DOE/OR/21974--T3

TENNESSEE OVERSIGHT AGREEMENT
COMBINED ANNUAL REPORTS
MAY 13, 1991 - MAY 12, 1993

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MASTER

JULY 1, 1993

GRANT NUMBER DE-FG05-~~91OR211981~~

Correct grant # 91OR21974

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Tennessee Department
of
Environment and Conservation

DOE Oversight Division

Combined Annual Reports

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EXECUTIVE SUMMARY

The Tennessee Department of Environment and Conservation's Department of Energy Oversight Division was established in July of 1991 as a result of an agreement between the State of Tennessee and the U.S. Department of Energy. The agreement between the United States Department of Energy and the State of Tennessee (also known as the Tennessee Oversight Agreement) was signed in May, 1991. This agreement provides independent oversight and monitoring of the Department of Energy's activities on the Oak Ridge Reservation by the State. A second agreement, the Federal Facilities Agreement is a tri-party agreement between the State of Tennessee, the Environmental Protection Agency and the Department of Energy to ensure that human health and/or the environmental impacts associated with past activities at the Oak Ridge Reservation are thoroughly investigated and the Department of Energy takes the appropriate action in the environmental restoration of the Oak Ridge Reservation.

Tennessee Oversight Agreement Attachment A.7.2.2 obligates the state to provide an annual report to DOE and for public distribution of the results of the DOE Oversight Division's monitoring and analysis activities and its findings of the quality and effectiveness of the Department of Energy's environmental monitoring and surveillance programs. Tennessee Oversight Agreement Attachment C.1 specifies an annual report in the areas of coordination for environmental oversight, public relations and analysis of toxic releases. The DOE Oversight Division's first report will discuss the status of the entire oversight agreement for the first two years of its existence. Future Annual Reports will expand Tennessee Oversight Agreement Attachments A.7.2.2 and C.1.

The 1991-1993 DOE Oversight Division's combined annual reports include a short history of the Division, a list of the Tennessee Oversight Agreement commitments and a status report on each of DOE Oversight Division's programs. Each Division program includes a descriptive status of its findings and recommendations. These findings and recommendations were also consolidated into a separate segment of the report (Chapter 7).

Several of the Tennessee Oversight Agreement commitments involve other state agencies and a Local Oversight Committee. The Tennessee Emergency Management Agency is, by contract, responsible for Attachments B.2, B.17, B.18, B.19, B.20, B.21 and C.2. Annual reports of Tennessee Emergency Management Agency's activities are on file at the DOE Oversight Division office. Attachment C.1.2 requires the state to increase its efforts for better public understanding of issues involving the Oak Ridge Reservation. The Local Oversight Committee was established by contract with local

governments as a partial fulfillment of this commitment. Annual reports of the local oversight activities to date are on file at the DOE Oversight Division office. Attachment C.1.3 provides for a separate Health Studies agreement.

The DOE Oversight Division's first efforts focused on basic program development. Our findings indicate there have been genuine successes in the areas of site access and data availability. More effort however, is required in both of these areas before the state can verify that DOE and its contractors are meeting its obligations. Ambient surveillance monitoring by DOE is extensive. The DOE Oversight Division reviews this data to assure the state and its citizens that all areas of the environment are adequately protected by DOE operations. There is a noticeable lack of research and development in the technology for environmental remediation and radiological and mixed waste treatment, storage and disposal. The DOE Oversight Division's recommendations for improvement are provided with each of the findings listed in this report.

ACRONYMS

ADS -	Activity Data Sheet	CDC -	Centers for Disease Control
AEA -	Atomic Energy Act	CEC -	cation exchange capacity
AES -	Automatic Estimating System	CERCLA -	Comprehensive Environmental Response, Compensation and Liability Act
AERO -	Association for Excellence in Reactor Operations	CFR -	Code of Federal Regulations
AIP -	Agreement in Principal	CH -	Contact-Handled
ALARA -	As Low As Reasonably Achievable	CMI -	Corrective Measures Implementation
ARAP -	Aquatic Resource Alteration Permit	CMS -	Corrective Measures Study
ARAR -	Applicable or Relevant and Appropriate Requirement	CPF -	Cancer Potency Factor
AMERO -	Assistant Manager for Energy Research & Development	CR -	Community Relations
AMERWM -	Assistant Manager for Environmental Restoration & Waste Management	CRDL -	contract-required detection limit
ANS -	American Nuclear Society	CRRFI -	Clinch River RCRA Facility Investigation
ANS -	Advanced Neutron Source	CSO -	Criticality Safety Officer
ATSDR -	Agency for Toxic Substances and Disease Registry	CSSS -	Contaminated Site Summary Sheets
BAT -	Best Available Technology	CWA -	Clean Water Act
BGS -	below ground surface	CYRTF -	Coal Yard Runoff Treatment Facility
BHTV -	borehole televiewer	DMR -	Daily Monitoring Report
BMP -	Best Management Practices	DCG -	Derived Concentration Guide
BNAE -	base/neutral/acid extractables	D&D -	Decontamination and Decommissioning
BSF -	Bulk Shielding Facility	DP -	Defense Programs
BSR -	Bulk Shielding Reactor	DPM -	disintegrations per minute
BTX -	benzene, toluene and xylene	DOE -	Department of Energy
CA -	Corrective Activities	DOE/HQ -	Department of Energy, Headquarters
CA&C -	Corrective Action and Compliance	DOE-O -	Department of Energy Oversight
		DSF -	Division of Superfund
		DQO -	Data Quality Objectives

EA -	Environmental Assessment	HCTF -	Hill Cut Test Facility
EAC -	Environmental Advisory Committee	HDPE -	high density polyethylene
EALs -	Emergency Action Levels	HELP -	Hydrologic Evaluation of Landfill Performance
ECE -	Environmental Consulting Engineers	HEPA -	high efficiency particulate air (filter)
EDT -	Explosives Detonation Trench	HFIR -	High Flux Isotope Reactor
EFPC -	East Fork Poplar Creek	HPRR -	Health Physics Research Reactor
EIS -	Environmental Impact Statement	HRS -	Hazard Ranking System
EM -	electromagnetic	HSP -	Health and Safety Plan
EPA -	Environmental Protection Agency	HSWA -	Hazardous and Solid Waste Amendments
ERWM -	Environmental Restoration and Waste Management	IAG -	Interagency Agreement
ES&H -	Environmental Safety & Health	ICAP -	inductively coupled argon plasma
EQAB -	Environmental Quality Advisory Board	ICM -	Interim Corrective Measure
ER -	Environmental Restoration	IDLR -	Immediately Dangerous to Life & Health
ERP -	Environmental Restoration Program	INEL -	Idaho National Engineering Laboratory
ES&H -	environmental safety and health	IRC -	Information Resource Center
ETF -	Engineered Test Facility	ISV -	in situ vitrification
EWB -	Emergency Waste Basin	IWC -	Instream Waste Concentration
FFA -	Federal Facilities Agreement	IWMF -	Interim Waste Management Facilities
FFCA -	Federal Facility Compliance Agreement	LDR -	land disposal restriction
FML -	flexible membrane liner	LEL -	lower explosive limit
FOF -	Field Operations Facility	LITR -	Low-Intensity Test Reactor
FONSI -	Finding of No Significant Impact	LLW -	liquid low-level waste
FR -	Federal Register	LLW -	Low-Level Waste
FS -	Feasibility Study	LOC -	Local Oversight Committee
FSP -	Field Sampling Plan	LSU -	large-scale unit
FY -	Fiscal Year		
GC -	gas chromatograph		
GM -	Geiger-Mueller		
HAZMAT -	Hazardous Materials		
HAZWRAP -	Hazardous Waste Remedial Actions Program		

LWTDS -	Liquid Waste Transfer and Distribution Station	ORAU -	Oak Ridge Associated Universities
MCL -	Maximum Contaminant Level	ORGDP -	Oak Ridge Gaseous Diffusion Plant
MCLG -	Maximum Contaminant Level Goal	ORNL -	Oak Ridge National Laboratory
MDA -	minimum detectable activity	ORO -	Oak Ridge Operations
MDL -	method detection limit	ORR -	Oak Ridge Reservation
MMES -	Martin Marietta Energy Systems	ORRR -	Oak Ridge Research Reactor
M&O -	Management and Operating contractor	OSHA -	Occupational Safety and Health Administration
MOU -	Memorandum of Understanding	OSWER -	Office of Solid Waste and Emergency Response
MSl -	mean sea level	OU -	Operable Unit
MTF -	Memorandum to File	OUSD -	Operable Unit Strategy Document
NAAQS -	National Ambient Air Quality Standard	PAH -	polyaromatic hydrocarbon
NCP -	National Oil and Hazardous Substances Contingency Plan	PARCC -	precision, accuracy, representativeness, completeness and comparability
NEPA -	National Environmental Policy Act	P&A -	Plugging and Abandonment
NESHAPS -	National Emission Standards for Hazardous Air Pollution	PA/SI -	Preliminary Assessment/Site Inspection
NFS -	Nuclear Fuel Services, Inc.	PEIS -	Programmatic Environmental Impact Statement
NHP -	New Hope Pond	PCB -	Polychlorinated Biphenyl
NOI -	Notice of Intent	PMF -	probable maximum flood
NPDES -	National Pollutant Discharge Elimination System	ppb/ppm -	Parts per Billion/Parts per Million
NPDWS -	National Primary Drinking Water Standards	PRAR -	Preliminary Risk Assessment Report
NPL -	National Priority List	PRP -	Potentially Responsible Party
NRC -	Nuclear Regulatory Commission	PSCS -	Preliminary Site Characterization Summary
NRT -	National Response Team	PSU -	Pilot-Scale Unit
NRWTP -	Non-Radiological Waste Treatment Project	PVC -	polyvinyl chloride
NTF -	North Tank Farm	PWA -	Process Waste Assessment
OD -	outside diameter	PWTP -	Process Waste Treatment Plant
O&M -	Operation and Maintenance	QA -	Quality Assurance
O/O -	Owner/Operator		

QAPP -	Quality Assurance Project Plan	SIA -	structural integrity assessment
QA/QC -	Quality Assurance/Quality Control	SITE -	Superfund Innovative Technology Evaluation
RA -	Remedial Action	SLB -	Shallow Land Burial
RAM -	Radioactive Materials	SOW -	Statement of Work
RAP -	Remedial Action Program	SPDES -	State Pollutant Discharge Elimination System
RCRA -	Resource Conservation and Recovery Act	SQL -	sample quantitation limit
RD -	Remedial Design	SR -	State Route
R&D -	Research and Development	SRP -	Savannah River Plant
RD&D -	Research, Development and Demonstration	SSP -	Sites Specific Plan
RDDT&E -	Research, Development, Demonstration, Testing and Evaluation	STF -	South Tank Farm
RD/RA -	Remedial Design/Remedial Action	STP -	Sewage Treatment Plant
RFA -	RCRA Facility Assessment	SVOC -	Semivolatile Organic Contaminants
RfD -	Reference Dose	SWMU -	Solid Waste Management Unit
RFI -	RCRA Facility Investigation	SWSA -	Solid Waste Storage Area
RH -	Remote-Handled	TAG -	Technical Assistance Grant
RI -	Remedial Investigation	TAL -	Target Analyte List
RI/FS -	Remedial Investigation/Feasibility Study	TBC -	To Be Considered
RM&O -	Radiological Monitoring and Oversight	TCA -	Tennessee Code Annotated
ROD -	Record of Decision	TCE -	Trichloroethylene
SAP -	Sampling and Analysis Plan	TCL -	Target Compound List
SARA -	Superfund Amendments and Reauthorization Act	TCMP -	toxicity control and monitoring program
SCSR -	Site Characterization Summary Report	TDEC -	Tennessee Department of Environment and Conservation
SDWA -	Safe Drinking Water Act	TDHE -	Tennessee Department of Health and Environment
SEG -	Scientific Ecology Group, Inc.	TDS -	total dissolved goods
SI -	Site Inspection	TEMA -	Tennessee Emergency Management Association
		TIC -	tentatively identified compound
		TKN -	total Kjeldahl nitrogen
		TOA -	Tennessee Oversight Agreement
		TOC -	total organic carbon
		TOX -	total organic halides

TRE - Toxicity Reduction
 Evaluation
 TRM - total recoverable
 metals
 TRU - Transuranic
 TSCA - Toxic Substances
 Control Act
 TSD - Treatment, Storage,
 and Disposal
 TSF - Tower Shielding
 Facility
 TSR II - Tower Shielding
 Reactor II
 TSS - total suspended
 solids
 SWMA - Tennessee Solid
 Waste Management Act
 TVA - Tennessee Valley
 Authority
 TWRA - Tennessee Water
 Resources Agency
 UCC - Union Carbide
 Corporation
 UEFPC - Upper East Fork
 Poplar Creek
 UNC - United Nuclear
 Corporation
 USCOE - United States Corps
 of Engineers
 USGS - U.S. Geological
 Survey
 USRADS - ultrasonic ranging
 and data system
 UST - Underground Storage
 Tank
 VOC - Volatile Organic
 Compound
 WAG - Waste Area Grouping
 WETF - West End Treatment
 Facility
 WM - Waste Management
 WOC - White Oak Creek
 WOL - White Oak Lake
 WWTF - Waste Water
 Treatment Facility
 WQC - Water Quality
 Criteria

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1. Introduction

The Tennessee Oversight Agreement (TOA) was signed by Governor Ned McWherter on May 13, 1991. The purpose of the TOA is to assure the citizens of Tennessee that their health, safety and environment in and around the Oak Ridge Reservation (ORR) are being protected by the Department of Energy (DOE) through a program of independent monitoring and oversight by the state and to fulfill a requirement to establish a Federal Facilities Agreement (FFA) between the Tennessee Department of Environment and Conservation (TDEC), the Environmental Protection Agency (EPA) and the Department of Energy (DOE). The general purpose of the FFA is to ensure that the environmental impacts associated with the past activities at the ORR are thoroughly investigated and the appropriate remedial action is taken to protect public health and the environment. The FFA was signed by Commissioner J.W. Luna on November 18, 1991, and became effective January 1, 1992.

The DOE Oversight Division (DOE-O) was established July 1991, by the Tennessee Department of Environment and Conservation (TDEC). DOE-O offices are located in Oak Ridge. A map depicting the location of the office is shown in Figure 1. DOE-O activities include 1) surface water monitoring including onsite discharges; 2) biomonitoring; 3) public drinking water supply monitoring; 4) fish and wildlife monitoring; 5) groundwater monitoring; 6) air quality monitoring; and 7) radiological surveillance. Monitoring efforts will extend both on and off the ORR. Additional oversight activities will involve coordinating with the Tennessee Emergency Management Agency in emergency response and participating in community relations with the Local Oversight Committee.

