



**Department of Energy**

**Ohio Field Office  
Fernald Area Office**

P. O. Box 538705  
Cincinnati, Ohio 45253-8705  
(513) 648-3155



**1832**

NOV 13 1998

Mr. Gene Jablonowski, Remedial Project Manager  
U.S. Environmental Protection Agency  
Region V, SRF-5J  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

DOE-0166-99

Mr. Tom Schneider, Project Manager  
Ohio Environmental Protection Agency  
401 East 5<sup>th</sup> Street  
Dayton, Ohio 45402-2911

Dear Mr. Jablonowski and Mr. Schneider:

**SUBMITTAL OF ADDITIONAL PAGES TO THE INTERNATIONAL TECHNOLOGY CORPORATION WORK PLAN, SUBMITTED ON NOVEMBER 05, 1998**

Enclosed are additional Pages 14-5 to 15-1 and Appendices A, B, and C of the subject work plan. These pages were inadvertently left out in the previous submittals. Please add these pages to the work plan in your perusal.

If you have any questions, please contact Nina Akgündüz at (513) 648-3110.

Sincerely,

Johnny W. Reising  
Fernald Remedial Action  
Project Manager

FEMP:Akgündüz

Enclosure

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NOV 13 1998

Mr. Gene Jablonowski  
Mr. Tom Schneider

-2-

1832

cc w/enclosure:

N. Hallein, EM-42/CLOV  
J. Saric, USEPA-V, SRF-5J  
R. Beaumier, TPSS/DERR, OEPA-Columbus  
T. Schneider, OEPA-Dayton (total 3 copies of enc.)  
F. Bell, ATSDR  
~~M. Schupe, HSI-GeoTrans~~  
R. Vandegrift, ODH  
F. Barker, Tetra Tech  
AR Coordinator, FDF/78

cc w/o enclosure:

A. Tanner, OH/FEMP  
T. Hagen, FDF/65-2  
J. Harmon, FDF/90  
R. Heck, FDF/2  
S. Hinnefeld, FDF/90  
D. Nixon, FDF/52-4  
D. Paine, FDF/52-4  
EDC, FDF/52-7

covered within the scope of work under contract and is thoroughly versed in corporate procedures that address a situation that is out of scope. He also responds to FDF on project-related matters, including schedule, cost, safety, technical, and contractual issues, including any required communications, meetings, and reports. Dr. Lear will:

1832

- Manage project staff to ensure safety and radiological control plans and procedures are enforced to allow safe and efficient operations and compliance with all FDF requirements.
  - Provide sufficient staffing to support the on-schedule completion of tasks.
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- Coordinate procurement and subcontract activities to support project goals and schedules.
  - Continuously monitor project status and performance and initiate any required corrective actions, work-arounds, or reassignment of forces.
  - Resolve any cost or status-related discrepancies or questions.
  - Maintain all appropriate project data, documents, and records and complete task reports which accurately reflect work performed.
  - Review and approve all project submittals prior to submission to FDF.
  - Identify, communicate, and negotiate in scope and out-of-scope contract change conditions with FDF.

Dr. Lear will be supported in the area of accounting, procurement, invoicing, certified payroll, and other business related activities by an administrative support staff. This staff will be located at IT's Knoxville office and will be Dr. Lear's primary resource performing the following activities:

- Coordination of all project purchasing activities including field purchases, vendor sourcing, and interfacing with IT corporate purchasing groups in regional district offices.
- Data gathering and routine update of the resource-loaded project schedule.
- Development and generation of required project status for submittal to FDF.
- Coordination and upkeep of IT document submittal record.
- Implementation of an approved document control/document revision program.
- Provide business and administrative support to Mr. Lear's contract administration activities.

