

Mercury Control Technology Using Sorbent Enhancement Additives

Marcus Sylvester
VP Sales

Keys to Dry Sorbent Injection

Midwest Energy Emissions Corp

Commercialization Arm of UND- EERC Technology

- * 20+ years of development pilot testing and field implementation
- * Center for Air Toxic Metals
- * On-Going Innovation and Research

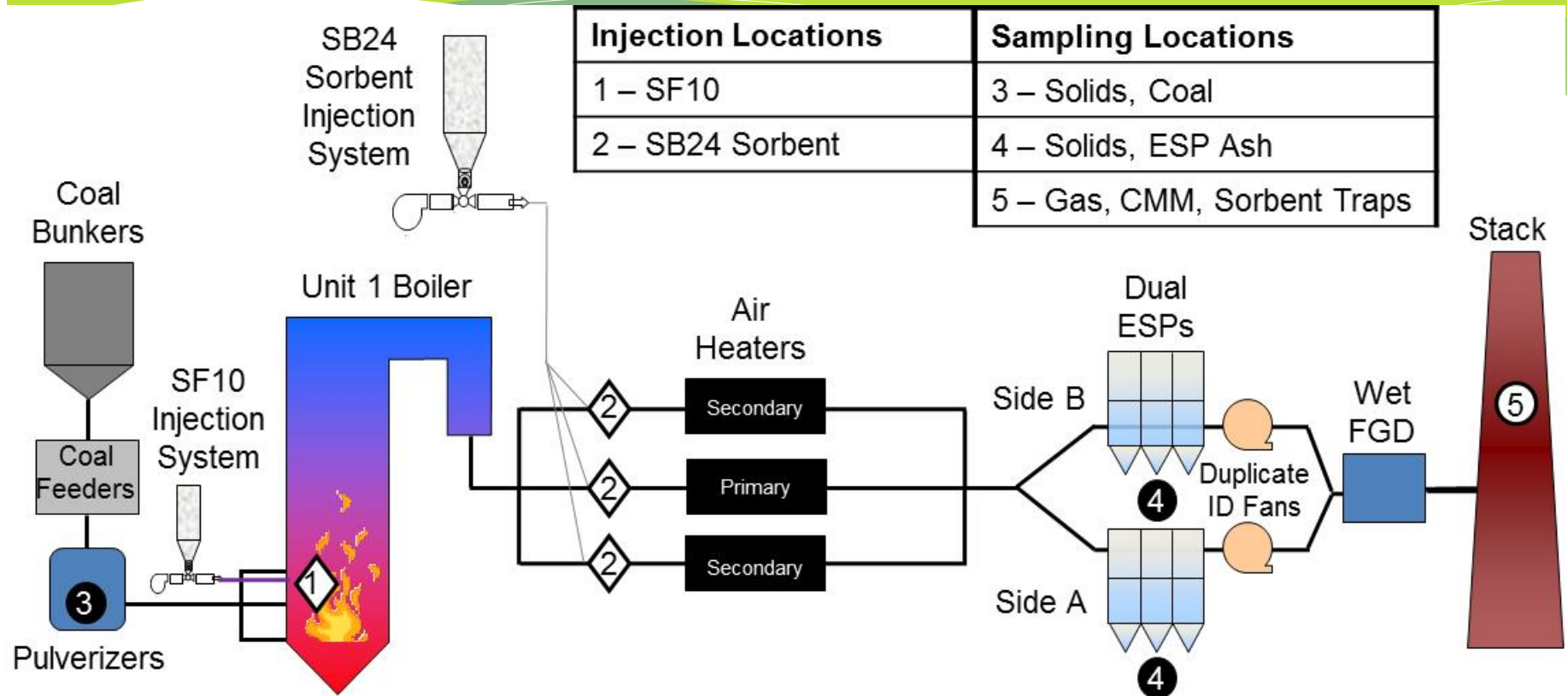
Delivering Cost Effective Mercury Capture Systems

20+ Patents, Pending, & Allowances – US, Canada, China, & Europe
Self Designed/Engineered Feed Equipment
13 Utility Boilers Under Contract (2 since 2011)

Sorbent Enhancement Additive Technology

10+ years development
\$60+M investment by ME₂C, EERC, DOE, Participating Utilities
35+ Field Utility Demonstrations
All boiler types, fuel sources, and Particulate Control Devices (PCD)