The Division is funded through a five year grant from the Department of Energy (DOE). Grant funds are also being used to establish contracts with other state and local agencies. DOE-O acts as a lead agency in each of these contracts. A contract has been established with the Tennessee Wildlife Resources Agency (TWRA) in which TWRA will perform independent monitoring of toxic materials in fish flesh and in sediments from Melton Hill and Watts Bar Reservoirs. A contract was enacted to establish a Local Oversight Committee (LOC). This committee includes representatives of local governments from the counties surrounding the ORR and the Watts Bar Reservoir. It is a forum to increase the public awareness and understandings of the issues involving the DOE operations on the ORR and its environs. A third contract with the Tennessee Emergency Management Agency (TEMA) provides for the development of an Emergency Response Program. TEMA will coordinate the development of an offsite communication system to support the state and local government needs in the event of an actual ORR emergency response, as well as develop and conduct a public information program to inform the public of the offsite emergency response system.

Figure 1
Map Depicting The Office Location

DOE-OVERSIGHT DIVISION
761 EMORY VALLEY ROAD
OAK RIDGE, TENNESSEE 37830-7072

TELEPHONE: (615) 481-0995
FAX: (615) 482-1835

The Division has established five program sections to implement the TOA. The sections are the Administrative, Environmental Restoration, Waste Management, Radiological Monitoring and Oversight, and Corrective Action and Compliance. An Organizational Chart is shown on Figure 2. The Division is projected to employ 88 personnel. Thirty five positions were established in the first year of the grant. Thirty one positions were established in the second year and 22 positions are projected to be established in the third year. The TOA provides for numerous commitments throughout its duration. These deliverables are listed in Table I. Included in the list, is the lead organization responsible for the coordination of the commitment.

The TOA calls for two annual reports. One report is to provide the results of the Division's monitoring and analysis activities and its findings of the quality and effectiveness of the DOE's environmental monitoring surveillance and compliance programs. The second report is to discuss the activities of DOE-O in the areas of coordination of the Oak Ridge Environmental Oversight, Public Relations and the analysis of historical toxic releases. Because the first year activities have largely focused on staffing, procurement, training, and the development of guidelines and procedures, it has been decided that in order to be more informative, DOE-O's first report will include the status of the entire agreement and its efforts for the first two years of the program. Each DOE-O section provides information concerning its organization and staffing. A general status of each TOA commitment assigned to that section is included in the report. Those reports from organizations outside of the Division that are responsible for TOA commitments will provide separate status reports. The final portion of this report will deal with the Division's findings and recommendations. All documents, logs, files, etc. are available for review during routine business hours at the DOE-O office. Future annual reports, as the program becomes more established and operational, will more closely adhere to the commitments described in the TOA Attachment A.7.2.2 and C.1.

Figure 2

DOE-O Organizational Chart

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION - DOE OVERSIGHT DIVISION

Position Number: 327.3603601000000.(xx)

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Table I

Tennessee Oversight Agreement Commitments and
Lead Organization May 1993

Commitment	TOA Attachment	Lead Organization
Attachment A: Monitoring		
Monitoring Program	A.1	CA/C
Surface Water Monitoring	A.2	WM
On-site Discharges	A.2.1	WM
Public Drinking Water	A.2.2	CA/C
Fish & Wildlife Monitoring	A.3	ER
Groundwater Monitoring	A.4	CA/C
Program Review	A.4.1	CA/C
Program Development	A.4.2	CA/C
Air Quality Monitoring	A.5	WM
System Review	A.5.1	WM
Air Emissions Inventory	A.5.2	WM
Materials Balance Report	A.5.3	WM
Emissions Model	A.5.4	WM
Verification	A.5.5	WM
Radioactivity Surveillance	A.6	RM/O
System Review	A.6.1	RM/O
Sampling and Analysis	A.6.2	RM/O

Commitment	TOA Attachment	Lead Organization
Environmental Monitoring Program and Report	A.7	CA/C
DOE Actions	A.7.1	CA/C
Environmental Monitoring Plan	A.7.1.1	CA/C
Monitoring Data	A.7.1.2	CA/C
Data Base	A.7.1.3	CA/C
State Actions	A.7.2	CA/C
Environmental Monitoring Plan	A.7.2.1	CA/C
Annual Report	A.7.2.2	ADM
Attachment B: Action Items		
Auditing of ORR Facilities	B.1	CA/C
Transportation of Radiological Materials	B.2	TEMA
Operations Notification	B.3	RM/O
Waste Minimization Plan	B.4	WM
Source Reduction & Zero Discharges Study	B.5	WM
Waste & Residue Characterization	B.6	WM
Accelerated Decontamination & Decommissioning	B.7	WM
Specific Oversight Activities	B.8	See Attachment E
Security Clearance	B.9	ADM
Office for the State	B.10	ADM
Document Availability	B.11	ADM
Access for State Inspectors	B.12	ADM
Need-To-Know Policy	B.13	ADM
Site Access Requirements	B.14	ADM

Commitment	TOA Attachment	Lead Organization
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Environmental Monitoring Program	B.16	ADM
Hazard Assessment	B.17	TEMA
Information on Hazardous or Radioactive Release	B.18	TEMA
Emergency Notification & Information Management System	B.19	TEMA
Warning System	B.20	TEMA
Emergency Operations Center	B.21	TEMA
Attachment C: Tennessee Action Items		
Coordination & Public Awareness	C.1	ADM
Coordinator for Oak Ridge Environmental Oversight	C.1.1	ADM
Public Relations	C.1.2	ADM
Analysis of Toxic Release	C.1.3	EPI
Emergency Response	C.2	TEMA
Emergency Planning	C.2.1	TEMA
Training	C.2.2	TEMA
Organization	C.2.3	TEMA
Communications	C.2.4	TEMA
Facilities	C.2.5	TEMA
Emergency Response Staff	C.2.6	TEMA
Drills & Exercises	C.2.7	TEMA
Personnel Detection/Protection Equipment	C.2.8	TEMA
Maximum Credible Accident Document Review	C.2.9	TEMA
Radiological Oversight	C.3	RM/O

Commitment	TOA Attachment	Lead Organization
Areas of Review	C.3.1	RM/O
Federal Facility Agreement Support	C.4	ADM
Out-Of-State Travel	C.5	ADM
Attachment D: Grant Instrument Format		
Statement of Grant Objectives	D.1	ADM
Terms & Conditions	D.2	ADM
Financial Assistance Rules	D.2.1	ADM
Stevens Amendment	D.2.2	ADM
Attachment E: Specific Oversight Activities		
US DOE ER and WM Plan (Annually)	E.1	ADM
US DOE ORR Site Specific ER & WM Plan (Annually)	E.2	ADM
US DOE & ORR Applied, Research, Development, Demonstration, Testing & Evaluation Plan(s)	E.3	ADM
US DOE Activity Data Sheets for ORR Site Specific Plan and Prioritization	E.4	ADM
East Fork Poplar Creek ER Schedule & Updates	E.5	ER
Research, Development, Testing & Evaluation Activities for Y-12 Bear Creek Burial Ground Uranium Chip Environmental Restoration	E.6	ER
Research, Development, Testing & Evaluation Work Plan for ORR	E.7	ADM
ORR Waste Management Environmental Impact Statement Schedule	E.8	ADM
Research, Development Testing & Evaluation activities for Strontium 90 (⁹⁰ Sr) and Tritium (³ H) releases into environs	E.9	ER

Commitment	TOA Attachment	Lead Organization
Inventory & fate of radioactive & mixed waste shipments to and from ORR for reprocessing, treatment, storage and/or disposal	E.10	WM
ORR Mixed Waste Delisting Activities including schedule for treatment, storage, and/or disposal	E.11	WM
Y-12 Wastewater Effluent Toxicity CA Plans including production process Research, Development, Demonstration, Testing & Evaluation Activities	E.12	WM
ORR integration of RCRA/FFA groundwater monitoring requirements including Post Closure Permits, Solid Waste Management Units, Waste Area Groupings, and Operable Units	E.13	ER
ORR integration of NPDES/FFA area source pollution assessment & control requirements	E.14	ER
Oak Ridge Gaseous Diffusion Plant Corrective Action for raw sewage bypass during rainfall events aka Sewage Collection Rehabilitation Plan	E.15	WM
ER and WM activities in the Oak Ridge area off the reservation, including but not limited to, Elza Gate and CSX Railroad	E.16	ER
ORR response to TDC review comments regarding the Site Specific ER & WM Plan (Annually)	E.17	ADM

ADM = Administrative Section, DOE Oversight Division, TDEC
 ER = Environmental Restoration Section, DOE Oversight Division, TDEC
 CA/C = Corrective Action and Compliance Section, DOE Oversight Division, TDEC
 WM = Waste Management Section, DOE Oversight Division, TDEC
 RM/O = Radiological Monitoring and Oversight Section, DOE Oversight Division, TDEC
 EPI = Division of Epidemiology, TDH
 TEMA = Tennessee Emergency Management Agency

2. ADMINISTRATIVE SECTION

2.A DOE-O HISTORY

The first negotiation session was held December 1989, in Nashville and chaired for the State by Ben Smith of the Governors Planning Office and Robert Sleeman for DOE.

Other negotiators were:

Roger Jump	DOE
Jennifer Fowler	DOE
Wayne Scharber	State Bureau of Environment
Earl C. Leming	State Bureau of Environment
Michael Mobley	State Bureau of Environment
Roy Pruett	City of Oak Ridge
Sara H. Sell	Environmental Epidemiology
Joe Sanders	State Office of General Council

Negotiations on the Agreement continued until May 13, 1991 when the Tennessee Oversight Agreement (TOA) was signed by Governor Ned McWherter and Commissioner J. W. Luna.

2.B ADMINISTRATIVE SECTION

The Administrative Section is divided into the Director's office and the Administrative support section. The Director's office consists of the Director, Assistant Director, and Administrative Secretary. The Director's office was authorized two positions for the period May, 1991 through April, 1992, and three for May, 1992 through April 1993. As of February, 1993, the Director's office was fully staffed.

The Administration support section was authorized six positions for the period of May, 1991 through April, 1992 and had four positions filled. This is shown in Figure 3. For the period of May, 1992 through April, 1993 there was an authorized level of ten positions with five positions filled after the retirement of a clerk in January, 1993. This is shown in Figure 4. The remaining support positions will be filled as additional technological staff is hired and additional space is acquired to house all of the positions the Division is authorized. A functional organizational chart is shown on Figure 5.

2.C Tennessee Oversight Agreement Commitments

2.C.1 Annual Report; Attachment A.7.2.2

In the future, an annual report providing the assessment of DOE's monitoring activities and results of the Division's monitoring, surveillance and compliance analysis activities

Figure 3

Administrative Section Personnel Growth Year 1

TENNESSEE DIVISION OF DOE OVERSIGHT PERSONNEL GROWTH BY PROGRAM

TOTAL NUMBER OF AUTHORIZED EMPLOYEES 5/91 - 4/92 = 6

Figure 4

Administrative Section Personnel Growth Year 2

TENNESSEE DIVISION OF DOE OVERSIGHT PERSONNEL GROWTH BY PROGRAM

TOTAL NUMBER OF AUTHORIZED EMPLOYEES 5/92 - 3/93 = 10

Figure 5

Administrative Section Functional Organizational Chart

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION - DOE OVERSIGHT DIVISION

ADMINISTRATIVE SERVICES SECTION

On Hold by Information Resources

Position Number: 327.3603601000000.(xx)

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will be generated. This report will include the Division's findings of the quality and effectiveness of the DOE environmental monitoring, surveillance and compliance programs and will provide recommendations as appropriate.

2.C.2 Security Clearances; Attachment B.9

DOE and the Office of Personnel Management (OPM) have made the best effort possible in processing State requests for security clearances. Employees of this division have received approval for their Q Clearance as quick as four months and L Clearance within two months. At the end of the first two years 25 of 38 security clearance requests have been received.

However, it has taken DOE from one month to as long as four months to issue a Q badge after a clearance was awarded. The slowness of the process, according to DOE personnel, was the length of time it took to send the request around to the three site offices for signatures. In late October of 1992, the process was changed at the request of the DOE Oversight Division to allow the administrator to walk badge request forms through the system. As a result, badging for both uncleared and cleared personnel was reduced to three to four weeks from the time the badge request was delivered to the DOE office in the Information Resource Center to the time that a badge was issued.

2.C.3 Office for the State; Attachment B.10

DOE provided funds within the grant to enable the State to lease adequate office space in a location that is convenient to the Federal Building and the three plant sites. The office address, telephone numbers, and a map of the area are shown in Figure 1 on page 1.

2.C.4 Document Availability; Attachment B.11

This attachment obligates DOE to promptly make available to the state all documents that address safety, the environment and health compliance. While the majority of documents identified and requested from DOE by the Division have been provided in a timely manner, exceptions have occurred. The exceptions include significant delays by DOE and/or its contractors affecting the timeliness of the availability of some documents, the form in which some of the documents are made available and internal documents being referenced in public reports.

Documents that had to be cleared for release by the Martin Marietta Energy Systems, Inc. (MMES) and DOE after being requested by DOE-O were not received in a timely manner. For example, documents containing the access requirements for the Y-12, ORNL, and K-25 were requested on March 12, 1992. A draft of the document was provided to DOE-O on

October 29, 1992. Other documents that are received in a timely manner are designated as unclassified controlled nuclear information (UCNI). This designation makes it impossible to use the information in a public forum. MMES internal documents have been referenced in public reports such as Remedial Investigation Plans. Internal documents are not available to the public for review. Readily available information is critical to DOE-O's ability to assure the citizens of Tennessee that their health, safety and environment around the ORR are being adequately protected by DOE. At present all document requests and significant information requests are being made in writing to DOE in order to track the requests and monitor the time required to receive the request. The time ranges from days to months. DOE has agreed to allow state personnel with appropriate clearance to review documents onsite. This expedites the exchange of information but fails to alleviate the lack of public access to the information.

2.C.5 Access for State Inspectors; Attachment B.12

It is intended that access to buildings and Oak Ridge Reservation restricted areas be granted to DOE-O staff in order that they may perform the functions set forth in the Agreement. This access is to be granted without prior announcement, provided applicable safety and security requirements are not compromised. State Oversight Assistant TOA Coordinators have been established for each of DOE's prime contractors (MK-Ferguson, Johnson Controls, ORISE, OSTI) and each of the three (3) Martin Marietta Energy Systems, Inc. facilities. The TOA Coordinators have been instrumental in achieving site access on a site specific basis. However, to date, not all of the applicable safety and security requirements have been identified. This has led to access being denied upon occasion. Access remains as a third year action. All parties to the TOA must make every effort to assure that access is granted as stipulated.

2.C.6 Need To Know Policy; Attachment B.13

The State received a copy of the DOE's current NEED-TO-KNOW SECURITY INFORMATION POLICY. The policy is part of DOE-O's new employee orientation package.

2.C.7 Site Access Requirements; Attachment B.14

DOE through MMES has provided the State access to the training courses that are required for access to Oak Ridge Reservation (ORR) sites. DOE-O staff are attending routinely scheduled MMES training courses as quickly as the system will allow. Site access remains a problem with DOE-O due to the complexity involved in verifying routine training on a multitude of forms and formats. Through the efforts of personnel at K-25, we have gotten all employees' that have completed required training access to TSD sites and waste

areas.

