

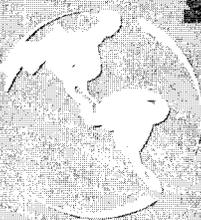
Idaho National Engineering and Environmental Laboratory

Nuclear Energy and Work for Others

***Fiscal Year 2004
Detailed Work Plan***

INEEL

Idaho National Engineering and Environmental Laboratory



C.4.01.02 and C.4.01.03
INEEL/EXT-03-01101-NE

DESCRIPTION

Objective

The primary focus of the Nuclear Energy Program is providing infrastructure support to the Advanced Test Reactor (ATR) and other INEEL activities, as well as preparing Test Reactor Area (TRA) facilities with no current or future mission for Decontamination and Deactivation (D&D). The identification and remediation of environmental issues is also supported to allow completion of the enforceable milestones negotiated under the Voluntary Consent Order (VCO).

Technical Content

The TRA is a fenced complex of approximately 104 acres including over 88 facilities and 70 major structures. The TRA is home to the world's largest and most advanced test reactor, capable of simulating years of radiation exposure in short periods of time to test material performance in radiation environments. The Nuclear Energy Program provides maintenance, upgrades and repair, and capital/construction projects to sustain the deteriorating infrastructure at TRA.

Program Work Statement: FY 2004

Nuclear Energy: Projects are planned to replace or upgrade the current infrastructure to achieve goals of footprint reduction, energy conservation, and maintenance and repair of equipment and facilities. Efforts will also focus on hazardous waste determination and disposition of legacy waste, remediation, characterization, and closure of contaminated tanks. Completion of TRA Hot Cell upgrades in FY 2003 supports restart of the Hot Cell facility and use of a Test Train Assembly Facility (TTAF) for long experiment assemblies and fueled experiments. Support of the University Reactor Assistance Program will also continue, though it will not be reported as a part of the TRA Nuclear Energy Program baseline.

FY 2004 Planned Work

Complete construction projects to upgrade the aging TRA infrastructure to achieve goals of footprint reduction and energy conservation initiatives.

- Complete the Fire and Life Safety System Line Item Construction Project (LICP)
- Continue the TRA electrical upgrade LICP
- Initiate potable water well project upgrade equipment
- Complete Minimum Cladding Measurement System
- Procure propane-powered man-lift.

Conduct an Operations Readiness Review (ORR) and operate the TRA Hot Cells and TTAF to support production of radioisotopes and irradiation testing for industrial and medical purposes

Submit hazardous waste determination and the closure documents for VCO action plan TRA-001 to the Idaho Department of Environmental Quality in support of the final enforceable milestone of June 30, 2004 for 100% characterization and disposition of legacy items.

Complete RCRA closure activities for the TRA-730 catch tank system. Continue performance of those activities required to meet the final enforceable milestone for 100% characterization and disposition of legacy items.

Project Key Assumptions

Cost of fuel fabrication equipment upgrades is shared between Naval Reactors and the University Reactor Fuel Assistance Program based on fabrication throughput.

TRA Hot Cells are operational and Test Train Assembly Facility (TTAF) is available for assembly of long experiment assemblies and fueled experiments.

No failure of major equipment components.

No contingency for emerging work.

Active participation in the INEEL facility footprint reduction initiative, such as:

- Evaluate consolidation activities to place personnel into newer, less costly facilities
- Vacate older high maintenance and energy inefficient buildings
- Deactivate older buildings and prepare them for the D&D process
- Discontinue investment in facilities with limited mission potential
- Environmental Management D&D will fund deactivation of legacy facilities at TRA
- The MTR vessel structure's facility classification will be downgraded. The Environmental Management (EM) Program will fund this activity, as well as surveillance and maintenance
- Environmental Management VCO Program will continue to jointly fund TRA VCO projects.

