Project Introduction

Several solid waste management systems currently under development result in the production of gas-phase organic contaminants which, due to the periodic and unpredictable nature of solid wastes and contaminants produced by these systems, cannot be treated by the Trace Contaminant Control System. Two examples of these are the Heat Melt Compaction System under development at NASA - Ames Research Center and the Microwave Powered Solid Waste Stabilization and Water Recovery System under development at UMPQUA Research Company (URC). During the Phase I effort, we demonstrated the gas-phase catalytic oxidation of a variety of toxic organic compounds and carbon monoxide, with very high rates of conversion to innocuous gases, primarily CO2 and H2O, at relatively low temperatures. In the proposed Phase II effort both process and materials will be further refined to optimize the utility of the catalytic technology with respect to solid waste management goals. The Phase II research and development will result in the design, assembly, rigorous testing, and delivery to NASA of a prototype system, sized to operate in conjunction with both the NASA developed heat melt compaction system and the URC developed microwave waste stabilization and water recovery system.

Primary U.S. Work Locations and Key Partners

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Organizational Responsibility

Responsible Mission Directorate:
Space Technology Mission Directorate (STMD)

Lead Center / Facility:
Ames Research Center (ARC)

Responsible Program:
SBIR/STTR

For more information and an accessible alternative, please visit: https://techport.nasa.gov/view/6051
Organizations Performing Work

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<th>Role</th>
<th>Type</th>
<th>Location</th>
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<tbody>
<tr>
<td>Ames Research Center(ARC)</td>
<td>Lead Organization</td>
<td>NASA Center Mountain View, CA</td>
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<tr>
<td>UMPQUA Research Company</td>
<td>Supporting Organization</td>
<td>Industry Myrtle Creek, OR</td>
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</tbody>
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Primary U.S. Work Locations

| California | Oregon |

Project Management

Program Director: Jennifer L Gustetic
Program Manager: Carlos Torrez