2.C.8 DOE Orders; Attachment B.15

DOE has provided the Division with an index of those orders deemed relevant to DOE Oversight Division activities and with copies of those orders identified as needed by DOE-O. DOE-O has been provided access to Martin Marietta Energy Systems' electronic mail system and will be able to access DOE orders directly through this media. The Division has established a library of pertinent DOE Orders.

2.C.9 Environmental Monitoring Program; Attachment B.16

DOE is obligated to provide resources for the monitoring equipment, including, but not limited to installation, maintenance and calibration, necessary to support the Division's environmental monitoring oversight activities. Independent State Environmental Monitoring activities may involve replicating a portion of the environmental sampling that is ongoing at the ORR. Existing DOE contractor monitoring equipment will be utilized wherever possible. Future sampling needs may require additional environmental monitoring equipment. As these needs are identified they will be provided to DOE and the public.

2.C.10 Coordination and Public Awareness; Attachment C.1

The State is obligated to provide an annual report of its activities in the following areas: Coordination of Oak Ridge Environmental Oversight, (C.1.1); Public Relations (C.1.2); and Analysis of Toxic Releases (C.1.3). In lieu of this annual report, the Division is incorporating these activities in this status report.

2.C.10.1 Coordinator for Oak Ridge Environmental Oversight; Attachment C.1.1

The Director of the DOE Oversight Division has responsibility for coordinating oversight activities with other agencies, including but not limited to, Bureau of Environment Divisions, TDEC Bureaus, Department of Health, TEMA, TWRA, TVA, Department of the Interior, Corps of Engineers, and the USGS, with regard to Environmental Restoration, Corrective Action and Waste Management activities on the ORR. In many instances Memorandum of Understandings (MOUs) or Agreements have been or are being developed by the Division. MOUs have been completed with the TDEC Divisions of Underground Storage Tanks, Water Pollution Control, Air Pollution Control, Solid Waste Management, and Radiological Health. MOUs will be established with each of the Divisions in the DOE Oversight Advisory Group. Other agreements coordinating environmental oversight include the Tennessee Oversight Agreement, the Federal Facility

Agreement, the Federal Facilities Compliance Act, and the Watts Bar Interagency Working Group.

2.C.10.2 Public Relations; Attachment C.1.2

The State has entered into a contract with the Local Oversight Committee (LOC). The LOC is an incorporated non-profit organization composed of the following local officials that were appointed by Governor Ned McWherter:

- County Executive of Anderson
- County Executive of Roane
- County Executive of Meigs
- County Executive of Rhea
- Mayor of Oak Ridge
- Member of the Oak Ridge Environmental Quality Advisory Board (EQAB)
- Member of the Roane County Environmental Review Board
- City Manager of Oak Ridge as an ex-officio member

The LOC has hired an Executive Director and a Secretary to carry out their objectives.

2.C.10.3 Analysis of Toxic Releases; Attachment C.1.3

A Health Studies Agreement and contract has been established with the Tennessee Department of Health's Division of Epidemiology to fulfill the requirements of this section. The report on the evaluation and interpretation of the historical information on toxic releases to the environment at the ORR will be developed under a separate title. Phase I of the study began April 17, 1992. Information concerning the study may be obtained by contacting the Tennessee Department of Health's Division of Epidemiology at (800) 435-9617.

2.C.11 Federal Facility Agreement Support; Attachment C.4

This section requires the State of Tennessee and the DOE to use their best efforts to carry out their obligations under the Federal Facility Agreement (FFA). The general purpose of the FFA is to insure that the environmental impacts associated with past activities at the ORR are thoroughly investigated and the appropriate remedial action is taken to protect the public health and environment. Funding for the FFA is included in the TOA five (5) year grant provided by DOE. The Division has established an Environmental Restoration Section and designated an FFA Project Coordinator. A more detailed description of FFA activities are provided in the Environmental Restoration Section of this report.

2.C.12 Out-of-State Travel; Attachment C.5

During the first year of the Agreement out of state travel requests have been approved for meetings and training related activities that DOE has requested.

2.C.13 Statement of Grant Objectives; Attachment D.1

Funding has been provided to the state to support the objectives of environmental oversight and Monitoring of the ORR and environs. Funding has also been provided for those activities within the scope of the FFA.

2.C.14 Terms and Conditions; Attachment D.2

2.C. 14.1 Financial Assistance Rules; Attachment D.2.1

All financial assistance rules have been provided to the State.

2.C.14.2 Stevens Amendment; Attachment D.2.2

All provisions of this act have been adhered to.

2.C.15 Tennessee Oversight Agreement; Attachment E Specific Administrative Oversight Activities

E.1 The United States Department of Energy has agreed to provide its Environmental Restoration and Waste Management Plan to the state annually in draft form for comments. This plan is an annual update of the DOE's Five (5) Year Plan. The FY 1993-1997 Five Year Plan was issued August, 1991. Comments on the predecisional draft were provided through the State's representative to the State, Tribal, Government Working Group. The FY 1994-1998 Five Year Plan was issued on February 4, 1993 and remains under review at this time.

E.2 The DOE Oak Ridge Field Office has agreed to provide the state with annual Oak Ridge Reservation site specific environmental restoration and waste management (ERWM) plans in draft form for comments. The DOE-O received the Final FY 92 site specific plan September 19, 1991. While DOE Oak Ridge Field Office is not obligated by the Agreement to provide the Draft, the Division considers that DOE's ERWM Draft Plan and the final planned activities would benefit from early review and comment.

E.3 The United States Department of Energy and the ORR have agreed to focus resources on the applied research, development, demonstration, testing and evaluation (RDDT&E) of technology development for Environmental Restoration and Waste Management (ERWM). DOE is to provide annual plans of this activity. These plans are

to be included in the Five (5) Year Plan and will be available for review and comment by the State of Tennessee. Present RDDT&E activities concentrate on work for others. Additional effort on site specific technology development for ERWM is needed to assure completion of environmental restoration activities and waste management needs on the ORR by 2019 as indicated in the Five (5) Year Plan.

- E.4 The Department of Energy Oak Ridge ERWM programs provided Activity Data Sheets (ADS) for the Oak Ridge Site Specific Plan for Fiscal Years (FY) 1993 and 1994. The Division has reviewed and commented on the FY 93 ADSs and will provide comments on the FY 94 ADSs in an effort to assist in prioritization activities.
- E.7 The Research, Development, Demonstration, Testing and Evaluation Work Plan (RDDT&E) for the Oak Ridge Reservation is now incorporated into the annual Environmental Restoration and Waste Management Site Specific Plan for the Oak Ridge Reservation.
- E.8 The United States Department of Energy has provided the State of Tennessee with a schedule of its Oak Ridge Reservation Waste Management Environmental Impact Statements (EIS). The Division coordinates review and provide comments through the Governors State Planning Office which has statewide A-95 Clearing House responsibilities.
- E.17 DOE is obligated to respond to the State of Tennessee's review comments regarding the annual site-specific environmental restoration and waste management plan. DOE did respond to the State's comments on the FY 1991 Site Specific Plan. The comments were provided after the final, not draft, version of the plan and the response was not made in a timely fashion. The FY 92 Site Specific Plan (draft) was issued prior to September, 1991 and during the office procurement and establishment of the DOE Oversight Division office in Oak Ridge. Due to DOE-O's limited resources, the State did not comment on the Draft Plan.

3. Environmental Restoration Section

3.A Introduction

The Environmental Restoration (ER) section of the DOE Oversight Division (DOE-O) is charged with the responsibility of administering those State activities contained within the integrated RCRA/CERCLA remedial action program for the Oak Ridge Reservation. To coordinate and facilitate these activities, a Federal Facilities Agreement (FFA) became effective in January 1992 in accordance with Sections 120 of CERCLA and Sections 3008(h) and 6001 of RCRA between the DOE, the EPA-Region IV and the Tennessee Department of Environment and Conservation. Each Agency in the tri-party FFA is mandated by agreement to fulfill certain responsibilities.

Principal to the FFA is the responsibility of the State of Tennessee to provide coordination, review and approval of each activity phase of the RCRA/CERCLA process, i.e., Remedial Investigation, Feasibility Study, Records of Decision, Remedial Design, Remedial Action and follow-up evaluations to insure success, continued operation and maintenance following completion of the selected remedial actions. The ER section is responsible by assignment to provide comments to the DOE and to meet obligations as outlined in the schedules set forth within the FFA and to cooperate and coordinate in FFA Project Management, dispute resolution, and project prioritization and scheduling.

3.B Environmental Restoration Section Status

Since the signing of the FFA in January 1992 the Environmental Restoration Section has grown from one employee, the section Manager, to its present size of nine employees. Figures 6 and 7 depict the Environmental Restoration Section growth during the past two years. The section as organized includes the Manager, Assistant Manager, two project coordinators and five technical staff members. Future staffing plans will increase the technical review staff by three individuals providing for more timely reviews, more in-depth reviews, and more on-site coordination and monitoring of field activities.

Environmental restoration activities at the ORR are systematically divided by the DOE into four broad categories, i.e., Y-12, X-10, K-25, and Offsite activities. In order to effectively coordinate ER/FFA program activities the DOE-O ER section has organized its primary staff assignments in accordance with the DOE ER organizational alignment. By mimicking this structure the ER section personnel become highly competent and knowledgeable with respect to site specific remediation activities, a necessity when dealing with numerous projects running concurrently throughout the ORR. DOE-O management recognizes that

Figure 6

Environmental Restoration Section Personnel Growth Year 1

TENNESSEE DIVISION OF DOE OVERSIGHT PERSONNEL GROWTH BY PROGRAM

TOTAL NUMBER OF AUTHORIZED EMPLOYEES 5/91 - 4/92 = 7

Figure 7

Environmental Restoration Section Personnel Growth Year 2

TENNESSEE DIVISION OF DOE OVERSIGHT PERSONNEL GROWTH BY PROGRAM

TOTAL NUMBER OF AUTHORIZED EMPLOYEES 5/92 - 3/93 = 12

organizational structure is dynamic and must maintain the flexibility to adjust to changing responsibilities. Figure 8 provides the present ER section operational organization structure.

The entire ER staff has been involved in training activities necessary to their duties and responsibilities on the ORR. Training for all personnel has included General Employee Training, OSHA 40 Hour training, OSHA 8 Hour Refresher Training, Radiation Worker Training and ORR Security Training. In addition certain staff members have attended specific training sessions on Natural Resource Damage Assessment Procedures, Applicable or Relevant and Appropriate Requirement (ARAR) identification, and Risk Assessment Procedures.

The ER section manager and assistant manager have been actively involved as Chairman and working member of the Watts Bar Interagency Working Group. This working group is formed by interagency agreement between the State of Tennessee, TVA, USCOE, EPA, and DOE to review proposed permit activities within the Watts Bar Reservoir/Clinch River Area that have the potential of mobilizing contaminants through sediment disturbance activities.

3.C Federal Facility Agreement Status

ER Section project activities to meet FFA obligations since January 1992 include the review and comment on 84 individual RCRA\CERCLA documents (Table II) that represent 26 separate operable units. A total of 118 working group meetings were held between DOE, DOE contractors, EPA and the ER section in support of the project reviews. In addition to the project-specific working meetings, several FFA administration meetings were attended by the ER manager and assistant manager. These meetings primarily focused on FFA modifications, project prioritization and FFA Appendix E deliverable schedules. Remediation site visits/inspections in support of the FFA were conducted by all members of the ER section. A total of 61 (many involving multiple sites) visits/inspections were completed since January 1992. As staff grows during year three and as remedial actions on the ORR increase, site-specific field involvement is expected to become a more important and time consuming element of the FFA involvement.

3.D Tennessee Oversight Agreement Deliverables

3.D.1 Fish and Wildlife Monitoring; Attachment A.3

Contract activities between the Tennessee Wildlife Resources Agency (TWRA) and the DOE Oversight Division (DOE-O) have continued as planned. The TWRA has conducted collection and sample preparation for fish tissue analysis at selected locations downstream of the ORR. The samples have been

Environmental Restoration Section Functional Organizational Chart

ADMINISTRATIVE DIVISION OF ENVIRONMENT AND CONSERVATION - DOE OVERSIGHT DIVISION

ENVIRONMENTAL RESTORATION SECTION*

*Radiological Monitoring and Oversight Section will support radiological component of environmental restoration

Position Number: 327.3603601000000.(xx)