Project Key Exclusions

- Baseline information for the Fire and Life Safety System Line Item Construction Project (LICP), TRA Electrical Upgrade LICP, Potable Water Well Project FY 2004 operating and capital budgets are not included in this detailed work plan (DWP). These projects are being rebaselined and will be included in to the DWP baseline with the approved baseline change proposal (BCP) in early FY 2004.
- Buildings being maintained by EM and common use facilities that are funded from indirect accounts as outlined with the Physical Assets Management Organization (PAMO) Memorandum of Agreement.
- Project planning will be provided for any FY 2003 carryover work in early FY 2004.
- All FY 2003 carryover work scope will be evaluated and planned into the FY 2004 baseline by the BCP process in early FY 2004.
- The following is an explanation of items that will be prioritized from carryover budgets to be included in the FY 2004 baseline. These items were included in the FY 2004 DWP submission because they were essential the overall planning of these projects for FY 2004 and were impacted by late FY 2003 BCPs on these projects:

The FY 2004 work scope was defined, scheduled, resource loaded, and costed through the financial systems during the Detailed Work Plan (DWP) process. The initial submittal of the FY 2004 DWP includes work scope that is estimated to exceed the level of expected target new funding. This discrepancy amounts to approximately \$450K and results from several, but primarily two factors: (1) \$340.4K in NE operating funding was rescinded in FY 2003 requiring scope deferral (primarily in maintenance and repair) and (2) An accelerated schedule for the VCO Catch Tank Project to meet a FY 2005 enforceable milestone requires funding greater than initially expected.

Project/Fund Source:	TRA Facilities		TRA NE Capital Equipment	TRA Environmental Compliance
	Hot Cell Ops	NE Facilities		
FY 2004 Target Funding:	1,190.0	3,302.0	180.0	3,346.0
FY 2004 DWP BCWS (planned):	1,299.3	3,363.1	118.9	3,687.1
Balance to Target:	-109.3	-61.1	61.1	-341.1

Total Balance to Target = -\$450.4K

As of mid-September 2003, it was anticipated that approximately \$2,000K in carry-over funding would exist in the Environmental Compliance fund source. It was also expected that

cost savings would be realized in FY 2003, which would reduce the cost of some carry-over work scope. Additionally, \$188.1K of the anticipated carry-over remained as Environmental (& VCO) Project contingency (unassigned).

During October/November 2003, the total amount of carry-over funding will be determined. Also, all necessary carry-over work scope will be defined, evaluated, and re-costed for performance in FY 2004. It is also anticipated, based on prior experience, that FY 2004 funding targets will be modified by the sponsor (NE). All these factors will be considered and addressed during a year-end/year-start BCP, which will prioritize and define all FY 2004 work scope and establish a revised baseline within total funding levels.

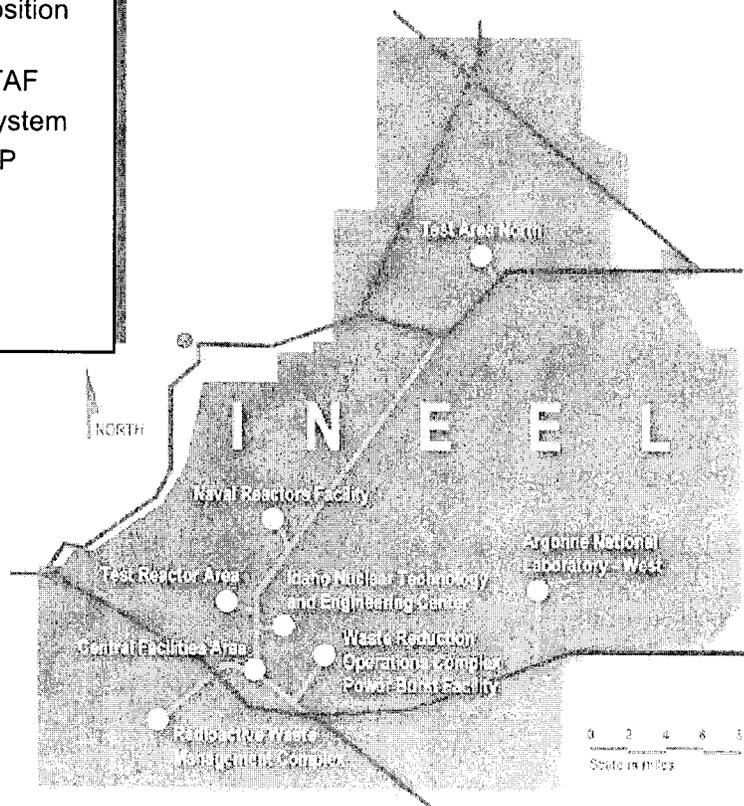
Authorization to perform scope in excess of current funding targets is neither assumed nor requested by the initial submittal of the DWP. With respect to FY 2004 new funding, the following activities will be considered presently "unfunded":

