

Disposition of US DOE High-Activity Mixed Waste: What Capacity Do We Really Need?

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Senior Vice President
Perma-Fix Environmental Services,
Inc.

WM'09 Phoenix, AZ

Perma-Fix's Mission to be Innovators in Waste Management

- In 2000 purchased DSSI to have outlet for liquid MLLW/LLW destruction;
- In 2001 purchased and constructed M&EC
 - M&EC was designed and built to support DOE's "Broad Spectrum" contracts
 - First of a kind contract administered on behalf of DOE by Bechtel Jacobs to address large volumes of legacy MLLW for Oak Ridge and the Complex
 - Through reindustrialization performed D&D of Cat 3 Nuclear Facility that housed centrifuges at K-25
- In 2007 purchased Perma-Fix Northwest Facility in Richland, WA to support Hanford cleanup

Perma-Fix Locations



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Perma-Fix Treatment Facilities



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DSSI



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DSSI Industrial Furnace & Tank Farm



M&EC



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Vacuum Thermal Desorption & Stabilization



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Perma-Fix of FL



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LSV Treatment & Research & Development Lab



Perma-Fix Northwest



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LLRW Thermal Volume Reduction & Rail Transport



Support Facility Closure and Cleanup

- Played instrumental role in closure at Rocky Flats, Fernald, and Mound by developing treatment paths for orphan wastes;
- Instrumental in clean-up in Oak Ridge for BJC's Accelerated Cleanup Program that involved over 10,000 drums of legacy MLLW – large volume capabilities;

Orphan Wastes – Need for more treatment technologies



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Capacity to Accept and Treat Large Volumes of Legacy Wastes



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Latest Innovations


- PCBs – solids treatment at M&EC and now PCB liquid destruction at DSSI
- 0 – 100 nCi/g alpha wastes (sludges & debris)
- High Special Nuclear Material Wastes
- High Activity/High Dose Rate Wastes
- Support onsite Waste Management activities – team member with CH2M Hill for Hanford Plateau Remediation Contract

Obtaining a PCB Permit...takes Patience



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PCB Permit!!

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
REGION 4
ATLANTA FEDERAL CENTER
81 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960
EPA 2 6 2008

Mr. Richard Devin
Diversified Scientific Services, Inc.
657 Gallagher Road
Kingston, Tennessee 37763

SUBJ: Final Approval to Commercially Store and Dispose of Polychlorinated Biphenyls (PCBs) by Waste Fuel Boiler System Combustion
Diversified Scientific Services, Inc.
Kingston, Tennessee
EPA I.D. No. TND 982 109 142

Dear Mr. Devin:

Enclosed is a finalized document entitled "Approval to Commercially Store and Dispose of Polychlorinated Biphenyls (PCBs) by Waste Fuel Boiler System Combustion". This document permits Diversified Scientific Services, Inc. (DSSI) to store and treat PCB waste subject to the conditions of the approval. This approval is issued pursuant to Section 6(e)(1) of the Toxic Substances Control Act (TSCA) and the federal PCB regulations, 40 CFR Part 761.

This approval is based upon the DSSI Waste Fuel Boiler System's (WFBS) demonstrated ability to remove PCBs to a level below two parts per million (ppm) total PCBs in treated waste, DSSI's demonstrated capability of meeting the six-9s destruction and removal efficiency (DRE) requirement, and the United States Environmental Protection Agency's (EPA) conclusion that DSSI's WFBS process does not present an unreasonable risk of injury to health or the environment.

Since the WFBS operations did not fit the category of the high energy boiler operations pursuant to 40 CFR 761.71(b) (the feed was not in the range of ≥ 50 ppm and < 500 ppm), EPA allowed DSSI to apply for, and approved the DSSI WFBS under, a 761.60(e) approval (alternate treatment method).

This approval is effective upon the date of signature and will expire five (5) years from the effective date. This approval may be modified or withdrawn, or further conditions may be added to it, at any time EPA has reason to believe that DSSI's PCB disposal or storage activities present an unreasonable risk of injury to health or the environment. Withdrawal of the approval or imposition of further conditions may also result from future EPA rulemaking with respect to PCBs. Moreover, violation of any condition included as part of this approval and/or applicable PCB regulations may subject DSSI to TSCA enforcement and/or termination of this approval.

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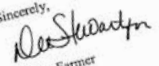
In this approval, the maximum allowable PCB loading in the untreated waste being fed to the WFBS is 7758 g/hr (17.1 lb/hr). The waste feed must contain at least 30% by weight water. DSSI may blend different PCB wastes to provide sufficient material for a treatment batch and pre-treat as necessary for treatment.

Please note that General Condition 17, Closure and Financial Assurance Requirements, of the approval requires DSSI to submit a closure plan and financial assurance instrument prior to startup of a PCB disposal operation. As a condition of the financial assurance requirements for this approval, EPA is requesting that DSSI submit, at least sixty (60) days prior to beginning any PCB disposal activities, documentation demonstrating acceptable financial assurance coverage.

It is the responsibility of DSSI to comply with all applicable provisions of TSCA, the federal PCB regulations, appropriate state and local regulations and the conditions of this approval in processing, storing and disposing of PCBs. Furthermore, this approval does not relieve DSSI of any responsibility to comply with all other applicable federal, state and local regulations and ordinances for operation and maintenance of the facility.

EPA reserves the right to inspect the DSSI facility and the records that DSSI is required to maintain under the federal PCB regulations during operation and at other reasonable times.

Please contact Larry Finchhorn, P.E., of the EPA Region 4 staff, at (404) 562-8497 if you have any questions regarding this approval.

Sincerely,

G. Alan Farmer
Director
RCRA Division



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*Real Innovators...
Solving our Nation's Waste Challenges*

DOE's TSCA Incinerator



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Non-TRU Debris Treatment



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High SNM Waste Treatment



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High Dose Waste Capabilities



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Hanford Plateau – T Plant



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Innovative Disposal Solutions



You can be Innovative and Safe

Facility	Days Since Last Lost Time Accident
M&EC	2,245
Perma-Fix of FL	3,369
DSSI	2,238
Perma-Fix Northwest	600