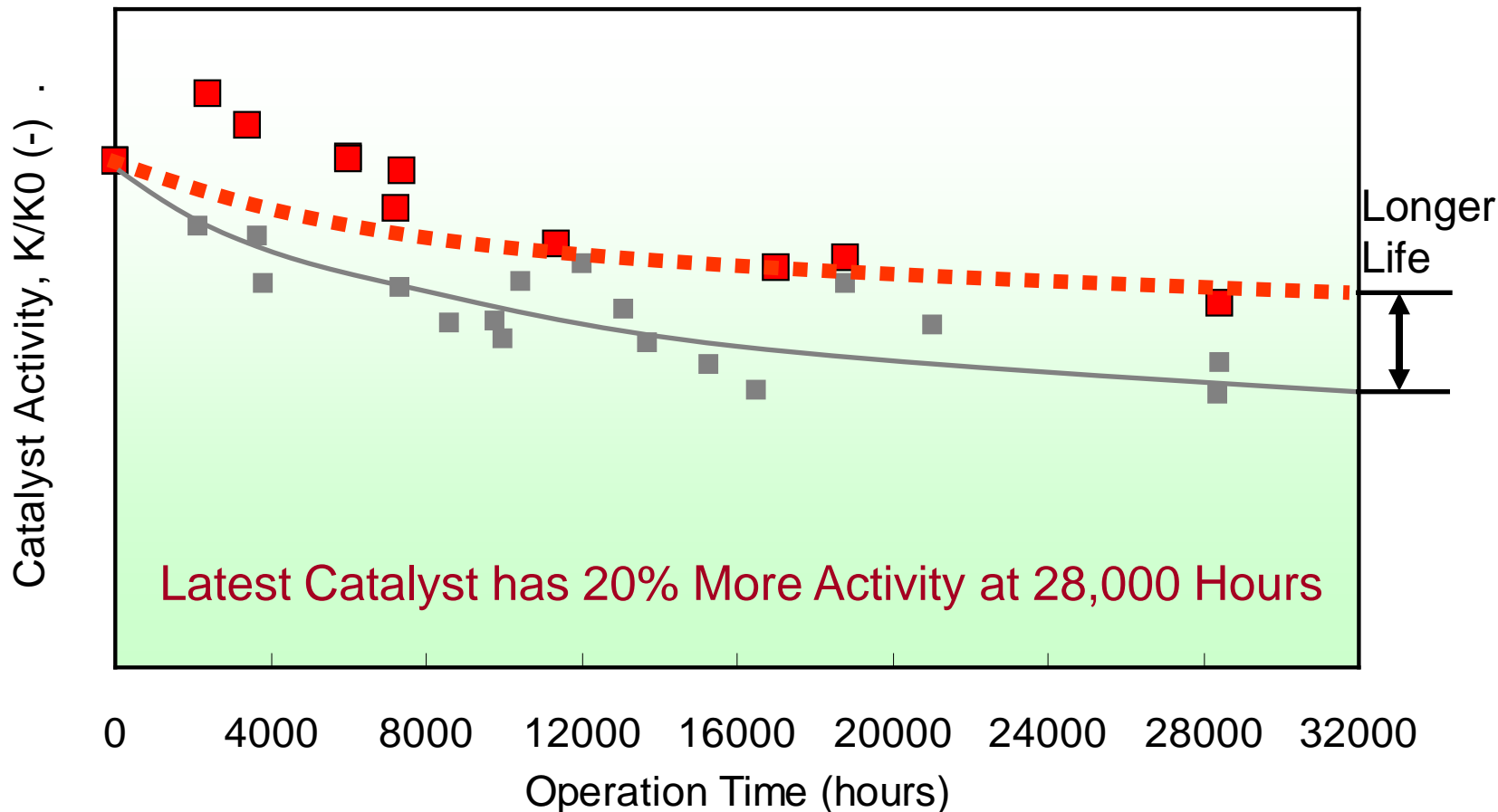
**All of these Changes Impact the Management
of the NO_x Catalyst**