1. WBS (7) C.4.01.02.16.03.06 TRAHC Restart, BCWS = **\$204,213** (amount was offset by reductions in operations personnel, facility maintenance, and operations supplies).
2. WBS (7) C.4.01.02.03.01.03 Environmental Project Support – TRA-02 Well Abandonment BCWS = **\$106,639**.
3. WBS (7) C.4.01.02.03.02.05 TRA Tank Assessments – TRA-605B HWST Remote Sampling System & Sample Analysis BCWS = **\$249,180**.

ACTION PLAN

FY 2004

- Provide maintenance and landlord support to TRA operations
- Submit hazardous waste determination and the closure documents to the Idaho Department of Environmental Quality meeting the final enforceable milestone for 100% characterization and disposition of legacy items
- Restart operations of the TRA Hot Cell and TTAF
- Complete Minimum Cladding Measurement System
- Complete the Fire and Life Safety System LICP
- Continue the TRA Electrical Upgrade LICP
- Initiate the Potable Water Well Project.



WORK BREAKDOWN STRUCTURE INDEX

WBS#	Title	Responsible Individual
C.4.01	Nuclear Reactor Program	David J Richardson
C.4.01.02	Nuclear Energy Program	David J Richardson
C.4.01.02.02	TRA Nuclear Energy Facilities	Joel W Duling
C.4.01.02.02.01	TRA Nuclear Energy Facilities	Joel W Duling
C.4.01.02.02.01.01	Facility Management	David B Lewis
C.4.01.02.02.01.03	TRA Infrastructure Maintenance (Bin 2)	David B Lewis
C.4.01.02.02.01.08	TRA Building Maint (Bin 1)	David B Lewis
C.4.01.02.02.01.ZZ	NE Facilities Suspense	David B Lewis
C.4.01.02.03	TRA NE Environmental Projects	Leo J Van Reet
C.4.01.02.03.01	TRA NE Environmental Projects	Sheryl L Silberman
C.4.01.02.03.01.02	NORTH STORAGE & UNKNOWN WASTE	Sheryl L Silberman
C.4.01.02.03.01.03	ENVIRONMENTAL PROJECT SUPPORT	Sheryl L Silberman
C.4.01.02.03.01.04	HOT CELL LEGACY WASTE REM.	Sheryl L Silberman
C.4.01.02.03.01.07	TRA STACK EFFLUENT CONFIRMATORY MEASUREMENT	Sheryl L Silberman
C.4.01.02.03.01.08	TRA SUBSURFACE CHARACTERIZATION	Sheryl L Silberman
C.4.01.02.03.01.09	ATR BERYLLIUM REFLECTOR BLOCK DISPOSAL	Edwin B Criswell
C.4.01.02.03.01.10	TRA-605 Hot Waste Water	AshLee R Moncur
C.4.01.02.03.01.ZZ	NE Environmental Suspense	Sheryl L Silberman
C.4.01.02.03.02	TRA NE VCO Projects	Sheryl L Silberman
C.4.01.02.03.02.02	NEW TRA001NE (VCO)	Sheryl L Silberman
C.4.01.02.03.02.03	ENVIRONMENTAL VCO ISSUE MANAGEMENT	Sheryl L Silberman
C.4.01.02.03.02.04	NE CATCH TANK REMEDIATION	Kirk Winterholler
C.4.01.02.03.02.05	TRA TANK ASSESSMENTS	TBD
C.4.01.02.03.02.06	TRA 713 TANK ASSESSMENTS	AshLee R Moncur
C.4.01.02.05	TRA Capital Equipment Purchases Project	Joel W Duling
C.4.01.02.05.01	NE Capital Equipment	Joel W Duling
C.4.01.02.05.01.01	INSTALLATION OF RAW WATER FEED PUMPS	David B Lewis
C.4.01.02.05.01.02	MOBILE CRANE	David B Lewis
C.4.01.02.05.01.03	HEALTH PHYSICS EQUIPMENT	David B Lewis
C.4.01.02.05.01.04	MOTORIZED MAN LIFTS	David B Lewis
C.4.01.02.05.01.05	ELECTRICAL BUCKET TRUCK	David B Lewis