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TABLE 11

RCRA/CERCLA DOCUMENTS REVIEWED BY THE
ENVIRONMENTAL RESTORATION SECTION

SITE:	YAG/OU	TITLE	DOE NO.	DOC.	DUE	COMMENT/OUT	COMRESPON
SITE = K-25							
K-25	K-720	INT. REMED. MEASURES STUDY	DOE/OR/02-1126&D1	03/01/93	04/09/93	04/05/93	12/12/12
K-25	K-720	TECHNICAL EVALUATION MEMO.	DOE/OR/02-1108&D2	01/01/93	04/09/93	04/05/93	12/12/12
K-25	K1070	PHASE 2 RI WP - K-1070C/D C&G	ES/ER-9/V1&D2	12/01/91	05/03/92	05/12/92	05/29/92
K-25	K1070	K-1070C/D RI WORK PL. REV. SECS	DOE/OR-1025	04/30/92	12/12/12	12/12/12	12/12/12
K-25	K1070	K-1070-C/D RI WP-REV. VOL. 2&3	DOE/OR-1025/V2&D1	05/31/92	07/15/92	07/07/92	12/04/92
K-25	K1070-31	K-1070 ST31 SPG. DRF. IROD	DOE/OR-1050&D1	08/20/92	09/04/92	09/04/92	09/23/92
K-25	K1070-31	K-1070 ST31 SPG. FINAL IROD	DOE/OR-1050&D2	09/01/92	09/24/92	09/24/92	12/12/12
K-25	K1070-31	IROD-EXP. OF SIG. DIFFERENCE	DOE/OR/02-113&D1	04/01/93	05/14/93	04/29/93	12/12/12
K-25	K1070-31	K-1070 ST31 SPG. PROPOSED PLAN	DOE/OR-1024D1	05/14/92	06/07/92	06/05/92	12/12/12
K-25	K1070-31	K-1070 RD WORK PLAN	DOE/OR/03-1118&D1	02/01/93	03/15/93	03/10/93	12/12/12
K-25	K1070-31	PHASE 1 REMEDIAL DESIGN	DOE/OR/03-1139/V1&D1	03/01/93	05/07/93	05/10/93	12/12/12
K-25	K1070-31	PHASE 1 RA WORK PLAN	DOE/OR/01-1144&D1	05/01/93	05/11/93	06/06/93	/ /
K-25	K1407	K-1407-B/C PONDS, CLOSURE PLANS	DOE/OR-1013D1	04/06/92	08/06/92	05/22/92	12/12/12
K-25	K1407	K-1407-C CLOSURE/POSTCLOSURE P	K/ER-46/D2	04/06/92	08/09/92	05/22/92	12/12/12
K-25	K1407	K-1407-B CLOSURE/POSTCLOSURE P	K/ER-45&D2	04/06/92	08/09/92	05/22/92	12/12/12
K-25	K1407	K-1407-B/C PONDS, DRAFT IROD	DOE/OR/02-1125&D1	03/01/93	05/15/93	04/27/93	/ /
K-25	K1407	K-1407 -B/C PONDS, PROPOSED PL.	DOE/OR-1013&D2	06/01/92	11/19/92	12/12/12	12/12/12
K-25	K1407	K-1407-B/C PONDS, PROPOSED PL.	DOE/OR-1013&D3	12/01/92	01/15/93	01/19/93	12/12/12
K-25	K1407	K-1407-B/C PONDS, RI/FS(DRAFT)	DOE/OR-1012D1	04/06/92	06/06/92	05/22/92	06/26/92
K-25	K1407	RI/FS K-1407B/C DRAFT PRI. RPT	DOE/OR-1012&D2	06/01/92	10/16/92	10/16/92	12/08/92
K-25	K1407	K-1407-B/C PONDS, RI/FS	DOE/OR-1012&D3	12/01/92	12/16/92	01/06/93	12/12/12
K-25	K1417A-B	DRUM STORAGE YARDS-IEGD	DOE/OR-991	09/01/91	09/23/91	09/23/91	12/12/12
K-25	K901	K901 RI WORK PLAN VOL. 1, 2&3	DOE/OR-1052 D1	06/01/92	12/31/92	12/18/92	02/19/93
K-25	K901	K901 RI WORK PLAN VOL. 1, 2&3	DOE/OR-1052/D2	02/01/93	04/19/93	04/13/93	12/12/12
SITE = OFFSITE							
OFFSITE	CR_VB	PHASE 1 DATA SUMMARY RPT.	ORNL/ER-155	12/01/92	12/12/12	12/12/12	12/12/12
OFFSITE	CR_VB	CLINCH RIVER RFI, PHASE 1 WP	ES/ER-1/D1	06/01/90	11/27/91	11/27/91	/ /
OFFSITE	CR_VB	PHASE 2 SAP, QAP, H&S PL	DOE/OR/01-1111&D1	12/01/92	03/30/93	03/30/93	/ /
OFFSITE	CR_VB	PHASE 2 SAP, QAP, H&S PL	DOE/OR/01-1111&D2	06/01/93	06/17/93	/ /	/ /
OFFSITE	CSX	CSX RI WORK PLAN - DRAFT	DOE/OR-966/D2	09/01/91	11/18/91	10/31/91	/ /
OFFSITE	LEFPC_OU	EFPC, INITIAL SCREENING OF ALT.	DOE/OR-922	11/01/91	04/02/92	05/04/92	/ /
OFFSITE	LEFPC_OU	RI REPORT (VOL. 1-6)	DOE/OR/02-1119&D1	04/01/93	06/27/93	/ /	/ /
OFFSITE	LEFPC_OU	D-EFPC, PHASE 1b, SAMPLING PLAN	DOE/OR-983 D1	09/01/91	02/29/92	11/07/91	/ /
OFFSITE	SC	SOUTH CAMPUS FAC. RI WORK PLAN	DOE/OR-966/D1	09/01/91	02/10/92	12/30/91	10/02/92
SITE = X-10							
X-10	YAG01	SITE CHARACT. SUMMARY REPORT	DOE/OR-1043&D1(V1-5)	09/01/92	01/28/93	01/25/93	06/04/93
X-10	YAG01	PRELIMINARY RISK ASSES. REPORT	DOE/OR-1044&D1	09/01/92	01/28/93	01/25/93	06/04/93
X-10	YAG01	OU STRATEGY DOCUMENT	DOE/OR-1045&D1	09/01/92	01/28/93	01/25/93	06/04/93
X-10	YAG02	YAG 2, RI PREL. S&A PLAN	ORNL/ER-58	11/11/91	04/13/92	01/03/92	12/12/12
X-10	YAG02	YAG 2, S&A PLAN	DOE/OR-1070&D1	02/01/92	07/10/92	06/23/92	10/06/92
X-10	YAG02	FIELD S&A PLAN, RESP. TO COMM.	DOE/OR-1070&D2	10/01/92	12/06/92	11/24/92	12/12/12
X-10	YAG05	YAG 5, REVISED APP A, SAMP. PLAN	ES/ER-40/V2&D2	11/01/91	04/04/92	04/02/92	06/02/92
X-10	YAG05	YAG 5, NONINTRUSIVE SURVEY PLAN		06/27/91	01/01/92	12/11/91	12/12/12
X-10	YAG05	YAG5 RI PLAN-VOL. 2: APPENDIXES	DOE/OR-1032/V2	05/31/92	07/15/92	06/30/92	11/30/92
X-10	YAG05	ECOL. ASSM. PLAN - ATT. A-9	DOE/OR-1032/V2	06/20/92	09/30/92	08/26/92	11/30/92
X-10	YAG06	YAG 6, PROPOSED PLAN	DOE/OR-995D1	04/01/92	05/15/92	05/01/92	12/12/12
X-10	YAG06	YAG6 PROP. PLAN - INTER. REM. ACT.	DOE/OR-995D2	06/01/92	06/24/92	06/21/92	11/24/92
X-10	YAG06	YAG 6 IRA PROPOSED PLAN	DOE/OR-995&D3	11/01/92	12/11/92	12/10/92	12/22/92

TABLE 11

RCRA/CERCLA DOCUMENTS REVIEWED BY THE
ENVIRONMENTAL RESTORATION SECTION
(CONTINUED)

SITE:	WAG/OU	TITLE	DOE NO.	DOC.	DUE	COMMENT/OUT	CORRESPON
X-10	WAG06	WAG06 IRA PROPOSED PLAN	DOE/OR-9954D4-1	12/01/92	01/08/93	01/08/93	01/14/93
X-10	WAG06	WAG06 IRA PROPOSED PLAN	DOE/OR-9954D4-2	01/01/93	01/15/93	01/15/93	12/12/12
X-10	WAG06	WAG 6 FS/EA	DOE/OR-994D1	02/01/92	04/15/92	04/29/92	06/29/92
X-10	WAG06	ADDENDUM-FS/EA (ALT.#5)	DOE/OR-994D2	05/01/92	07/27/92	07/17/92	09/22/92
X-10	WAG06	ADDENDUM FS/EA (DRAFT2)	DOE/OR-994D3	05/01/92	10/09/92	10/08/92	10/23/92
X-10	WAG06	ADDENDUM FS/EA-DRAFT FINAL	DOE/OR-994D4	10/01/92	11/06/92	11/05/92	12/12/12
X-10	WAG06	WAG 6, RFI REPORT, VOL 1-6	ES/ER-22/V14D1	09/01/91	01/30/92	01/31/92	12/12/12
X-10	WAG10	WAG 10 RI PLAN - VOL. 2	ES/ER-4/V24D2	05/15/92	08/15/92	08/12/92	/ /
X-10	WAG11	WAG11 IROD - DRAFT 1	DOE/OR-10554D1	09/01/92	09/11/92	09/11/92	12/12/12
X-10	WAG11	WAG11 FINAL IROD	DOE/OR-10554D3	09/30/92	10/02/92	10/02/92	12/12/12
X-10	WAG11	WAG 11, ITRM.REMED.ACTION PLAN	DOE/OR-1017D1	03/30/92	05/31/92	05/08/92	06/09/92
X-10	WAG11	WAG 11-REVISED INT.REMD.ACT.PL	DOE/OR-1017D1 (REV1)	05/19/92	06/08/92	06/04/92	06/06/92
X-10	WAG11	WAG 11-REVISED INT.REMD.ACT.PL	DOE/OR-1017D2 (REV2)	07/02/92	07/10/92	07/07/92	12/12/12
X-10	WAG11	INT.REM.ACTION WORK PLAN	DOE/OR/01-11214D1	03/01/93	04/30/93	04/23/93	/ /
X-10	WAG11	INT.REM.ACTION WORK PLAN	DOE/OR/01-11214D2	06/01/93	07/22/93	/ /	/ /
X-10	WAG13	WAG13 IROD - DRAFT 1	DOE/OR-10594D1	09/01/92	09/11/92	09/11/92	12/12/12
X-10	WAG13	WAG13 FINAL IROD	DOE/OR-10594D3	09/30/92	10/02/92	10/02/92	12/12/12
X-10	WAG13	WAG 13, INTERIM REMED.ACTION PL	DOE/OR-1022D1	04/08/92	06/14/92	05/26/92	12/12/12
X-10	WAG13	DRAFT-PROP.INT.REMD.ACT.PLAN	DOE/OR-1022D1	04/08/92	08/08/92	05/26/92	12/12/12
X-10	WAG13	WAG 13-REVISED INT.REMD.ACT.PL	DOE/OR-1022D2 (REV2)	07/02/92	07/10/92	07/07/92	12/12/12
X-10	WAG13	INT.REM.ACTION WORK PLAN	DOE/OR/01-11224D1	03/01/93	04/30/93	04/27/93	06/21/93
X-10	WAG13	WAG 13, SITE ASSESS.STUDY PLAN	DOE/OR-990D1	12/04/91	04/23/92	01/31/92	12/12/12

SITE = Y-12

Y-12	BCOU2	RI WORK PLAN-BEAR CR.VALLEYOU2	DOE/OR-10604D1	09/01/92	01/15/93	12/22/92	02/26/93
Y-12	BCOU2	RI WORK PLAN-BEAR CR.VALLEYOU2	DOE/OR-10604D2	02/01/93	04/26/93	04/14/93	12/12/12
Y-12	BCOU2	RI WORK PLAN-BEAR CR.VALLEYOU2	DOE/OR-10604D3	05/01/93	12/12/12	12/12/12	12/12/12
Y-12	BCOU4	RI WP BCOU4-SHALLOW GV	DOE/OR/01-11154D1	12/01/92	04/30/93	04/26/93	/ /
Y-12	CROU2	RI CHESTNUT R. OU2 COAL ASH PD	ES/ER-234D1	12/01/91	05/03/92	02/27/92	09/01/92
Y-12	CROU2	PHASE II, SAMPLING PLAN	DOE/OR-10544D1	08/01/92	10/31/92	10/27/92	01/28/93
Y-12	CROU2	Phase II, Sampling Plan	DOE/OR-10544D2	01/01/93	03/28/93	03/02/93	12/12/12
Y-12	CROU3	POSTCONST.RPT. - UNC SITE	DOE/OR/01-11284D1	06/01/93	09/26/93	/ /	/ /
Y-12	CROU3	UNC DISPOSAL SITE-ROD		06/27/91	06/27/91	06/27/91	12/12/12
Y-12	PLATSHOP	PLATING SHOP CONT.AREA PROP.PL	DOE/OR-1026D1	04/17/92	09/06/92	05/29/92	12/12/12
Y-12	PLATSHOP	RI RPT.PLATING SHOP (S334-351)	ES/ER-354D2 (RESPONSE	12/01/91	03/01/92	02/28/92	12/12/12
Y-12	PLATSHOP	DRAFT - RECORD OF DECISION	92-225-161-55	07/01/92	08/19/92	08/13/92	08/31/92
Y-12	PLATSHOP	RECORD OF DECISION (ROD)	DOE/OR-10494D3	06/31/92	09/23/92	09/22/92	12/12/12
Y-12	UEFP00U1	MERCURY TANKS-INT.RA WORK PLAN	DOE/OR-10394D1	08/01/92	11/01/92	10/13/92	11/05/92
Y-12	UEFP00U1	MERCURY TANKS-RA WORK PLAN	DOE/OR-10394D2	11/01/92	11/30/92	11/19/92	12/12/12
Y-12	UEFP00U1	RI WP ADDENDUM -GR.4-OU1	ES/ER-10/V14D2	12/31/91	03/15/92	03/11/92	12/12/12
Y-12	UEFP00U1	MERCURY TANKS-ROD	OKR/91-056	09/01/91	09/23/91	09/23/91	12/12/12
Y-12	UEFP00U2	RFI PLAN COMM.RESP.-GR.4-OU2	ES/ER-10/V24D2	12/31/91	03/15/92	03/13/92	12/12/12
Y-12	Y12STUDY	BLD.9201-2 OUTFALL49 INT.ACT.	DOE/OR-1019D3	01/31/92	06/25/92	03/19/92	12/12/12
Y-12	Y12STUDY	CR SED.DIS.BASIN-DATA ADEQUACY	DOE/OR-10114D1	11/01/92	01/31/93	01/06/93	12/12/12

SITE = LLLV

LLLW	LLLW	LLV TANK FFA AGREEMENT PLANSS2	ES/ER-174D1	03/01/92	05/29/92	05/11/92	/ /
LLLW	LLLW	CAT. D-WASTE CHAR. DATA MANUAL	DOE/OR/01-11594D1	06/01/93	09/22/93	/ /	/ /
LLLW	LLLW	LEAK DET. TEST PL. & SCHEDULE	DOE/OR/01-11294D1	03/01/93	06/30/93	/ /	/ /
LLLW	LLLW	REMEDIATION SCHEDULE(CAT.D)	DOE/OR/01-11364D1	03/01/93	06/30/93	/ /	/ /

submitted to TWRA's contract laboratory for analysis. A report of TWRA's sampling activities and analytical results are on file at the DOE Oversight Division office.

3.D.2 East Fork Poplar Creek (EFPC) Schedules and Updates;
Attachment E.5

The EFPC remedial action project activities are continuing on schedule. Activities during the past two years have included a completion of the sampling and analysis plans. The Remedial Investigation (RI) report which will include a baseline risk assessment is being finalized. Scheduled plans, based upon FFA Appendix E deliverables, outline the delivery of a completed baseline risk assessment, and the finalized draft RI report for review and comment in April, 1993. Fiscal year 1994 activities are planned to include the development of a Feasibility Study/Environmental Impact Statement (FS/EIS) to be followed in FY 95 with the Record of Decision (ROD). Proposed dates for these deliverables are March 1994 for the FS/EIS and March 1995 for the ROD.

3.D.3 R&D, Testing and Evaluation for the Y-12 Bear Creek
Burial Ground Uranium Chip Environmental Restoration;
Attachment E.6

Current research and development activities concerning uranium turnings and particles (chips) and other metallic uranium contaminated chips are related to uranium waste minimization. Research and development into remediation of buried chips and uranium transport lysimetry experiments concerning migration in soil and groundwater were high priorities for Y-12 when plans were written in 1988 and approved by TDEC (Clapp et. al), DOE's National Technology program changed the priority without State involvement and the lysimetry experiments were not funded. Remote handling and robotics technology and development for removal of buried drums is in the conceptual stage. Robotics and remote handling technology for removal of non-drum-containerized waste from burial grounds has been identified as a need but is not presently funded for DOE research and development at the ORR. A mature handling technology may very well be lacking at the ORR when mature treatment and long term disposal technologies become available.

3.D.4 R&D, Testing and Evaluation for Strontium 90 and
Tritium Releases into environs; Attachment E.9

Cesium 137 and strontium 90 research needs, which have been identified have not been funded, involve removal or fixation of these radioisotopes in soils and groundwater. Research into practical means of treatment for tritium in water has not been observed except as a coincidence to treatment of other radionuclides. Tritium is a prevalent contaminant which exits burial grounds more readily than particle reactive nuclides like cesium and strontium. Staff at ORR

involved in fusion experiments however may be exploring methods of removing tritium from water as related to the fusion process. Tritium treatment for remediation technology development is not considered on the research and development priority list by DOE at ORR. Treatment of tritium in water is promising and most likely possible if pursued aggressively.