3

**Principal Investigator, E. Stine, Ph.D.**

The Principal Investigator reports to the IT Project Manager. Dr. Ernie Stine is responsible for the day-to-day oversight of operations. He will verify that the operation is being conducted in a safe, efficient, and quality manner which is consistent with approved work plans, procedures, and industry practices. He will be responsible for ensuring that project resources (field personnel, equipment, and subcontractors) are adequate and correctly deployed to maintain the project schedule. Dr. Stine will serve as the Deputy Project Manager. As Deputy Project Manager, he will be responsible for all aspects of the project in the absence of the Project Manager. Dr. Stine will:

- Report to the Project Manager on the status of project task and subtask completion.
- Manage and oversee the day-to-day activities of the subcontracted IT laboratory. Assimilate, review, and submit routine survey results consistent with FDF specifications and reporting requirements.

**Project Engineer, S.E. Shealy, P.E.**

The Project Engineer will provide engineering support throughout the life of the project. Mr. Stuart Shealy will report directly to the IT Principal Investigator. Our Project Engineer is responsible for safe work plan development, facilities/equipment design, process engineering, and ensuring all technical/engineering submittals are made per the baseline schedule. The Project Engineer will also be the primary point of contact for accessing IT corporate and regional technical support services through other IT offices nationwide. Mr. Shealy will:

- Develop and design silo workplans, engineering safety reports, engineering and administrative controls, and SOPs.
- Quantify and technically evaluate operational issues, and recommend solutions to address operational issues.
- Verification of project team compliance with technical specifications and project procedures. In this role, Mr. Shealy will closely interface with and support IT's QA/QC Officer.

**Health and Safety Compliance Officer, R. Greene, CHP**

Mr. Greene has documentable experience supervising health and safety for projects at a number of sites. In his role as an IT Health and Safety Compliance Officer, Mr. Greene maintains a thorough knowledge of OSHA, DOE, and other regulations governing safety and health. He reports to the IT Corporate Director of Health and Safety and advises the IT Principal Investigator and other on-site managers on industrial safety, industrial hygiene, and radiation protection. He will be responsible for the design and implementation of IT's proactive program to eliminate workplace hazards and exposures for all project team members on the project. In this position, Mr. Greene will:

- Work closely with FDF and IT management in developing and implementing a hazard recognition/prevention program for the project.
- Participate in all joint FDF/IT safety inspections.
- Ensure prompt correction of safety deficiencies.
- Perform routine safety audits.
- Conduct daily safety meetings.
- Develop and ensure compliance with the project -specific health and safety plan.
- Serve as primary point-of-contact for FDF health and safety professionals.
- Develop and implement job safety analyses (JSAs).
- Develop daily safety reports

**1832****Project Quality Assurance Manager, D. Root, Ph.D.**

The Project Quality Assurance Manager independently reviews contractual, regulatory, safety, environmental, and quality compliance matters. He performs surveillance, inspections, and audits to identify quality issues and document and report discrepancies or deficiencies. The QA/QC organization exercises control until a non-conformance deficiency or unsatisfactory condition is resolved and the implementation of the solution is verified. He coordinates his actions with the IT Principal Investigator, but reports directly to IT's Corporate Director of Quality. Dr. Root will:

- Develop and maintain the Proof of Principle quality program. The project-specific QA/QC testing plan will be compliant with the QA/QC requirements delineated in FDF QA Program Description, RM-0012, American National Standards Institute/American Society of Mechanical Engineers (ANSI/ASME) National Quality Association (NQA)-1, EPA QAMS-005/80, DOE Order 5700.6C, and 10 CFR 830.120.
- Ensure routine quality inspections and adherence with the approved FDF quality plan.
- Be responsible for data validation and analytical results.
- Serve as primary contact for FDF quality personnel.
- Develop daily QA reports.
- Design and implement a document control system for the Proof of Principle Project which fully complies with FDF protocols and processes for document control.

5

**14.3 TRAINING**
**1832**

Project-specific training will be conducted and documented on both the Work Plan and the QA/QC Testing Plan to ensure that all employees working on the project fully understand their responsibilities. The project specific training is presented in Table 14.1.