Injection and Sampling Diagram



KEYS TO DSI

- * TARGETED TEMPERATURE WINDOW
 - * DON'T FORCE RESULTS
 - * TOO HOT – TOO COOL
 - * ECONOMICS
- * KNOW YOUR PRODUCTS AND REACTIONS/ROLES
- * DISTRIBUTION FLOW

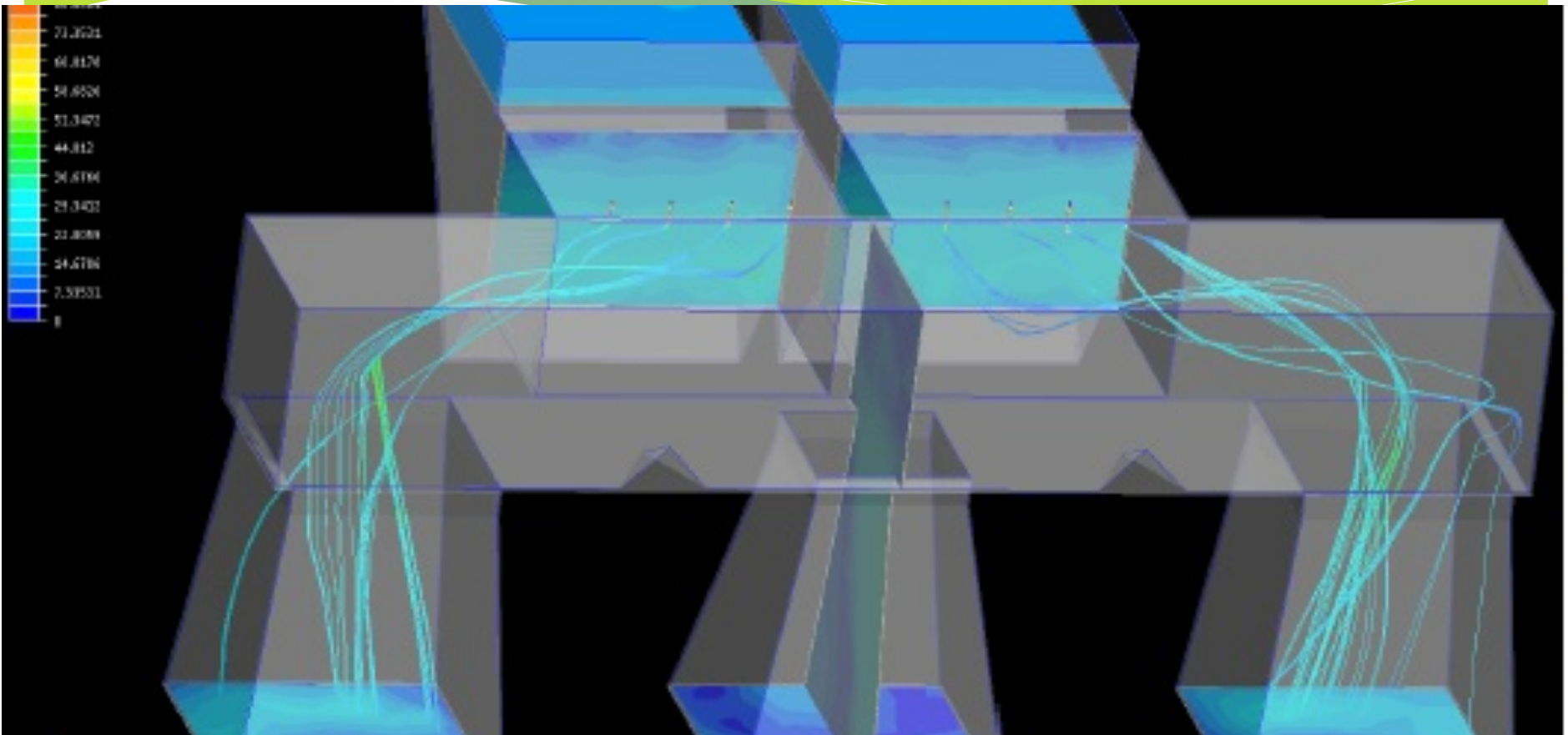
PRODUCTS & REACTIONS/ROLES

A tunable (2 Product) approach to mercury capture and control

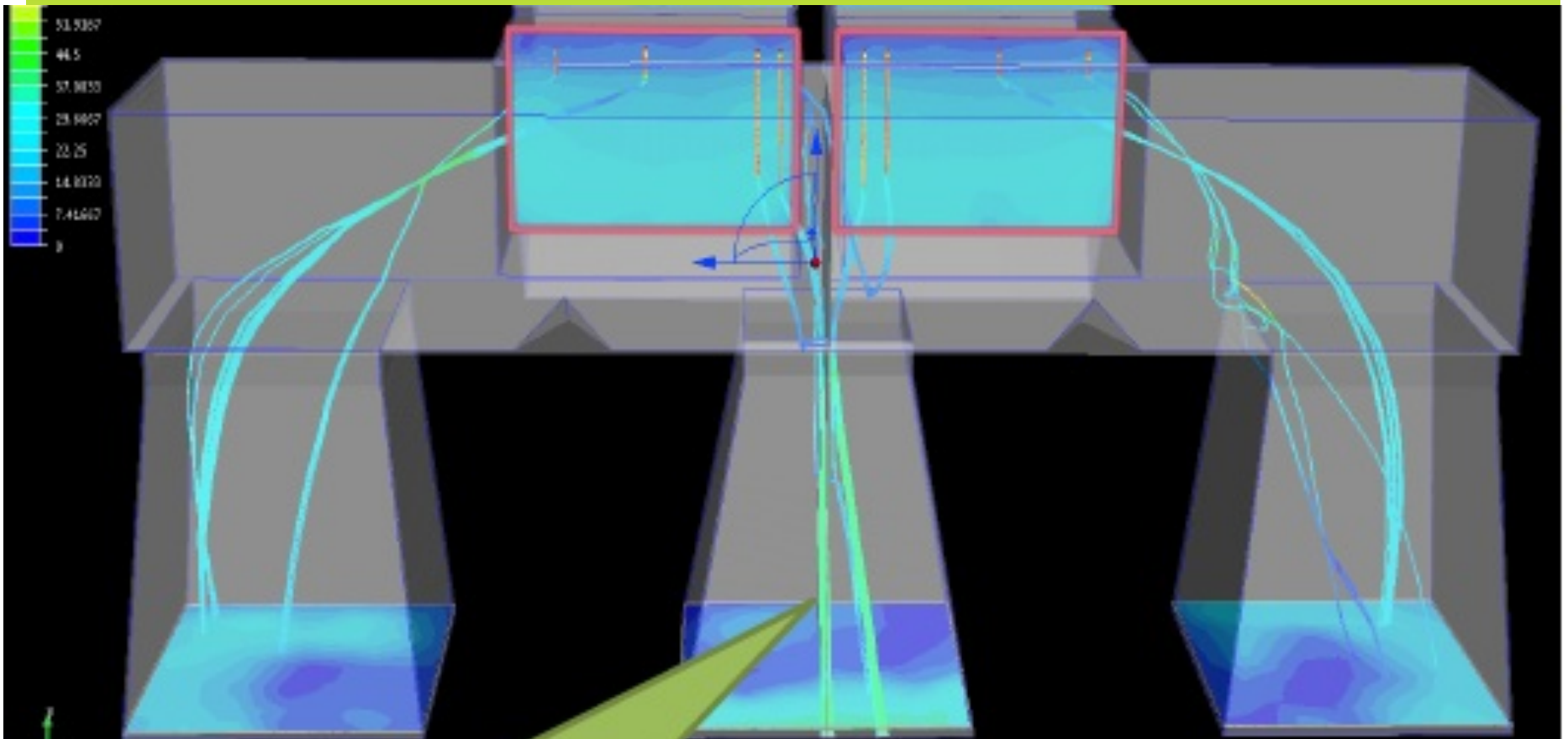
- * **SF10 - Sorbent Enhancement Additives** (Front End)
 - * Proprietary Blend of Specific Chemicals
 - * Designed to Promote and Protect activated sites
 - * Distribute chemical throughout furnace system

- * **SB24/SB31 - Sorbent** (Back End)
 - * Proprietary Blend of Specific Chemicals
 - * Provide active capture sites for mercury adsorption
 - * Protect activated capture sites

DISTRIBUTION FLOW - INITIAL



DISTRIBUTION FLOW - AFTER



Thank You

Marc Sylvester

msylvester@midwestemissions.com

(480) 235-0974