3.D.5 ORR Integration of RCRA/CERCLA Groundwater Monitoring Requirements for Post Closure Permits, Solid Waste Management Units, Waste Area Groupings and Operable Units; Attachment E.13

The issue of RCRA\CERCLA integration as it relates to ORR remedial action strategy has been intensely discussed at both the local level and headquarters level over the past two years. Most recently the headquarters of both DOE and EPA have determined that integration of the two programs into one CERCLA-driven pathway may not be totally feasible. It appears, at least for the present, that RCRA closure activities will not be treated as a CERCLA ARAR and as such must meet RCRA administrative procedures as well as the substantive requirements of the Act. The basis for this decision remains unclear considering that other programmatic permit requirements, as mandated by other Federal and State statutes, are accepted as ARAR to the ORR CERCLA process. In essence, this decision leads to the application of two separate administrative processes that unavoidably create duplication of documentation and review.

Concerns are voiced by RCRA regulatory personnel that the non-time-line driven CERCLA pathway may not insure timely action toward the remediation of RCRA-listed hazardous waste contaminated sites. This is especially true in the category of RCRA-constituent contaminated ground water. However, it must be realized that ground-water remediation activities at the ORR most frequently involve "mixed waste" that includes RCRA-listed hazardous waste along with radiological components. Given the mixed waste issue, which is not adequately addressed within the RCRA process, and given that CERCLA can and does address both types of waste, it seems prudent to adhere to one administrative process at the ORR. The CERCLA process provides rapid response to recognized emergencies that may affect human health or the environment through application of Time Critical "Removal Actions". It therefore appears more appropriate to dedicate time and resources toward identification of rapid response technologies that can be totally effective. In order to satisfy RCRA regulatory concerns, the State and DOE are in the process of preparing a "consent agreement" which in effect, would allow RCRA Post Closure Permit requirements for CERCLA sites to be integrated into the FFA decision making process.

3.D.6 ORR Integration of NPDES/FFA Area Source Pollution Assessment and Control Requirements; Attachment E.14

The ORR is presently regulated under three separate National Pollution Discharge Elimination System (NPDES) permits. There is therefore a separate permit covering waste-water discharge limits at Y-12, X-10, and K-25 with each permit covering over 100 outfalls at each site. Because the ORR is listed on the National Priorities Listing (NPL) in accordance with CERCLA, the NPDES permits cover only active operational discharges. CERCLA activities are exempt by law from all administrative permitting requirements; however, the law requires compliance with requirements in substance. Integration and coordination efforts between the DOE-O Waste Management (water pollution staff) and ER section staff insure that CERCLA activities meet all Applicable or Relevant and Appropriate Requirements (ARAR) as required by CERCLA. As the result of this coordination effort, specific emphasis has been placed on certain remediation units to employ CERCLA Removal Actions and/or Interim Actions in order to speed the elimination of active discharges that either do not meet NPDES standards or have a significant potential of exceeding those standards without control or treatment. Examples of this coordination include the SW-31 spring at K-25, the mercury reduction program at Y-12, and the streamlined seep investigations at X-10.

3.D.7 ER and Waste Management Activities in the Oak Ridge Area off the Reservation, including but not limited to, Elza Gate and CSX Railroad; Attachment E.16

The ER section is currently working in conjunction with DOE and TDEC Division of Superfund (DSF), the lead agency, on four sites. These sites are listed below with a brief status report.

3.D.7.1 Atomic City Auto Parts - Oak Ridge

DOE submitted a draft "Action Plan for DOE Environmental Restoration Activities at the Atomic City Auto Parts Site" on July 24, 1992 (Document #DOE/OR-1041DO). This plan has been reviewed and approved by the ER section and DSF.

3.D.7.2 Elza Gate - Oak Ridge

Placement of Elza Gate contaminated soil into the United Nuclear Corporation (UNC) landfill site at Y-12, as per agreement, was complete in January 1992. A temporary cover (plastic) was placed over the disposal site during the winter months due to work shutdown and to prevent erosion. A final closure for the landfill site was completed in August, 1992.

3.D.7.3 CSX Railroad - Oak Ridge

DOE is currently implementing sampling and analysis for the "Environmental Restoration Engineering Evaluation/Cost Analysis Work Plan" (Doc. #DOE/OR-1016), on two sections of the CSX railroad. This site was determined by the EPA to fall outside the ORR and was therefore not to be handled under the FFA. This Division will work with the DSF on future review.

3.D.7.4 Witherspoon Sites - Knox County, TN

The Witherspoon Sites are located in Knox County, Tennessee. These sites have handled DOE contaminated materials in the past and DOE is a potential responsible party. The Sites are currently being remediated under the direction of the DSF. The DOE has recently retrieved contaminated materials originating at the ORR and returned these materials to ORR for storage.

3.D.7.5 Nuclear Fuels Service (NFS) - Erwin, Unicoi County, TN

The NFS Plutonium Processing Facility D&D residual wastes and mixed plutonium oxides which were scheduled for transfer to INEL (Idaho) are now being packaged for transport and storage at the ORR. DOE was requested by the State of Tennessee to accept the material for interim storage pending final action.

3.D.7.6 Valley Equipment - Jonesborough, Washington County, TN

This site was found to contain DOE contaminated scrap materials. The State Division of Radiological Health is working with DOE to return the material to the ORR for storage.

3.D.7.7 City of Oak Ridge Contaminated Sewage Sludge - Oak Ridge, Tennessee

Radioactive contaminated sewage sludge resulted from releases into the public sewage system and was found to concentrate in the sludge at the old Oak Ridge Municipal sewage plant. A plan to remove and transport the sludge to the ORR has been prepared and the material has been effectively removed and stored at the ORR.

4. Waste Management Section

4.A Waste Management Organization

At the end of the first year (April 1992) the Waste Management Section, with responsibilities in the areas of air, water, and solid, hazardous and mixed waste consisted of three (3) employees with educational backgrounds in chemistry, engineering and the biological sciences (See Figure 9). During the second year, staffing of the Waste Management Section was expanded (See Figure 10). In terms of professional background, a mix of experienced State Environmental and Conservation personnel with individuals from the private, and federal sectors has been achieved. The Waste Management Organization Chart, showing all projected positions is provided in Figure 11.

In addition to continuing staffing and training efforts, emphasis was added in the area of oversight. The staff conducted approximately 200 site visits and/or audits relating to the treatment, storage, and/or disposal of waste. Media covered included water, air, solid, hazardous, radioactive and mixed wastes. Significant achievements included remediation of acid run-off from coal and ash storage yard at the abandoned K-25 steam plant site, and the cessation of burial of biological and suspect waste at ORNL.

4.B Tennessee Oversight Agreement Commitments

4.B.1 Surface Water Monitoring; Attachment A.2

4.B.1.1 On-Site Discharges; Attachment A.2.1

Discharges into Surface Waters

Each site on the ORR has a multitude of NPDES permitted outfalls which discharge into at least nine (9) streams which are considered waters of the state. Each site has over one hundred discharges which require monitoring under their respective NPDES permit. Personnel have been to all three sites to evaluate the monitoring systems in place for compliance purposes.

Stormwater outfalls have been specifically reviewed by DOE-O personnel at the K-25 and X-10 sites to validate their location, classification and flow status. Similar review has been made for the Y-12 plant based on DOE/MMES maps and descriptive information, as well as limited site review by DOE-O personnel.

Modifications

The State has proposed modification to DOE's Biological Monitoring and Abatement Program (BMAP) at the K-25 site

Figure 9

Waste Management Section Personnel Growth Year 1

TENNESSEE DIVISION OF DOE OVERSIGHT PERSONNEL GROWTH BY PROGRAM

TOTAL NUMBER OF AUTHORIZED EMPLOYEES 5/91 - 4/92 = 9

Figure 10

Waste Management Section Personnel Growth Year 2

TENNESSEE DIVISION OF DOE OVERSIGHT PERSONNEL GROWTH BY PROGRAM

TOTAL NUMBER OF AUTHORIZED EMPLOYEES 5/92 - 3/93 = 18

Figure 11

Waste Management Section Functional Organizational Chart
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION - DOE OVERSIGHT DIVISION

(1) Includes Radiological oversight involvement in coordination with Radiological Monitoring and Oversight Section

**Includes solid low level waste oversight

Position Number: 327.3603601000000.(xx)

c:\opus\draw2.doc (revised 03/10/93)

and will continue to evaluate the programs at the other sites. Comments were sent to K-25 with questions and proposed changes to the BMAP. These comments have reportedly been addressed and DOE-O should be receiving an amended version of the BMAP by the end of April, 1993.

TDEC Monitoring and Review

DOE-O, Water Pollution personnel review the Discharge Monitoring Reports that are submitted each month and address any questions arising from this information. Each plant submits discharge monitoring information, as required by the NPDES permit, reflecting data for the month. All of the data is reviewed to ensure compliance with the established permit limits as well as for trend analyses. A great deal of the data is submitted for "monitoring purposes" only - meaning that there are no established limits for these parameters. The DOE-O WPC section reviews this information in great detail to ensure that no water quality criteria are being violated.

There are also narrative reports in the daily monitoring reports (DMR) that are carefully reviewed to ensure that DOE-O is up to date on all of the activities that are occurring at the plant sites in relation to surface waters. These reports include permit violations, spill events that result in a release to waters of the State and fish kill information.

Sampling

Each site on the ORR has a unique complex of WWTFs that handle the specific waste streams generated by DOE processes. The intent of TDEC-DOE-O NPDES monitoring program is to evaluate compliance of the operation permit as well as to ensure that effluents are not causing pollution via unpermitted discharges exceedance of water quality criteria not included in the NPDES permit.

In January, 1993 there was a fish kill in the Upper East Fork of Poplar Creek (UEFPC) due to ammonia toxicity. The source of ammonia was traced to an urea stockpile located on Chestnut Ridge. This stockpile appears to have contaminated a spring that feeds outfall 017. Water samples have been collected at the outfall by both DOE and DOE-O verifying that the ammonia concentrations are substantially above background levels.

In addition to outfall monitoring, the Division intends to complete spot pretreatment-type inspections at internal monitoring points. This may include stormwater sampling and flows directed to the City of Oak Ridge STP.

Biomonitoring

Toxicity-biomonitoring samples will be collected at discharges that have biomonitoring limits on their permit. The extent and type of toxicity testing has been discussed with the Division of Laboratory services to work out costs and scheduling. It seems most appropriate and cost effective to conduct a series of definitive screening tests to identify the most problematic effluents. These effluents may then be scheduled for the more intensive chronic testing.

Suspect wastestreams such as seeps, contaminated springs, and some effluents designated as stormwaters, will also be targeted. Biomonitoring will be used by DOE-O to further define sources of potential toxicity to aquatic communities in the streams receiving wastes from ORR.

4.B.2 Air Quality Monitoring; Attachment A.5

4.B.2.1 System Review; Attachment A.5.1

All MMES/DOE air monitoring stations are being evaluated. This evaluation includes the monitor siting, type monitor, extent of system, and pollutants monitored. Planning continues for the installation of co-located and newly established monitoring stations located both on and off the Oak Ridge Reservation.

4.B.2.2 Air Emissions Inventory; Attachment A.5.2

An air emissions inventory submittal by MMES has been initiated. This inventory will include Tennessee criteria pollutants, currently listed Tennessee NESHAPS pollutants, all federal NESHAPS pollutants indicated in the 1990 Clean Air Act, and emissions from stacks, hoods, vents, ponds, wastesites, etc.

4.B.2.3 Material Balance Report; Attachment A.5.3

A comprehensive inventory of all volatile organic compounds (VOC) used on the Oak Ridge Reservation has been established by MMES. This inventory, along with other inventoried precursors, will help establish the potential for ozone generation on the Oak Ridge Reservation.

4.B.2.4 Emissions Model; Attachment A.5.4

The modeling for greatest impact of pollutants of concern is planned. This modeling activity will be necessary to evaluate DOE/MMES existing stations and prior to the establishment of any new air monitoring stations and will be done using only State/EPA approved methods.

4.B.2.5 Verification; Attachment A.5.5

The audit of required stack sampling for both Tennessee criteria pollutants and NESHAPS pollutants will be an ongoing project. This activity is anticipated when new significant sources, modified significant sources, NESHAPS sources are permitted, or as required to verify the amount and type of emissions. DOE-O staff have to date participated in the audit of one modified significant source.

4.B.3 Waste Minimization Plan; Attachment B.4

Waste minimization plans for Oak Ridge Reservation have been submitted by each of the sites and primary contractors. Reviews of these plans are on file (completed January 15, 1993). Of the seven (7) plans submitted, only the K-25 plan fulfilled the requirements of a waste minimization plan per the Tenn Hazardous Waste Reduction Act of 1990. Additionally, the Y-12 waste minimization project personnel made a presentation to the DOE-O staff, which included review of the background of Y-12's waste minimization history, and an outline of the developed waste minimization/pollution prevention strategy. The four key elements of this strategy are: Promotional Campaign, Waste Tracking System, Information Exchange, and Process Waste Assessments.

4.B.4 Source Reduction and Zero Discharge Study; Attachment B.5

DOE has submitted a Source Reduction/Zero Discharge Pilot Study schedule (August 12, 1991). This schedule outlined DOE strategy for implementation of short term source reduction pilot studies through development of comprehensive Process Waste Assessment (PWA) plans for each ORR facility. Each of these plans should consider the following elements: a) organization of waste assessment teams, b) identification of pilot study areas, c) assessment of processes and waste streams, d) development and evaluation of pollution prevention options, and e) initiating implementation of preferred pollution prevention options. In accordance with this schedule three (3) model Process Waste Assessment (PWA) plans were submitted to the State November 4, 1992. DOE has also submitted a Pollution Prevention Program Description on March 31, 1993. The waste Minimization and Pollution Prevention Awareness Program Plan/Description for the Office of Scientific and Technical Information (OSTI) was forwarded to DOE-O on November 18, 1992. These documents as well as their applicability to the requirement of this section are under review.

4.B.5 Waste and Residue Characterization; Attachment B.6

Waste and Residue Characterization

DOE is required to update and revise the current waste and residue characterization plan. As part of this commitment, DOE has submitted a MMES Solid Waste Certification Program Plan and guidance for writing site plans (June 2, 1993). DOE and DOE-O have agreed in principle to the definition of residue not considered as waste (March 18, 1993).

Waste Tracking System

DOE is also required to establish a target date for completion of a comprehensive waste tracking system. The schedule submitted by DOE establishes two phases for completion of this system. Phase I involves all radioactive, hazardous, and mixed wastes and is scheduled to be completed in October, 1993. Phase II will bring solid waste into the data base. To date, the Requirements Definition Document and the Centralized Waste Tracking System (CWTS) Phase I Function System Design Document have been submitted on schedule and approved by the DOE-O.