**Table 14.1  
Project Specific Training Matrix**

Labor Category	Work Plan Training	QA Plan Training	Project-Specific Procedures	
			Formulation Development	Demonstration Testing
Project Team	x	x	x	x
Chemists	x	x	x	
Operators	x	x		x
Office Support	x	x		

**14.3.1 WORK PLAN TRAINING**

Prior to beginning work on the project, IT employees will be given a copy of the Work Plan. After the IT employee has read the Work Plan and has been given a chance to discuss the plan with a member of the Project Team, the IT employee will sign a documentation sheet verifying that he/she has read the Work Plan and understands how it applies to his/her work.

**14.3.2 QA/QC TESTING PLAN TRAINING**

Prior to beginning work on the project, IT employees will also be given a copy of the QA/QC Testing Plan. After the IT employee has read the QA/QC Testing Plan and has been given a chance to discuss the plan with a member of the Project Team, the IT employee will sign a documentation sheet verifying that he/she has read the QA/QC Testing Plan and understands how it applies to his/her work.

*6*

## **15.0 REGULATORY COMPLIANCE**

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The formulation development testing will be conducted at IT's TDL facility in Knoxville, Tennessee and the demonstration testing will be conducted at IT's ETDC facility in nearby Oak Ridge, Tennessee.

**1832**

### **15.1 LICENSES**

IT will conduct the formulation development and process demonstration testing under existing treatability study exemptions. "Intent-to-Perform-Treatability Testing" letters to Tennessee Division of Solid Waste Management, dated 10/12/88 and 8/1/88 for ETDC and TDL, respectively, allow the facilities to perform treatability studies on RCRA materials under the treatability exemption found in 40CFR 261.4(e) and (f) and fully incorporated into Tennessee Rule Chapter 1200-1-11. Copies of these letters are contained in Appendix C.

### **15.2 PERMITS**

No additional local, state or federal permits are required to complete the formulation development or the demonstration testing.

7

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**APPENDIX A**  
***Copy of Facility Chemical Hygiene Plan***  
***Table of Contents***

8

## Table of Contents for IT Corporations TDL CHP.

- 1.0 Purpose and Summary
- 2.0 Table of Contents
- 3.0 Responsibility Matrix
  - 3.1 Procedure Responsibility
  - 3.2 Action/Approval Responsibilities

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- 4.0 Definitions
- 5.0 Text
  - 5.1 Responsibilities
    - 5.1.1 Chief Executive Officer
    - 5.1.2 Vice Presidents for Operations
    - 5.1.3 National Director, Health & Safety
    - 5.1.4 Laboratory Director
    - 5.1.5 Laboratory Operations Manager
    - 5.1.6 Health & Safety Professional
    - 5.1.7 Laboratory Team Leaders and Supervisors
    - 5.1.8 Laboratory Associates
  - 5.2 Permissible Exposure Limits
  - 5.3 Implementation of Chemical Hygiene Plan
    - 5.3.1 Strategy
    - 5.3.2 Self-Assessment
  - 5.4 Training
    - 5.4.1 Training Programs
    - 5.4.2 Documentation
  - 5.5 Engineering Controls
    - 5.5.1 Ventilation
    - 5.5.2 Maintenance
    - 5.5.3 Alteration of Facilities or Engineering Controls
  - 5.6 Laboratory Safe Work Practices
    - 5.6.1 Laboratory Rules
    - 5.6.2 Hygiene Practices to Minimize Ingestion of Chemicals
    - 5.6.3 Housekeeping
    - 5.6.4 Equipment Guarding
    - 5.6.5 Glassware
    - 5.6.6 Shielding
    - 5.6.7 Electrical Hazards
    - 5.6.8 Sand Baths
    - 5.6.9 Cryogenic Hazards
    - 5.6.10 Containers Under Vacuum
    - 5.6.11 Pressurized Containers
    - 5.6.12 Compressed Gas Cylinders
    - 5.6.13 Warning Signs and Labels
    - 5.6.14 Review of New Projects
    - 5.6.15 Unattended Operations
    - 5.6.16 Working Alone