Example Situation – Catalyst Deactivation Rates



Different Catalyst Types Deactivate at Different Rates

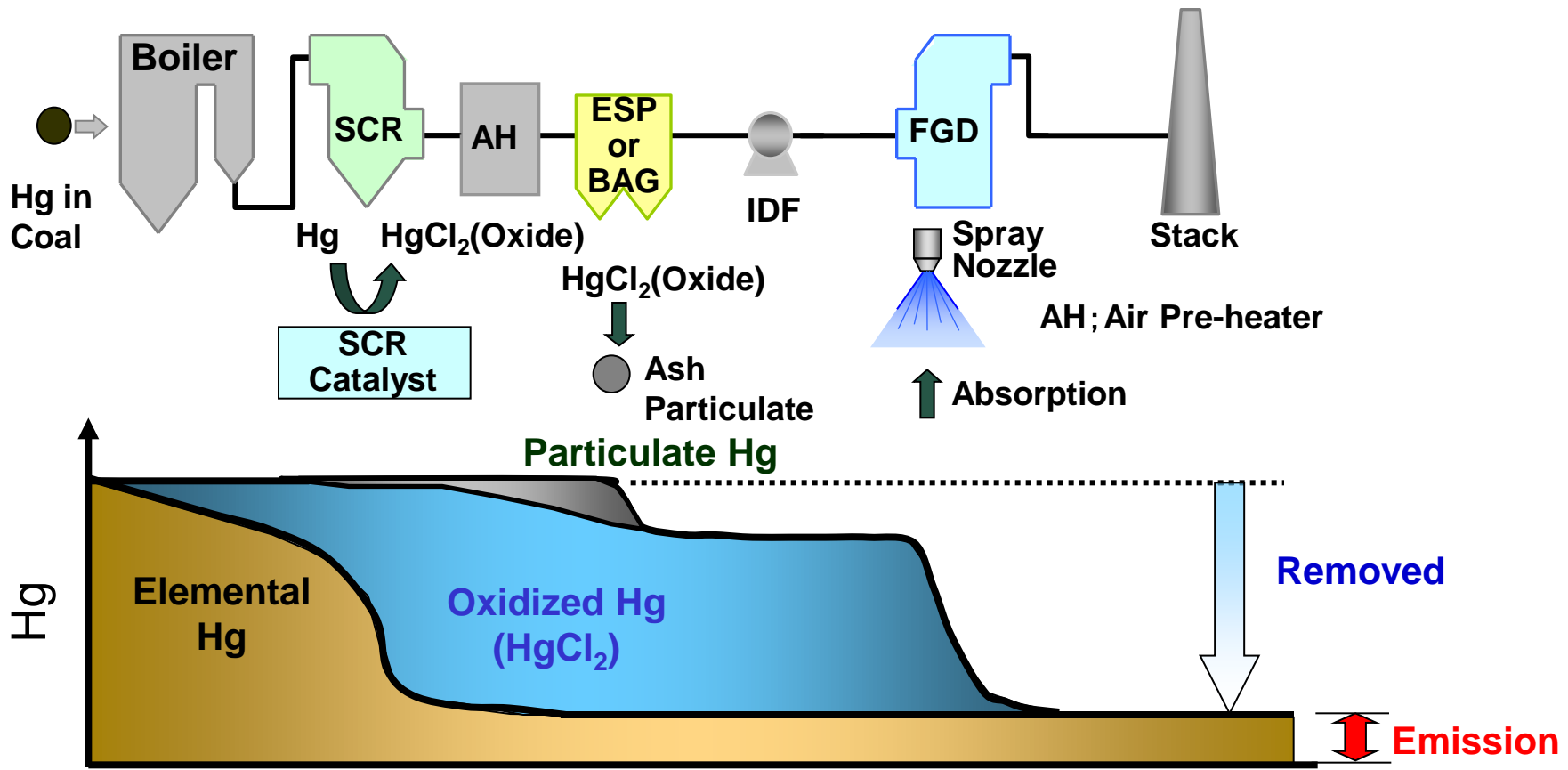
Since 2009 Additional Performance Benefits have been Guaranteed



Enhanced Catalyst has Longer Life Compared With Conventional Catalyst.

