

Mitigating the Effect of Siloxanes on Power Generators Using Landfill Gas

Disclosure Number

200802152

Technology Summary

The use of landfill gas for power generation in combustion systems is growing in popularity yet faces the challenge of deposition of silica on operational surfaces due to oxidation of siloxane contaminants. Siloxanes are volatile silicon compounds formed in landfills as the result of biological processes on silicone-containing products such as shampoos, silicone elastomers, toothpaste, among others. The resulting silica is abrasive to combustion engine components and severely limit life. Currently costly and cumbersome efforts to remove siloxanes from the gas stream before combustion is largely the solution. The chemistry of silica formation is modified to mitigate the problem.

Inventor

BESMANN, THEODORE M

Materials Science and Technology Div

Licensing Contact

DETRANA, ALEXANDER G

UT-Battelle, LLC

Oak Ridge National Laboratory

Rm 139, Bldg 4500N, MS: 6196

1 Bethel Valley Road

Oak Ridge, TN 37831

Office Phone: (865) 576-9682

E-mail: DETRANAAG@ORNL.GOV

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