4.B.6 Accelerated Decontamination and Decommissioning; Attachment B.7

Inventory of Facilities in Need of D&D

The inventory of the ORR facilities in the D&D program was submitted to DOE-O on August 12, 1991 and superseded by the September 30, 1992 revision received on December 16, 1992. Currently DOE-O is developing plans to physically inspect areas at the ORR identified by this deliverable.

Near-Term and Long-term Schedule for D&D Activities

Near-term and Provisional Long-term D&D schedule (dated September 6, 1991) was received by DOE-O September 17, 1991. For each major facility, the schedule focuses around surveillance and maintenance activities with concurrent removal of hazardous materials (asbestos, PCBs, contaminated lubrication oils and coolants, chemicals). Actual D&D then continues through the completion of each D&D project with any required additional surveillance and monitoring.

Facility Surveillance and Maintenance Summary

Summary of FY 1991 facility Surveillance and Maintenance Programs was submitted to DOE-O on January 13, 1992. The Waste Management Section will continue to monitor D&D activities to assure adequate prioritization and funding. A concerted effort will be made to consolidate ER and D&D activities to the extent possible.

4.B.7 Tennessee Oversight Agreement Attachment E Specific
Waste Management Activities E.10, E.11, E.12, and
E.15

- E.10 An inventory of radioactive and mixed waste shipments to and from the Oak Ridge Reservation for reprocessing, treatment, storage and/or disposal has not been provided. However, DOE-O is being, informed of shipments of wastes to and from Oak Ridge Reservation prior to the occurrence on a case by case basis. More complete information will be available when waste tracking program is fully operational.
- E.11 DOE has not provided a schedule of mixed waste delisting activities. DOE-O has emphasized to DOE the importance of initiating delisting efforts.
- E.12 Y-12 Wastewater Effluent Toxicity CA Plans including production process Research, Development, Demonstration, Testing and Evaluation Activities.

Toxicity reduction evaluations have been conducted since 1987 at the Y-12 plant. At the West End Treatment Facility (WETF) several different additional chemical processes have been tested (used for Ur removal) to see which has the least amount of toxicity associated with it. Most recently, the WETF head works proposal offers methods to reduce the amount of hazardous sludge produced which requires storage in RCRA storage area. Also they are working towards reduction of chemical addition to the treatment plant. Y-12 has implemented operational changes at the WETF so as to better remove heavy metals prior to the biological treatment. Biomonitoring tests of the final effluent have shown an improvement in the toxicity as a result of these changes. Construction of the Head End Modifications is scheduled to begin in late 1993. The engineering report for this project was reviewed by DOE-O in September, 1992 where upon the Division requested additional information. In January, 1993, DOE resubmitted the report with addendum. This revised report was reviewed and approved by DOE-O personnel in early April, 1993.

Site-wide studies are presently being conducted to see what changes can be made to reduce toxicity at all treatment facilities. Each facility is being assessed to see what changes in chemical additions, as well as volume reductions, would be most effective. DOE-O has not received any information or updates on these assessments or proposed changes.

Through the Toxicity Control Monitoring Program (TCMP) the majority of the category IV outfalls have been eliminated or rerouted to treatment facilities. Category IV outfalls are

those outfalls which were releasing untreated wastewaters into waters of the State. These included the outfalls from the dye penetrant facility, the photo rinse area, the plasma torch cutting wastewater, the circuit board rinse and the nitric acid still distillant. Several of these outfalls had shown toxicity in the past.

A toxicity reduction evaluation (TRE) was initiated on the lithium process effluent (outfall 402). This effluent had repeatedly shown toxicity at levels greater than its instream waste concentration (IWC). Due to the nature of the effluent, it was determined that elimination the discharge was the most effective way of dealing with the toxicity problem. The present system will be replaced with a recycling system as proposed in a line item for 1993. DOE-O has not received any information, plans or indications that this project is still scheduled.

Dechlorination units installed at the North/South pipes in November, 1992 and at outfall 021 in December 28, 1992 are operational. These units effectively dechlorinate three major sources of cooling water flowing to UEFPC. Chlorine was often named as the agent causing the chronic fishkills in the UEFPC.

Other remedial programs include a concentrated effort to remove all drains and sink lines from storm sewers. The S3 ponds have been taken out of use, filled and covered. There are proposals to withdraw the groundwaters accumulating beneath the cover, and treat them before discharging to EFPC. The ground water still has an "appreciable" toxicity associated with it. DOE-O has not received any specific plans or proposals concerning the withdraw and treatment of these accumulated groundwaters.

The oil landfarm has been covered with an impermeable cover and may also be a candidate for groundwater treatment. PCB contaminated sediments from various ponds and tributaries have been removed and put in burial grounds and sealed with a cap. Again, leachate from the burial areas may require collection and treatment. Y-12's new permit is presently being drafted by the Division of Water Pollution Control and will include monitoring of all stormwater flows related to the site. The leachates from the burial areas will be monitored in the stormwater monitoring program.

The new permit will also include limits and monitoring requirements for the outfall(s) from the Trib. 8 leachate collection system. This system was installed in late fall 1992 but is already experiencing engineering and mechanical problems. DOE is working towards correcting some of these problems but will require coordinated cooperation between the ER and WM groups.

Progress toward instream toxicity reduction has been made at Y-12. However, there still exists areas of concern. The WETF continues to discharge an effluent with high concentrations of sulfates, sodium and nitrates; all of which create toxicity problems to aquatic organisms. Mercury contaminated ground water is discharged to EFPC from outfall 049 and 055, as well as other non-point sources, on a daily basis and needs to be remediated as soon as possible.

E.15 Oak Ridge Gaseous Diffusion Plant Corrective
 Action for raw sewage bypass during rainfall
 events aka Sewage Collection Rehabilitation Plan.

The Oak Ridge Gaseous Diffusion Plant (ORGDP) has developed a ten million dollar collection system rehabilitation plan. The entire rehabilitation project is to be completed by 1995.

In the interim, a flow monitoring program was conducted to see which areas had the greatest amount of inflow during rainstorms. Problem areas were targeted and manholes were raised and repaired to lessen the impact to the collection system. To further evaluate the condition of specific lines in the collection system, the system will be videotaped beginning this spring.

The Ultra Violet (UV) disinfection system approved by the State in August of 1992, was installed in the first week of April, 1993. Plant operators are presently being trained. The chlorine system will remain on line until all operators are fully trained in operation of the UV system and it can be verified that the system is functioning properly.

4.B.8 Wetland and ARAP Issues

Although not specifically outlined as deliverables in the TOA, a great deal of time and effort are devoted to wetland and ARAP issues. During the past year, personnel have conducted at least six (6) site inspections, attended five (5) meetings and reviewed four (4) proposals strictly related to ARAP issues. In addition, wetland issues have included at least ten (10) site visits, involved five (5) meetings and resulted in numerous written correspondences. At some of the larger wetland areas, site visits have involved day-long walk overs.

Due to the complexity of the sites, regulations and agency interactions, the majority of these issues, both ARAP and wetlands, are still pending. DOE-O personnel have worked with DOE/MMES personnel to ensure that the most applicable permit is obtained. For instance, DOE had applied for an individual ARAP at a landfill road improvement project. Upon reviewing the application and the site, it was determined that a General ARAP would be more appropriate for

this site. Obtaining a general permit is a much less involved process for both the State WPC section and for DOE. The WPC Natural Resources Section and DOE-O maintain a good working relationship and interact frequently concerning ARAP and Wetland Issues. This interaction allows for constant information exchanges which should result in well written and accurate ARAPs for the Oak Ridge Reservation.

5. Radiological Monitoring and Oversight (RM/O) Section

5.A Radiological Monitoring and Oversight Organization

Due to the demand in the Oak Ridge area for professional and technical personnel with radiological training and/or experience, DOE-O was unable to acquire a qualified manager for its Radiological Monitoring and Oversight Section (RM/O) until its second year (May 4, 1992), as depicted in Figure 13. Through an intensive recruitment effort, eleven additional staff with experience in radiation and health physics as they pertain to engineering, industrial hygiene, air monitoring, geology, hydrology, waste management and soils were employed within the next twelve months with efforts continuing to acquire qualified personnel. RM/O staff are assigned to subsections which mirror the Division's organizational structure (ie. Corrective Action and Compliance, Waste Management, and Environmental Restoration) and are responsible for the radiological support of the sections which they reflect. An organizational chart for the RM/O section is shown in Figure 14. In order to better achieve the goals of the TOA and to assure present and future radiological waste management is accomplished utilizing the best available technology. RM/O staff have began an extensive training program which includes instruction in radiation and health physics for environmental monitoring, air pollution, hydrology, geology, and emergency response.

5.B TOA Deliverables

5.B.1 Radioactivity Surveillance; Attachment A.6

5.B.1.1 System Review; Attachment A.6.1

The Radiological Monitoring and Oversight section has worked extensively on the formation of references, including Department of Energy (DOE) orders and notices, Code of Federal Regulations (CFRs), State of Tennessee regulations and instructions, Environmental Protection Agency (EPA) regulations and documentation, and Nuclear Regulatory Committee (NRC) instructions and notices. RM/O has reviewed all materials on hand and established a filing system within the office filing system for easy access to historical information concerning radiation and radiological matters. The RM/O section also extensively reviewed and commented on the surveillance system plan for each site on the Oak Ridge Reservation and its environs.

Oak Ridge National Laboratory (ORNL) has an extensive radioactive surveillance monitoring program currently in effect. A detailed evaluation was made and comments were provided on the DOE surveillance systems at the K-25, Y-12 and ORNL facilities.

Figure 12

Radiological Monitoring and Oversight Section Personnel Growth Year 1

TENNESSEE DIVISION OF DOE OVERSIGHT PERSONNEL GROWTH BY PROGRAM

TOTAL NUMBER OF AUTHORIZED EMPLOYEES 5/91 - 4/92 = 5

Figure 13

Radiological Monitoring and Oversight Section Personnel Growth Year 2

TENNESSEE DIVISION OF DOE OVERSIGHT PERSONNEL GROWTH BY PROGRAM

TOTAL NUMBER OF AUTHORIZED EMPLOYEES 5/92 - 3/93 = 13

Figure 14

Radiological Monitoring and Oversight Section Functional Organizational Chart
 TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION - DOE OVERSIGHT DIVISION

RADIOLOGICAL MONITORING AND OVERSIGHT SECTION

This Section will support Radiological Component of Environmental Restoration Section

Position Number: 377.3603601000000.(xx)

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In addition, the RM/O section has generated instructions for DOE-O which include a section on Radiation Protection for Division Workers (draft). Instructions have been written for Radiation Worker Training, Hazardous Materials Packaging, Packaging and Transportation of Radioactive and Hazardous Materials, Traffic Management of Hazardous Materials and DOE-O's Environmental, Safety and Health document. Additionally, RM/O is currently involved in the observation of environmental sampling and the verification of sample results on the ORR as well as several ongoing and new projects such as the Advanced Neutron Source Reactor Project. RM/O has also investigated several incidents involving radiation contamination and other occurrences on the ORR.

5.B.2 Transportation of Radioactive Materials (RAM); Attachment B.2

DOE is required by the TOA to notify the Tennessee Emergency Management Agency (TEMA) and DOE-O prior to transporting radioactive materials. Notification for shipments of Uranium Hexafluoride (UF_6) from the K-25 site to the Paducah Gaseous Diffusion Plant were made for the initial shipment and were made in a timely manner. These shipments have been halted temporarily, however. Updates on progress for resuming shipments have been forthcoming. These shipments are scheduled to resume May of 1993.

5.B.3 Operations Notification; Attachment B.3

In section B.3, "Operations Notification", it states that "DOE shall provide the state with a listing of current activities involving radiation to the appropriate level of detail for an effective radiological oversight program."

Each ORR site has provided information to DOE-O on building locations and percentages of contamination of these facilities, however, none of the sites have provided specific activities within these areas with regard to radioactive materials or the types of materials in use. The information DOE has provided has been most helpful but fulfills only half of the requirements of Section B.3. This information is vital in order for DOE-O to properly evaluate areas of concern and to make accurate reports to the people of the State of Tennessee.

5.B.4 Radiological Oversight; Attachment C.3

The DOE-Oversight Radiological Monitoring Section requested the purchase of radiological monitoring equipment on March 14, 1993. This equipment will allow RM/O to perform independent monitoring of radiation at the ORR and its environs. The equipment will allow monitoring of all media (soil, air, and water, including surface, ground, and

precipitation). This equipment will also allow RM/O to conduct it's own personnel monitoring program for staff members conducting field operations.

RM/O has been assigned responsibility for the Division's occupational health and safety program and will be involved with the inspection of health and safety programs under 29 CFR 1910 as they apply to the environmental restoration programs and other field monitoring activities involving DOE-O personnel on the ORR.

5.B.4.1 Areas of Review; Attachment C.3.1

The Radiological Monitoring Section has developed a plan, as indicated in the DOE-Oversight Monitoring Plan, for the review of DOE and its contractors radiological programs. Initial requests to DOE and it's primary contractor for radiological monitoring data were met with resistance. Information/data on various operations on the ORR was slow in coming, taking weeks and numerous phone calls before arriving. This situation has been addressed on numerous occasions and improvements continue as the radiological monitoring program develops.

RM/O has had the opportunity to review and comment on the ORR Environmental Monitoring and Analysis Plan and the Radiological Health and Safety of the Public programs. All three sites have provided information on locations of radioactively contaminated buildings for review of possible sources of potential contamination to the environment.

Information on the control and handling of radioactive waste is very difficult to obtain. DOE has notified DOE-O of shipments of Uranium Hexafluoride (UF_6) off the ORR, but in general has not notified or provided information on other radioactive materials shipments to and from the ORR.

Emergency response plans for radiological incidents on-site are site specific. These plans are currently under review and RM/O is in the process of finalizing a draft of its own Emergency Response program for the Division, that will compliment and integrate into the response plans for all three sites.

6 Corrective Action and Compliance Section

6.A Corrective Action and Compliance Organization

The Corrective Action and Compliance Section (CA/C) of TDEC/DOE-Oversight is made up of the following subsections: Compliance and Enforcement, Groundwater, Environmental Monitoring, and Water Supply/Safe Dams. The first year's activities are primarily focused on recruitment, staffing, and training of new personnel. A Corrective Action and Compliance section growth chart is shown in Figures 15 and 16, along with an organizational chart in Figure 17. Although limited in staff, the section is involved in many aspects of monitoring and oversight activities as called for in the Tennessee Oversight Agreement. Past activities include the following: participated in ORNL Community Day presentations on TDEC Oversight programs; conducted research on Institutional Controls for superfund sites; developed an internal Environmental Monitoring Plan for oversight; and initiated Quality Circle mechanisms which include a mixture of technical staff members to transfer information between sections and to focus on technical problems with possible solutions or options.

6.B TOA Deliverables

The TOA includes a section on environmental monitoring, (Attachment A). This section's program objectives are to monitor all media (air, water, soil) and to document and monitor emissions (hazardous, toxic, chemical, radiological) from known sources, potential new sources, or random suspect locations on a site by site basis.