## Table of Contents for IT Corporations TDL CHP.

- 5.7 Personal Protective Equipment
  - 5.7.1 Minimum PPE within the Laboratory
  - 5.7.2 PPE for Visitors/Contractors
  - 5.7.3 Additional PPE
  - 5.7.4 Safety/Emergency Equipment
- 5.8 Chemical Safety
  - 5.8.1 Select Carcinogens and Reproductive Toxins
  - 5.8.2 Biological Hazards
  - 5.8.3 Chemical Storage
  - 5.8.4 Flammability Hazards
  - 5.8.5 Sample Receipt
- 5.9 Radioactive Materials
  - 5.9.1 Approach to Radiation Safety
  - 5.9.2 Program Elements
- 5.10 Spills
  - 5.10.1 Solid/Liquid Spills
  - 5.10.2 Gas Release
- 5.11 Waste Disposal
  - 5.11.1 Requirements
  - 5.11.2 Waste Management Program Elements
- 5.12 Enforcement
  - 5.12.1 Progressive Discipline
  - 5.12.2 Management
  - 5.12.3 Guidelines to Stop an Unsafe Operation
- 5.13 Exposure Determination
  - 5.13.1 Initial Associate Exposure Monitoring
  - 5.13.2 Criteria of "Reasonable" Suspicion of Exposure
  - 5.13.3 Exposure Evaluations
  - 5.13.4 Fetal Protection
  - 5.13.5 Medical Consultation
- 5.14 Medical Surveillance Program
  - 5.14.1 Requirements
  - 5.14.2 First Aid
- 5.15 Hazard Communication Program
  - 5.15.1 Program Elements
  - 5.15.2 Chemical Inventory
  - 5.15.3 Review and Approval of New Chemicals
  - 5.15.4 Labels
  - 5.15.5 Material Safety Data Sheets
  - 5.15.6 Training
- 5.16 Contingency Plans
  - 5.16.1 Site-Specific
  - 5.16.2 Contents
  - 5.16.3 Telephone Call List

Table of Contents for IT Corporations TDL CHP.

- 5.16.4 Spill Prevention Guidelines
- 5.16.5 Detectors and Alarms
- 5.16.6 Emergency Equipment
- 5.17 Audit/Inspection Program
  - 5.17.1 Inspections
  - 5.17.2 Facility Audits
  - 5.17.3 Equipment Inspections
- 5.18 Recordkeeping
- 5.19 Mobile and Field Laboratories
- 6.0 Exception Provisions
- 7.0 Cross References
- 8.0 Attachments

11

**APPENDIX B**  
***IT Pilot-Scale Review Checklist***

12

**Pilot Scale Review Checklist**

Date: \_\_\_\_\_ Project Name and Number: \_\_\_\_\_

Item	Completed By	Not Applicable
General Description of Activity		
Flow Diagrams		
Flammability, Toxicity, and Reactivity of Materials (MSDS)		
Radioactivity of Materials		
Quantity Level for Safe Handling		
Define Size of Equipment, Materials of Construction, and Safe Design Features of Equipment		
Location of Equipment		
Access Control Features		
Safe Operating Procedures		
Emission and Spill Control Features		
Personnel Safety Equipment		
Posting Requirements		
Radiation Work Permit		
ALARA Review		

Comments:

Reviewers:

\_\_\_\_\_  
Project Lead Engineer or Analyst      Date

\_\_\_\_\_  
Name and Title      Date

\_\_\_\_\_  
Radiation Safety Officer      Date

\_\_\_\_\_  
Name and Title      Date

1832

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**APPENDIX C**  
*Intent to Perform Treatability Testing Letters*  
**TDL & ETDC**

14



August 1, 1988

Mr. Dwight Hinch  
 Tennessee Department of Health and Environment  
 Division of Solid Waste Management  
 Customs House, 4th Floor  
 701 Broadway  
 Nashville, TN 37219-5403

Dear Mr. Hinch:

As you are aware we have been waiting for the amendments to 40 CFR 261.4 which allow laboratories to perform small scale treatability studies on hazardous wastes within certain prescribed limitations. These amendments were published in the July 19, 1988 Federal Register. Section D.3.a. of the amendments stipulates that laboratories that intend to pursue small scale treatability studies within the limitations of the regulations must submit a letter to the EPA Regional Administrator or the appropriate authorized State informing the Agency of their intent. Please consider this letter as formal notification of such intent. We desire to have our letter of notification on file in order to avoid delays when the amendments are adopted as State law.