C.4.01.02.05.01.06	INTERIOR FORK LIFT	David B Lewis
C.4.01.02.05.01.07	ALL TERAIRN FORK LIFT	David B Lewis
C.4.01.02.05.01.08	CRAFT EQUIPMENT	David B Lewis
C.4.01.02.05.01.10	Uninterruptible Power Supply	David B Lewis
C.4.01.02.06	TRA Fire and Life Safety LICP	Leo J Van Reet
C.4.01.02.06.02	TRA Fire and Life Safety Improvements NE-LICP	Victor L Jacobson
C.4.01.02.06.02.09	Fire and Life Operating	Clark F Jones
C.4.01.02.06.02.10	Fire and Life Construction Management	Clark F Jones
C.4.01.02.06.02.20	Fire and Life Design	Clark F Jones
C.4.01.02.06.02.40	Fire and Life Quality	Clark F Jones
C.4.01.02.06.02.50	Fire and Life Project Management	Clark F Jones
C.4.01.02.06.02.60	Fire and Life Engineering Support	Clark F Jones
C.4.01.02.06.02.80	Fire and Life GFE	Clark F Jones
C.4.01.02.06.02.90	Fire and Life Construction	Clark F Jones
C.4.01.02.07	TRA Electrical Utility Upgrade LICP	Leo J Van Reet
C.4.01.02.07.01	TRA Electrical Utility Upgrade	Jonathan D Crosier
C.4.01.02.07.01.10	Electrical Utility Construction TRA-619/693	Randon C Anderson
C.4.01.02.07.01.11	Electrical Utility Testing TRA-619/693	Randon C Anderson
C.4.01.02.07.01.14	Electrical Utility Project Support	Randon C Anderson
C.4.01.02.07.01.15	Electrical Utility Project Final Close-out & Turnover	Randon C Anderson
C.4.01.02.16	NE-TRA Hot Cell Facility	Richard S Cain
C.4.01.02.16.01	Hot Cell Facility Upgrades	Richard S Cain
C.4.01.02.16.01.01	TRAHC Upgrades - PM	Richard S Cain
C.4.01.02.16.01.02	TRAHC SAR Upgrade	Richard S Cain
C.4.01.02.16.01.03	Hot Cell Carrier #3 Haz Assess/Transport Plan	Richard S Cain
C.4.01.02.16.01.04	Hot Cell #1 HEPA Filter Housing & Ducting	Richard S Cain
C.4.01.02.16.01.05	Hot Cell Manipulator Repair	Richard S Cain
C.4.01.02.16.01.ZZ	TRAHC Facility Upgrade Suspense	Richard S Cain
C.4.01.02.16.03	Hot Cell Facility Ops & Maintenance	Richard S Cain
C.4.01.02.16.03.01	TRAHC Base Operations	Richard S Cain
C.4.01.02.16.03.02	TRAHC Operational Expenses	Richard S Cain
C.4.01.02.16.03.03	TRAHC Program Equip Maint (Bin 3)	Richard S Cain
C.4.01.02.16.03.04	TRAHC Environmental Compliance	Richard S Cain
C.4.01.02.16.03.05	TRAHC Assessments	Richard S Cain