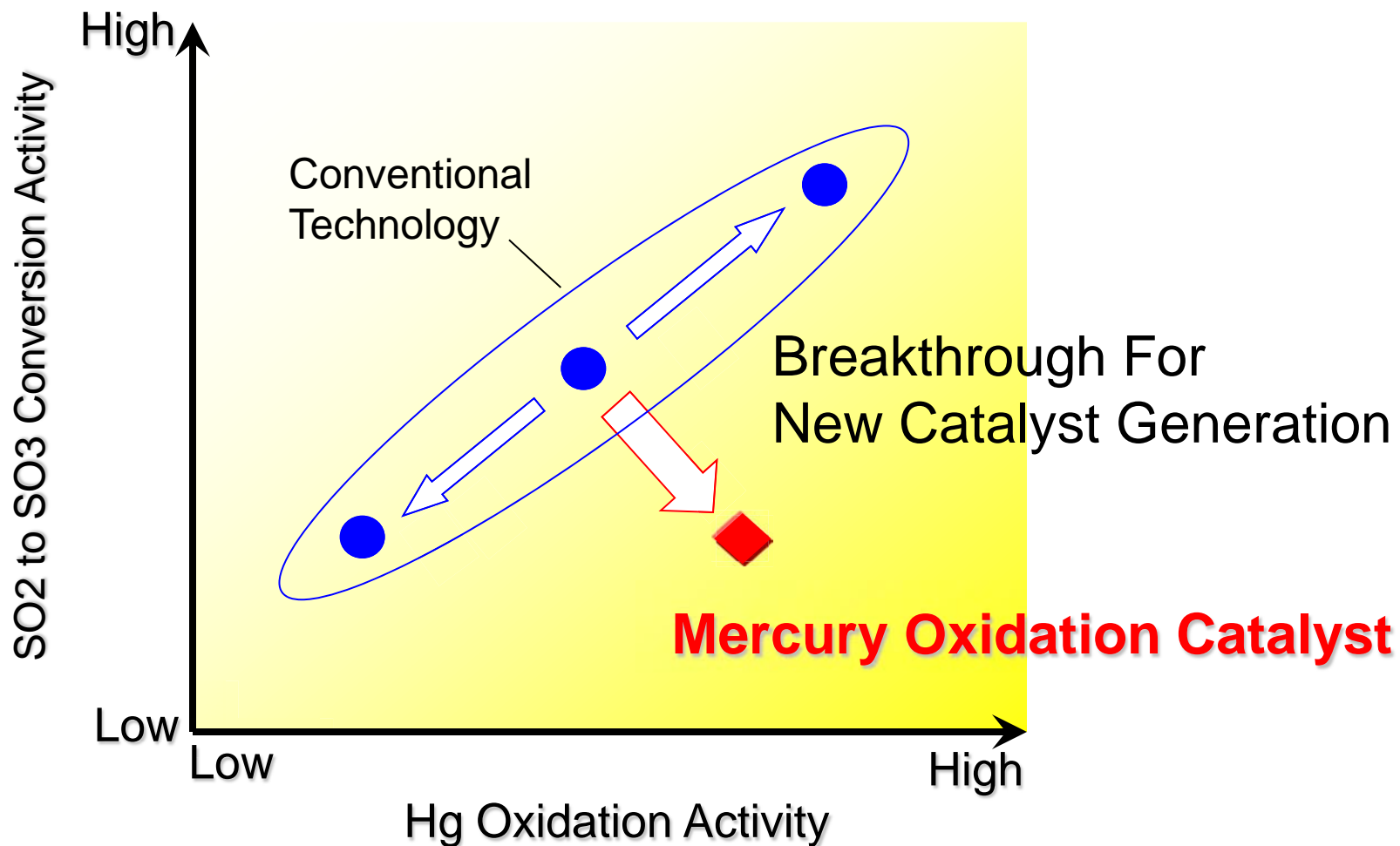
Resulting in Fewer Replacements.

Process of Hg Removal by SCR + FGD



SCR Catalyst is a key component for mercury oxidation

Lower SO₂ conversion is required while keeping higher Hg oxidation.



- SO₂ to SO₃ Conversion Rate is Down to 0.15 - 0.25% per layer.
- Catalyst Deactivation Rate was Reduced by 20%.
- The Co-Benefit of Mercury Oxidation was Enhanced:
 - Bituminous Coals > 95%
 - PRB Coals >85%

Today, Catalyst Suppliers Can Guarantee These Results