Your consideration is requested in granting our laboratory a letter of non-enforcement for small scale treatability studies as defined in the amendments until such time that the amendments are officially adopted into law. Below I have identified our small scale processes which we consider to be vital to the research of alternative technologies for hazardous waste treatment.

Thermal Desorption  
 Pyrolysis  
 Adsorption  
 Ion Exchange  
 Absorption  
 Distillation  
 Stripping  
 Evaporation  
 Drying  
 Neutralization  
 Chemical Precipitation  
 Coagulation  
 Flocculation

Filtration  
 Extraction  
 Membrane Separation  
 Stabilization  
 Chemical Oxidation  
 Wet Air Oxidation  
 Hydrolysis  
 Photolysis  
 Chemical Reaction  
 Electrochemical Treatment  
 Biological Treatment  
 Sedimentation  
 Solidification

15

Regional Office

312 Directors Drive • Knoxville Tennessee 37923 • 615-690-3211

We are confident that we can safely receive and handle hazardous wastes. We have a very specialized, state-of-the art laboratory with built in spill containment, fume hoods with HEPA and carbon filtration of exhausted air, pressure controlled work zones, and fully trained staff of engineers, chemists and technicians. We incorporate a management control system to ensure the proper handling of materials and execution of experiments.

Management controls include:

Equipment and facility inspections before any new process can be started.

Preparation of key point cards for each piece of equipment describing the hazards, safety equipment necessary, and emergency shut-down procedures.

Local spill control such as pans, trays, secondary containment, etc., in addition to the spill control offered by the hood, room and building.

Exemplary past history of the facility with no incidents or material releases.

No discharges of any regulated materials into the sewer system.

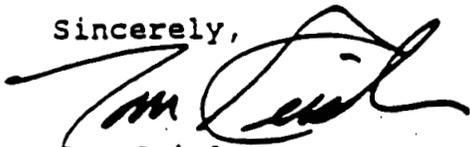
Use of permitted waste haulers and waste disposal facilities for the ultimate disposal of our wastes.

Agreements with local emergency response agencies such as police, fire, hospital, TEMA, etc.

A properly designed and operated waste storage building.

We appreciate your consideration of this letter. If any questions arise please contact me at the address below.

Sincerely,



Tom Geisler  
Environmental Compliance Coordinator  
Technology Development Laboratory  
I.T. Corporation

tjg

cc: EPA Regional Office - Atlanta  
R. Brown - Tn Dept of Health and Env - Knoxville  
Environmental Compliance Office - Torrance  
B. Figley - Knoxville  
R. Miller - Knoxville

1832



October 12, 1988

Mr. Dwight Hinch  
Tennessee Department of Health and Environment  
Division of Solid Waste Management  
Customs House, 4th Floor  
701 Broadway  
Nashville, TN 37219-5403

Dear Mr. Hinch:

According to the amendments of 40 CFR 261.4 allowing laboratories to perform small scale treatability studies, a laboratory must notify the EPA Regional Administrator or the appropriate authorized State informing the Agency of their intent. Please consider this letter as formal notification of such intent. The laboratory facility that we wish to conduct such treatability studies is the "IT Environmental Technology Development Center". The address is:

-----  
IT Environmental Technology Development Center  
1570 Bear Creek Road  
Oak Ridge, Tennessee 37830

EPA ID No. 981933120

If you have any questions regarding this matter please contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Tom Geisler', written over a horizontal line.

Tom Geisler  
Environmental Compliance Coordinator  
IT Technology Development Laboratory

ds/rjg

cc: Rich Miller  
Beverly Shaw, Torrence  
Environmental Compliance, Torrence

17