

ATTACHMENT V



Mr. James Trent
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SIEMENS – External

Dear Mr. Trent,

Spirit Environmental contacted Siemens Ingenuity earlier this year. Spirit Environment asked us to evaluate emissions reduction technologies on Worthington SLHC integral compressors. The goals were to determine how much we could reduce exhaust emissions, prescribe a suite of technologies to meet the said emission reductions and to provide estimated total cost for implementation.

The evaluation consisted of reviewing our internal records for emissions performance, conducting a site audit and reviewing our portfolio of emission reduction technologies. Due to the limited number of these units installed; we have never performed an emissions reduction project on the Worthington SLHC integral compressor. Therefore, we have no objective evidence that we could improve the emissions output. While we think there could be an improvement, we cannot quantify the performance. The site audit allowed us to define the engineering constraints during the equipment selection process. Our analysis indicated that the only technology that may work would be our PORT4 fuel injection system with iBALANCE dynamic combustion control. This system is design to place an electronic fuel injector in each of the intake runners between the intake manifold and cylinder head. The major constraint is that there is not enough room to install the fuel injector in the OEM configuration. To properly install the fuel injector, the entire inlet air system would need to be redesigned from the cylinder head back to the turbocharger at a very high cost.

Due to the lack of supporting data, the space constraints and the high cost of implementation; we have determined that it is not technically or financially feasible to attempt any emission reduction efforts.

If you have any questions, please feel free to contact me,

With kind regards,

Justin Aschenbrenner
Engineering Manager
Dresser-Rand Ingenuity

cc

Jim Collum
Earl Glover