The TDEC/DOE-Oversight monitoring effort is extremely conservative in comparison with ongoing compliance and ambient monitoring on the Oak Ridge Reservation (ORR) by DOE and DOE contractor staff programs. These programs provide a wealth of valuable information which must be reviewed and critically evaluated in order to focus TDEC/DOE-Oversight sampling efforts. TDEC/DOE-Oversight environmental monitoring is essential in order to provide quality control, to ensure compliance, and to assure protection of public health and the environment. Monitoring efforts include surface water quality, potable water quality, biological/fish and wildlife, groundwater, air, and radiological monitoring on and around the Oak Ridge Reservation.

6.B.1 Monitoring Program; Attachment A.1

The CA/C Section coordinated the first annual review of the plan developed for the Oak Ridge Reservation (ORR) DOE/contractor environmental monitoring program. This plan was provided to TDEC/DOE-Oversight on November 12, 1991. Comments were addressed to DOE on December 18, 1991.

Figure 15

Corrective Action and Compliance Section Personnel Growth Year 1

TENNESSEE DIVISION OF DOE OVERSIGHT PERSONNEL GROWTH BY PROGRAM

TOTAL NUMBER OF AUTHORIZED EMPLOYEES 5/91 - 4/92 = 6

Figure 16

Corrective Action and Compliance Section Personnel Growth Year 2

TENNESSEE DIVISION OF DOE OVERSIGHT PERSONNEL GROWTH BY PROGRAM

TOTAL NUMBER OF AUTHORIZED EMPLOYEES 5/92 - 3/93 = 10

Figure 17

Corrective Action and Compliance Section Functional Organizational Chart

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION - DOE OVERSIGHT DIVISION

CORRECTIVE ACTION AND COMPLIANCE SECTION

Position Number: 327.3603601000000.(xx)

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Additionally, to effectively review the DOE monitoring program, quality circles were formed. One CA/C staff member has served on an Oak Ridge Environmental Information System (OREIS) quality circle group, another has chaired a groundwater quality circle group, while other members have served on a TOA-tracking committee.

6.B.2 Public Drinking Water; Attachment A.2

In the first year, DOE did not report any releases felt to potentially affect public drinking water systems. During the second year, a complaint was investigated, by TDEC/DOE-Oversight, regarding possible evidence of a cross connection in the plumbing system at K-25. TDEC/DOE-Oversight staff were accompanied by DOE to the site, water samples were drawn and examined for residual chlorine, and DOE obtained water samples for lab analysis. Results revealed no evidence of cross connection.

TDEC/DOE-Oversight staff have obtained two samples from the raw water intake at the Anderson County Water Treatment Plant. Due to the lateness of the most recent sampling event, results are limited to the sample obtained in January 1993. These results can be found in the DOE-Oversight Division's Environmental Monitoring Report (Attachment A.7.2.2). Upon review of the 1993 Tennessee Drinking Water Quality Standards, no constituents were found to be present in elevated concentrations.

6.B.3 Groundwater Monitoring; Attachment A.4

6.B.3.1 Program Review; Attachment A.4.1

To date, the DOE is conducting many programs to monitor groundwater with respect to regulations and scientific investigations. Coordination of information gleaned from the programs and the programs' activities on a whole are not perfect, but produce effectual output. The TDEC/DOE Oversight groundwater program intends to make more detailed reviews of the groundwater programs with a recommendation that karst considerations be incorporated into current programs. Additionally, this review will look for comprehensive attributes such as RCRA/CERCLA integration.

As a supplement to program review, TDEC/DOE-Oversight plans to review DOE generated data. Due to the vast amount of DOE generated data, a comprehensive review of all available data is not possible at this time. Primarily, the data reviewed thus far are in relation to actions conducted for specific environmental restoration documents. As electronic data processing of the consolidated data base (TOA A.7.1.3 & FFA XVIII.C) becomes operational, this review will broaden in scope.

Included in the TDEC/DOE-Oversight groundwater program is a subsection on Underground Storage Tanks (USTs). There are approximately 100 petroleum regulated USTs on the Oak Ridge Reservation (ORR). Of these tanks, 53 are at ORNL, 22 at Y-12, 17 at K-25 and the remaining at other ORR locations. The majority of USTs at the Y-12 and K-25 sites have been removed as part of the Energy Systems Best Management Practice. Much of the tank inventory is being phased out at ORNL.

There are 20 leaking underground storage tank (LUST) sites on the ORR. Six sites are at ORNL, 12 at the Y-12 plant, and two at K-25. Each of these sites are at some phase of the Assessment and Corrective Action process, governed by the State of Tennessee Division of UST regulations. As part of these processes, groundwater monitoring is conducted to delineate the extent of contamination and determine the effectiveness of implemented corrective actions. The TDEC/DOE-Oversight participates in this monitoring to provide oversight and to closely review the analytical results submitted from each monitoring event in relation to the UST program and ongoing RCRA/CERCLA actions at these sites.

6.B.3.2 Program Development; Attachment A.4.2

This is a DOE action that can be influenced by the State's recommendations as specified in TOA A.4.1. Within Energy Systems' organizational structure, lines of coordination exist to achieve a comprehensive groundwater program.

6.B.4 Environmental Monitoring Program & Report; Attachment A.7

6.B.4.1 DOE Actions; Attachment A.7.1

Environmental Monitoring Plan; Attachment A.7.1.1

In November 1991, a DOE environmental monitoring plan was provided to TDEC/DOE-Oversight. Review comments from TDEC/DOE-Oversight were submitted to DOE. However, an Environmental Monitoring Implementation Plan has not been received by TDEC/DOE-Oversight to date.

Monitoring Data; Attachment A.7.1.2

DOE is presently working towards a comprehensive data base to assist with this TOA item. Until completed, TDEC/DOE-Oversight and DOE/Contractors agree to provide reports, data, and sample analysis for inclusion in this data base. Received reports are thoroughly reviewed and, if necessary, formal comments are provided to the responsible party(s).

Data Base; Attachment A.7.1.3

The consolidated data base of monitoring information (TOA A.7.1.3.) and (FFA XXVIII.C) is under development in the Oak Ridge Environmental Information System (OREIS). Interim methods are being sought to retrieve data while the consolidated data base is under development. The TDEC/DOE-Oversight is initiating contacts with OREIS staff and the TDEC Information Systems Division to address connectivity and system requirements and to identify needs in the development and usage of OREIS.

6.B.4.2 State Actions; Attachment A.7.2

Environmental Monitoring Plan

The TDEC/DOE-Oversight environmental monitoring program will operate under an annual state plan. The Tennessee Oversight Agreement (TOA) Attachment A.7.2.1 specifies that the State of Tennessee "will prepare a plan for the State's environmental monitoring and analysis of chemical and radiological materials that may be present in the air, water, and soil on the Oak Ridge Reservation and environs." This TOA attachment includes provision for DOE review and consultation, for DOE opportunity to split samples, and for monitoring and analysis under applicable state and federal standards.

Through combined resources, staff developed an environmental monitoring plan. The plan included sections on surface water monitoring, fish and wildlife monitoring, groundwater monitoring, air quality monitoring, radioactivity surveillance, and laboratory procedures. The plan will be submitted to DOE for review.

Annual Report

Attachment A.7.2.2 of the TOA specifies that the State will provide annual reports to DOE and the public on the results of its monitoring and analysis activities. These reports describe the quality and effectiveness of the DOE environmental programs as derived through reviews of DOE technical reports and split sampling.

This Division's "Environmental Monitoring Annual Report" represents an overview of TDEC/DOE-Oversight's developing environmental monitoring program. It is anticipated that future reports will contain more data and will more completely address the programs described in the Environmental Monitoring Plan.

6.B.5 Auditing of ORR Facilities; Attachment B.1

TDEC/DOE-Oversight staff members participated in selected environmental audits during this first reporting period.

These included: EPA's NPDES Compliance evaluation audits at K-25, Y-12, and X-10; TDEC/RCRA site-wide TSD Inspections; the K-25 Tiger Team Kick-off and Close out audit; and TDEC Solid Waste Division Compliance Inspections. TDEC/DOE-Oversight staff will continue to participate in and conduct independent audits of the ORR facilities.

7. Issues, Findings and Recommendations

7.A Introduction

Significant issues, findings and recommendations developed by the TDEC/DOE-Oversight Division for this report are summarized in the sections below. In the first two years of the TOA and the FFA there have been major changes made in the day to day working relationship between the State of Tennessee and the DOE. These changes have led to a more productive dialog between the parties resulting in more effective communication and coordination between the TDEC DOE-Oversight Division, the DOE Field Office, Site Offices, DOE Prime Contractors, and the community.

7.B Site Access

DOE-O's access to the many DOE facilities on the ORR has improved since the inception of the TOA. DOE and MMES have been very supportive of DOE-O's efforts to access ORR sites. However, access to the sites has not been without obstacles. Site access involves both training and security issues. These issues are dealt with below.

7.B.1 Training

DOE and MMES have made all of the access training specified in the TOA available to the DOE-O staff. In the two years of this program there have been few problems other than scheduling for routine safety and radiological health training. An issue that arose early in the program and remains today is the multitude of site specific access requirements. Another problem regarding access (or the lack thereof) is the inconsistency in site specific admittance criteria specified by DOE and its contractors. For example, DOE-O Environmental Restoration (ER) staff were denied access to a Solid Waste Storage Area (SWSA) at ORNL while Waste Management personnel with identical training were allowed direct access to the same area.

DOE-O has identified to DOE and its contractors areas where access has been denied due to a misunderstanding of access training requirements. It has been recommended by DOE-O that DOE consolidate the access training requirements for all sites, provide a central tracking system to verify training and allow access to all sites through a single certification process. DOE is considering this recommendation. Such a system will be years in development. Until one is available, DOE-O will continue to seek site access without prior notification.

7.B.2 Security

On an average, DOE-O staff have received security clearances in less than five (5) months. This DOE effort however is

overshadowed by the fact that the DOE Oak Ridge Field Office process to badge these same people has taken, in some cases, nearly as long. DOE's Field Office procedures for getting staff badged requires application forms to be circulated for review and approval by each site office (Y-12, X-10, K-25, Federal Building). This process was lengthy and replete with opportunities for delay. It was recommended that the badging procedures be streamlined to the maximum extent possible. DOE agreed to allow DOE-O staff to walk badge requests forms through the system. As a result, badging for both uncleared and cleared personnel now takes three to four weeks.

7.C Project Costs

The topic of project costs is both very important to the successful implementation for any project, and of environmental significance because available funding must have the best and most effective environmental impact that is possible. The TDEC DOE Oversight Division does not assume any role of formal financial audits, but does consider the issue of cost to be a part of the oversight effort, section by section. There are projects within the operation of the Oak Ridge Reservation that are similar to traditional Municipal Public Works projects that a comparison would be informative. In addition, even the non-traditional projects that might have at least some elements similar to other large private sector or public sector (yet do include radiological elements and health/safety responsibility that may exceed those levels for other public or private sector projects) can be considered for portions that are similar to traditional construction or operation costs.

In summary, the TDEC DOE Oversight Division will review some project budgets for a comparison with some selected public or private sector projects that can be identified. One example could be a water treatment pond such as the K-25 1515 project. Another possible example can include a comparison of Underground Storage Tank work for The Oak Ridge Reservation as compared to similar tank closure or removal, or Corrective Action Plans or Environmental Assessments elsewhere in Tennessee. This type of work would be a team effort within the Oversight program since the project specific expertise is located within the several sections.

7.D Patentable Information

Another concern with the public's access to information that was raised soon after the Tennessee Oversight Agreement was placed in effect was the issue of Patentable Information. DOE's prime contractor Martin Marietta Energy Systems Incorporated indicated that contractual agreements with DOE placed certain information, especially marketable technology information such as the type that would be generated at the

Oak Ridge National Laboratory, under Martin Marietta Energy System's sole ownership and that to make this information public prior to the time it was patented would be an infraction of the patent laws. The TDEC DOE Oversight Division recognizes Martin Marietta Energy Systems' right to protect any information they deem patentable. The TDEC DOE Oversight Division's position on this type of information is that any information identified as patentable or proprietary will be protected according to State Policy. All other non-classified information will be considered public information and made available to the public on an immediate basis.

7.E Stream Flow and Rain Fall Gaging Activities

The evaluation and interpretation of compliance monitoring data, environmental monitoring data and CERCLA data involving surface water and groundwater require concise and historically complete stream flow monitoring and rainfall gaging information. The TDEC DOE Oversight Division has found DOE's present data acquisition in this area to be concentrated around the Oak Ridge National Laboratory, not adequate for long-term data collection and not consistently funded. The TDEC DOE Oversight Division is requesting that DOE determine the status of its gaging activities on the Oak Ridge Reservation, the need for additional gaging data and options for the long term funding of this activity. The TDEC DOE Oversight Division supports a long term commitment by DOE to provide the gaging data as it is required to fulfil both the Federal Facilities Agreement and the Tennessee Oversight Agreement.

7.F Declassification of Classified Information

The TDEC DOE Oversight Division has made a concerted effort to be able to review all necessary classified information. Each of its technical staff and key administrative staff have undergone L and, in some cases, Q clearance evaluations. A "need to know" has been established with DOE for that information needed to fulfil the Federal Facilities Agreement and the Tennessee Oversight Agreement. The TDEC DOE Oversight Division understands and supports the need to protect security sensitive information and has agreed to allow all notes, records, files and documents generated in association with classified information to be reviewed by a DOE Classification Officer to insure that classified information is not made public. While the majority of information generated by the TDEC DOE Oversight Division is not associated with classified data, it is extremely difficult to deal with classified information in a public forum. Much of the classified information reviewed by the TDEC DOE Oversight Division is questionable as to its need for continued classification. The TDEC DOE Oversight Division strongly recommends that DOE make every effort to declassify as much historical information as possible and be diligent in its classification of future information.

7.G- FFA Schedules and Prioritization

The FFA has established an ORR wide "Operable Unit Strategy" that is anticipated to methodically lead (over years) to the investigation and remediation of this extremely large (38,000 acres) and problematically diverse National Priorities List (NPL) site. The three parties to the agreement (DOE, EPA, TDEC) have successfully developed schedules for primary activity milestones as listed within Appendix E of the FFA for the 1992 and 1993 fiscal years and proposed schedules for FY 94 and FY 95. With few exceptions, all planned deliverables and review/comment milestones have been met in accordance with the originally established schedules. In those cases where it became obvious that for various reasons original schedules could not be met, the three parties effectively, without initiating formal "dispute resolutions", agreed to alternate dates and modified Appendix E of the FFA accordingly. Even though the FFA guided Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), process at the ORR has made great strides toward interagency coordination and overall project objectives, effective scheduling and prioritization of activities remain somewhat problematic.