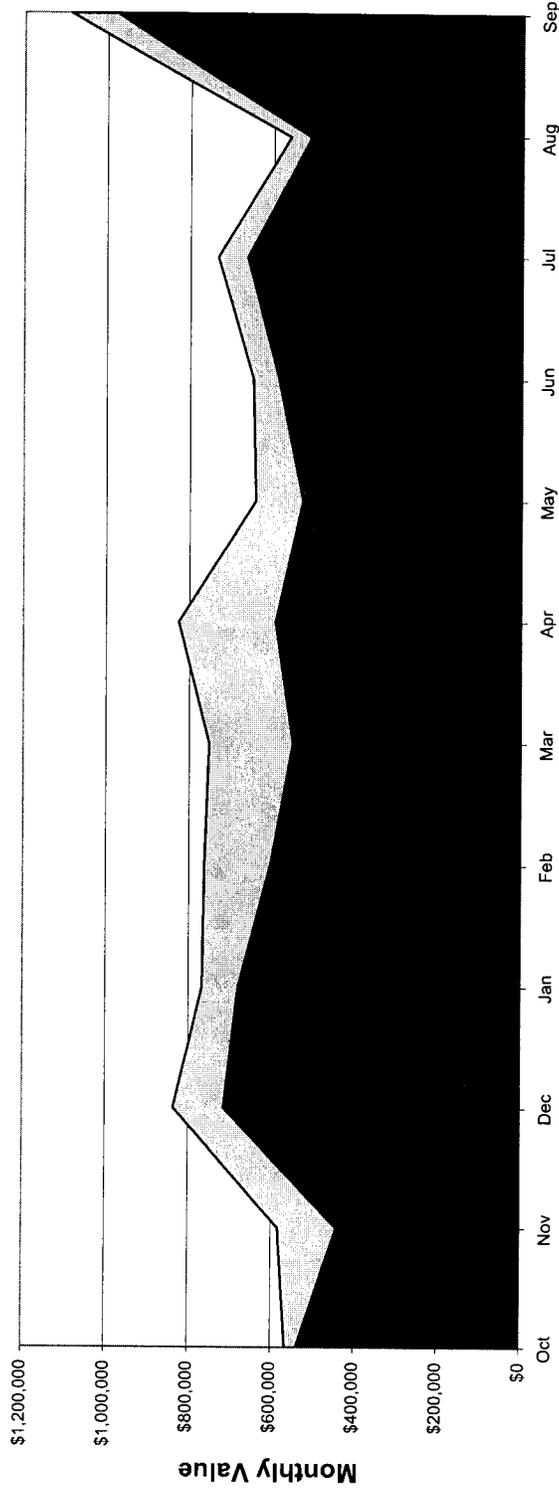
C.4.01.02.16.03.06	TRAHC Restart	Richard S Cain
C.4.01.02.16.03.07	TRAHC Building Maint (Bin 1)	Richard S Cain
C.4.01.02.CN	NE Construction Projects	Leo J Van Reet
C.4.01.02.CN.GS	NE Construction General Support	Leo J Van Reet
C.4.01.02.CN.GS.01	NE General Support of Projects	Leo J Van Reet
C.4.01.02.CN.GS.02	NE Construction Planning and Detailed Estimating	Leo J Van Reet
C.4.01.02.CN.GS.03	NE Mission Need Documents	Leo J Van Reet
C.4.01.02.CN.PW	TRA Potable Water Project	Leo J Van Reet
C.4.01.02.CN.PW.01	Potable Water Operating	Leo J Van Reet
C.4.01.02.CN.PW.10	Potable Water Construction Management	Leo J Van Reet
C.4.01.02.CN.PW.20	Potable Water Design	Leo J Van Reet
C.4.01.02.CN.PW.40	Potable Water Quality	Leo J Van Reet
C.4.01.02.CN.PW.50	Potable Water Project Management	Leo J Van Reet
C.4.01.02.CN.PW.60	Potable Water Engineering Support	Leo J Van Reet
C.4.01.02.CN.PW.80	Potable Water GFE	Leo J Van Reet
C.4.01.02.CN.PW.90	Potable Water Construction	Leo J Van Reet
C.4.01.02.CN.RB	TRA Retention Basin Isolation Project	Leo J Van Reet
C.4.01.02.CN.RB.01	Retention Basin Operating	Leo J Van Reet
C.4.01.02.CN.RB.10	Retention Basin Construction Management	Leo J Van Reet
C.4.01.02.CN.RB.20	Retention Basin Design	Leo J Van Reet
C.4.01.02.CN.RB.40	Retention Basin Quality	Leo J Van Reet
C.4.01.02.CN.RB.50	Retention Basin Project Management	Leo J Van Reet
C.4.01.02.CN.RB.60	Retention Basin Engineering Support	Leo J Van Reet
C.4.01.02.CN.RB.80	Retention Basin GFE	Leo J Van Reet
C.4.01.02.CN.RB.90	Retention Basin Construction	Leo J Van Reet

MILESTONE LOG

WBS Element	Description	Dwp Date	Enforceable Date	Level
C.4.01.02.03.02.02	NEW TRA-001 Enforceable Milestone	30-SEP-2004		E2