The scheduling of CERCLA activities on the ORR would idealistically be a direct result of prioritization. Prioritization would, again idealistically, be accomplished by listing Operable Units (OUs) within the NPL in accordance with their impacts on human health or the environment. Those OU's exhibiting the greatest risk would receive the highest priority toward remediation. Realistically there are many factors other than health and environmental risk that play a role in the scheduling of activities on the ORR, such as, Federal budgets, active industrial and waste management operations, obligations to contractors, continuity of activities, other regulatory mandates, public opinion and the availability of effective technologies. Each of these factors can, and do, periodically cause impact to schedules regardless of the associated risk.

It is recognized by the DOE-O that schedules cannot be totally static; unexpected things do occur and result in changes. However, adequate planning and commitment, especially in the areas of budgeting, resource allocation and site specific technology development, must become routine if actual site clean-up and therefore risk reduction is to occur in any timely fashion on the ORR. Further, schedules based on prioritization should be created in a realistic manner. In other words, schedule only those activities that can be realistically accomplished in a given time frame with the available resources. Remediation and risk reduction should be the prime objective not a "bean counting" process based upon numbers of decision documents generated.

7.H Data Validation

DOE-O recognizes the importance of insuring adequate quality assurance and reliability of environmental data that is to be used for decision purposes. However, it is DOE-O's opinion that the "data validation" process at the ORR has, in some cases, exceeded that necessary to insure adequate reliability. As a result of this level of contractor data validation, above and beyond that necessary for reasonable remediation, compliance, and monitoring, some evaluation decisions have resulted in increased oversight, liability concerns, audit exceptions, and citizen lawsuits. This process involves in many cases 100 percent data coverage (versus a normal 10 percent coverage which is generally accepted for regulatory compliance) which can be statistically unnecessary thereby leading to undue delays and expense. It has been recommended by DOE-O that a procedure to determine adequate validation be established and that all projects adhere to this procedure. If exceptions are warranted, the justification should be presented to DOE-O thereby providing opportunity for approval, comment and/or dispute resolution as necessary. This issue is presently being worked with indications that improvements are forthcoming.

7.I Data Availability

Data, including both documents and general information, have been difficult to obtain from DOE's Headquarters, Field Office and Contractors. The process by which data and information are made available to this Division and to the public are lengthy and unwieldy. Most data and information must be cleared through contractor procedures including validation, classification, patent/technical review, and legal and management review prior to additional deliberation by DOE's Field Office and in many cases Headquarters concurrence.

As an interim resolution, DOE and its contractors have agreed to onsite review. DOE-O has established a policy that all requests for data and information be preceded by an on-site visit to view the data and determine the steps through which the data must proceed before being released. Even after two years of requesting information, documents are still being released by facility contractor vice presidents and DOE contract office representatives. DOE-O has met with DOE and its contractors on numerous occasions in order to resolve this issue. DOE-O has recommended to DOE that it make every effort possible to reduce the review that procedures require prior to information being released. Information should be released at the lowest level of management possible to assure timely public access to the information. Readily available information is critical to

DOE-O's ability to assure the citizens of Tennessee that their health, safety and environment around the ORR are being adequately protected by DOE.

7.J Technology Development

DOE-O has identified a significant weakness by DOE in the areas of hazardous and mixed waste treatment and disposal. Initial findings reveal that most efforts involved with mixed or radiological waste, including currently generated radiological and ER waste, are directed towards storage or non-compliant disposal. Only minimal funding and resources are being directed to on site specific technology development for waste treatment and disposal. DOE-O will continue to emphasize the need for the development of reliable and cost effective waste treatment and disposal. In the areas of Waste Management and CERCLA site remediation, DOE-O strongly recommends research and development in materials recovery and handling, (e.g. robotics.) Suitable answers to this first step in site remediation must be provided prior to proceeding to the next step of proper storage of ER generated radioactive waste and subsequent treatment and disposal.

7.K Land Use/Institutional Control Issues

The application of the CERCLA process on the Oak Ridge Reservation has recently brought land use planning to the forefront as an issue of importance. It has been suggested by the DOE that specific remediation objectives, such as unrestricted land use, may not be achievable in the short term for certain areas of contamination. This is thought to be especially true of radioactive waste burial grounds where technical problems, worker safety problems and/or cost prevent clean-up to levels necessary for unrestricted use at the present time. To overcome this dilemma a reservation wide land use designation strategy is under development.

The concept of the land use planning strategy is to apply a decision process whereby a "Stakeholder Committee" that includes a cross section of government agencies and the general public work together to develop future land use plans. These final plans would then be applied to the establishment of CERCLA remediation goals based on levels of public health and environmental risks associated with specific land use objectives. The land use designations would further establish land uses for the Oak Ridge Reservation that would apply to future waste management activities, development activities and general property disposition.

The DOE-O is in general agreement that the procedure to involve the public and other governmental stakeholders is an appropriate path to take in determining future land use objectives on the DOE facility. We further agree that this

procedure will help establish guidelines and goals thereby facilitating the pressing decisions that must be made in the ongoing CERCLA and waste management processes on the reservation. The DOE-O however, urges caution in accepting the concept that decisions with very long term impacts, such as those designating restricted areas based on radionuclide contamination, can be solely based on short term land use objectives and uncertain institutional controls. The DOE-O takes the position that land use designations that effectively establish need for long term institutional controls must be supported by a DOE commitment to progressively move toward a less restrictive land use over time through future site remediation.

7.L CERCLA Accelerated Clean-up Strategy

For some time now there has been national concern that the CERCLA driven remediation activities for federal facilities on the National Priorities Listing are proceeding at a very slow pace. In light of this concern, and recognizing a certain validity of this concern senior management responsible for facilitating these activities for the Oak Ridge Reservation have caused the initiation of a process to develop an accelerated clean-up strategy for the reservation.

In order to accomplish this objective a middle management and staff level working team was formed between the parties to the Federal Facilities Agreement for the purpose of investigating needs and methods to this end. As a result of this effort the working team presented to senior management a strategy for screening existing CERCLA operable units on the reservation and applying time-critical and non-time-critical removal actions toward specific problems within operable units that exhibit greatest need based on contribution to offsite impacts and threats to human health and the environment. The removal actions process can accelerate problem specific remediation by eliminating much of the administrative and technical rigors of the standard remedial investigation/feasibility study/record of decision process.

Even though the consensus of the working team and senior management was that the strategy has much merit and should be applied where appropriate, certain obstacles and concerns to this process were recognized. First, in order to effectively expedite the process it was recognized that empowerment to make rapid decisions at the local level would be necessary from the headquarters of the Federal Facilities Agreement participants. Adequate disposition of this issue remains unresolved to date. Secondly, it was recognized and agreed that public participation in the decision process was necessary and would be utilized in all cases with the exception, as stipulated within CERCLA, for emergency removals. Finally, it was recognized by all parties that

accelerated removal actions shall not be employed to negate the CERCLA remedial investigation/feasibility study/record of decision process within operable units where the issues are complex, releases are unknown, and where remedies are not readily achievable within accelerated time frames.

7.M Natural Resources Damage Assessment (NRDA) Process

The Federal Water Pollution Control Act, 33 U.S.C. ss 1251, the Oil Pollution Act of 1990, P.L. 101-380, the Comprehensive Environmental Response, Compensation, and Liability Act, and, the Natural Resource Damage Assessment Regulations, 43 C.F.R. Part 11 provides the trustees of natural resources that are potentially impacted by releases from a CERCLA site a legal mechanism to investigate injuries to those resources and assess damages for those injuries from the responsible parties. The damage assessment provides for the restoration, replacement, rehabilitation and/or acquisition of equivalent resources for those trust resources, and/or services provided by those resources, that have not been nor are expected to be addressed by response actions conducted pursuant to the National Contingency Plan. Natural resources for this purpose have been categorized as surface water resources, ground water resources, air resources, geologic resources and biological resources.

The NRDA process for the Oak Ridge Reservation has been under development for the past two years with little specific progress toward the accomplishment of injury assessment objectives. A trustee council, consisting of representatives from the State of Tennessee, the U.S. Department of Interior, the Tennessee Valley Authority and the U.S. Department of Energy, was formed early in the NRDA process. Since the council's creation the only action to date has been an effort to develop a "Trustee Agreement in Principle". The agreement, when finalized, will establish a statement of cooperation between the various trustees. The early NRDA organizational process for the Oak Ridge Reservation has non-the-less defined certain problems that must be overcome in order for the preassessment screening and potential follow-up injuries assessment process to proceed in a timely manner.

Possibly foremost is the question of a mechanism to fund both the preassessment screening and the actual injury and damage assessments as required by the NRDA process. Cost recovery is allowable from the responsible party in the event of a successful damage assessment. However, funds to initiate and carry out the necessary assessments must be provided by the trustees of interest unless a funding agreement can be reached between the trustees and the potentially responsible party prior to assessment. A funding arrangement has not been negotiated between the parties at this time and will be necessary in order to successfully meet the NRDA objectives.

Once the mechanism for funding is resolved the trustees may designate a "Lead Authorized Official" to whom is delegated the authority to act on behalf of the Federal or State agencies designated as trustees, to perform a natural resource damage assessment. At this time it is uncertain which trustee agency, as member of the trustee council, will be designated as the lead authorized official.

The State of Tennessee, as do the other resource trustees, have the authority to proceed as individual trustees with their own NRDA action independent of the other trustees. Under the present plans to proceed as a trustee council, rather than as individual trustees, all assessments and future actions would be taken as a group consensus. In the eventuality that the trustee council cannot function as a consensus the State would reserve right to perform independent assessments over those resources under its trusteeship and take independent actions as necessary to insure mitigation of injuries from the responsible party.

7.N Toxic Substance Control Act Incinerator Burn Plan

The Toxic Substance Control Act Incinerator is currently being used to treat PCB contaminated wastes from Tennessee, Kentucky and Ohio. While treatment of Kentucky and Ohio wastes will continue, the DOE Oversight Division will begin monitoring TSCA burn plans to assure that as much Tennessee waste as possible is being treated, while allowing DOE to comply with Environmental Protection Agency requirements at Portsmouth, Ohio and Paducah, Kentucky.

7.O Toxic Substance Control Act Incinerator Ash Disposal Plan

The Toxic Substance Control Act Incinerator at the K-25 site treats hazardous and mixed waste by burning it. In the process, residual contaminated ash and scrubber sludges are generated. These wastes are placed in containers and stored. No strategy for treating and disposing of these wastes has been developed. Discussions with DOE will continue in an effort to generate an appropriate treatment and disposal plan.

7.P Federal Facilities Compliance Act

The Federal Facilities Compliance Act, which became law during 1992, requires DOE, in conjunction with the states, to develop treatment plans and facilities for all the mixed waste stored or generated at DOE facilities throughout the nation. The Oversight Division, in cooperation with the TDEC Division of Solid-Waste Management and other states, will work toward establishing agreements with DOE which will result in treatment and disposal of these wastes in a manner which will be beneficial to the State of Tennessee.

7.Q Low Level Radioactive Waste Disposal

DOE-O has identified weaknesses in DOE's treatment and storage of radioactive waste. As discussed in 7.F. Technology Development, only minimal funding and research are currently applied to the treatment and disposal of radioactive waste. Current methods of storage have advanced little over the past ten years. Storage practices are strongly driven by cost factors rather than the development of proper disposal methods and proper siting for permanent disposal areas. DOE-O recommends DOE apply adequate funding for the development of proper long term disposal methods rather than continuing to rely on methods developed ten years or longer ago.

7.R Variable Dose Irradiation Facility

DOE-O learned of a shutdown facility in the Freels Bend area in the fall of 1992. This facility, the Variable Dose Irradiation Facility, was used until 1984 for the irradiation of laboratory animals. Since 1984 the facility has been in a shutdown status, with the radioactive sources still in place. DOE-O has recommended these sources be removed to ORNL where they may be properly maintained and have more reliable security. Currently this project is in a holding status due to DOE's reluctance to commit funding for the source removal. DOE-O strongly recommends the removal of these sources as soon as funding can be made available.

7.S Policy of No Radiation Added

DOE-O has found the current policy DOE is working under of No Radiation Added to its off-site shipments of waste for disposal is not only not cost effective it has added to the already burdened system of waste storage and disposal in the DOE system. A level of acceptable radioactivity must be established as below regulatory concern and a policy developed to allow for the shipment of materials containing radiation of this level or below to commercial disposal sites. This is not only a Oak Ridge problem but a problem facing the entire nation. DOE-O will continue to urge DOE, EPA, and the NRC to determine a below regulatory concern level for man-made and naturally occurring radioactivity.

7.T Radiological Waste Management Performance Assessment

DOE facilities such as the Oak Ridge Reservation are required to operate in accordance with DOE Orders. With regard to disposal of low level radioactive waste, DOE Order 5820.2A requires that a Performance Assessment be completed to assure public health and the environment are protected. However, since Order 5820.2A has no implementation date, DOE continues to dispose of radioactive waste prior to completion of the Performance Assessment. This situation has existed since the Order was issued in 1988. The Oversight

Division will continue to maintain the position that approved performance assessments should be developed prior to operation of any new radioactive disposal or storage facilities.

7.U Ambient Surveillance Monitoring

DOE has established an extensive environmental monitoring program. DOE-O has reviewed and commented on the 1992 Environmental Monitoring Plan for the Oak Ridge Reservation. The on-site sampling activities appear to be adequate. However, perimeter and off-site air, surface water and groundwater sampling activities appear to be lacking. Given the complexities of the atmospheric and hydrology regimes of the Oak Ridge Reservation and its environs, it is understandable that it is difficult to monitor for the migration of contaminants off the Reservation. The TDEC places a high priority on protecting the citizens of Tennessee. DOE-O will continue to review DOE's ambient monitoring plans, sampling and analytical data to assure that the public's health, safety and environment are adequately protected by DOE. DOE-O will also conduct independent ambient monitoring to verify DOE efforts.

7.V Availability of Environmental Monitoring Data

The availability of Environmental Monitoring Data within a reasonable time period remains as a concern for the Oversight program sections. The annual environmental report that is generated appears to take about two years, and available quarterly reports seem to be distributed when that data is six months old, or older. Even though our TDEC staff can go on site to view selected environmental monitoring data, this does not allow us to maximize an early benefit of DOE and Contractor stated findings, summary charts, overviews, conclusions, evaluations, and comments. In addition, the general public may not have access to environmental monitoring data until a point in time when the information has lost much of the potential for useful reviews, actions, relevant questions, or course corrections/alterations that might have been appropriate within some prompt manner. The DOE Oversight Division will continue its efforts to make environmental monitoring data available to the public on a "real time" basis.

7.W UST/Other than petroleum:

The Corrective Action and Compliance Section of The Tennessee Department of Environment and Conservation Oversight program has requested, in writing, lists of Underground Storage Tanks other than for Petroleum products. Because the Tennessee Oversight Agreement does give the authority and responsibility for Oak Ridge Reservation compliance with all applicable state and federal laws, both the Petroleum Underground Storage Tanks and the "other than

Petroleum" underground storage tanks are covered. These "other" tanks include the federally regulated hazardous substance underground storage tanks, underground storage tanks containing radioactive material, and underground storage tanks containing exempt petroleum products. The TDEC DOE Oversight Division will continue to work in this environmental oversight area as a part of the CA/C Groundwater program.