Program: C40102		Description: Nuclear Energy Program		Approval: Program Manager														
Run Date: 9/15/2003		Status Date: 9/30/2003		Functional Manager														
WBS[4]		WBS[5]		BE[2]		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Totals
C.4.01.02 Nuclear Energy Program																		
C.4.01.02.02 TRA Nuclear Energy Facilities																		
L Labor	184.9	166.6	260.4	205.3	222.7	221.8	226.3	221.8	255.5	267.9	227.6	406.9	2,867.8					
M Material Purchases	20.6	18.5	28.9	21.3	23.0	22.9	22.7	19.0	20.3	24.2	20.1	29.9	271.4					
N Other Non-Labor	11.4	10.3	16.1	12.9	14.0	13.9	13.7	8.9	7.0	8.1	6.7	9.9	132.9					
S Sub Contracts	3.4	3.1	4.8	3.8	4.2	4.2	4.1	4.1	7.0	17.1	14.2	21.1	91.1					
WBS[5] Totals:	220.4	198.5	310.3	243.3	263.9	262.8	266.8	253.8	289.7	317.3	268.5	467.8	3,363.1					
C.4.01.02.03 TRA NE Environmental Projects																		
L Labor	150.3	100.5	162.4	140.3	143.0	134.8	168.1	130.4	146.4	202.8	129.2	152.5	1,760.5					
M Material Purchases	40.0	28.2	75.6	43.6	45.9	36.0	38.0	33.3	32.8	43.4	26.2	39.5	482.5					
N Other Non-Labor	13.6	8.9	20.4	19.6	19.7	19.7	20.2	17.7	19.7	15.9	7.9	10.7	194.2					
S Sub Contracts	23.6	138.3	116.4	69.9	144.4	197.7	221.2	104.2	55.2	54.3	35.1	89.6	1,249.9					
WBS[5] Totals:	227.5	275.9	374.8	273.4	353.0	388.1	447.4	285.6	254.1	316.4	198.4	293.3	3,687.1					
C.4.01.02.05 TRA Capital Equipment Purchases Project																		
L Labor	-	-	-	-	-	-	-	-	-	0.3	0.6	1.9	2.7					
M Material Purchases	-	-	-	-	-	-	-	-	-	-	-	-	-					
WBS[5] Totals:	-	-	-	-	-	-	-	-	-	0.3	0.6	1.9	2.7					
C.4.01.02.16 NE-TRA Hot Cell Facility																		
L Labor	77.6	73.2	95.7	169.8	87.5	53.8	64.8	62.9	64.7	60.4	58.8	161.9	1,031.2					
M Material Purchases	1.6	1.4	2.2	25.0	1.9	1.9	1.9	1.9	2.2	2.2	1.8	2.7	46.5					
N Other Non-Labor	12.3	11.1	17.3	13.8	15.0	15.0	14.7	14.8	17.2	17.0	14.1	21.0	183.3					
S Sub Contracts	-	-	-	14.1	10.9	-	8.3	5.1	-	-	-	-	38.3					
WBS[5] Totals:	91.5	85.7	115.2	222.8	115.3	70.7	89.7	84.6	84.1	79.6	74.7	185.5	1,299.3					
C.4.01.02.CN NE Construction Projects																		
L Labor	21.8	19.7	30.7	24.5	26.6	26.5	19.3	14.7	17.1	16.9	14.0	20.8	252.7					
M Material Purchases	0.7	0.6	1.0	0.8	0.9	0.9	0.8	0.8	1.0	1.0	0.8	1.2	10.5					
N Other Non-Labor	3.1	2.8	4.3	3.4	3.7	3.7	2.9	2.4	2.8	2.8	2.3	3.4	37.7					
WBS[5] Totals:	25.6	23.1	36.1	28.8	31.2	31.1	23.0	17.9	20.9	20.6	17.1	25.4	300.9					
WBS[4] Totals:	564.9	583.1	836.4	768.3	763.5	752.7	826.9	642.0	648.9	734.2	559.3	1,089.1	8,769.3					

FY 2004 Expenditure Forecast



LABOR
 MATERIALS
 OTHER NON-LABOR
 SUBCONTRACTS
 TRAVEL

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
LABOR	434667.90	359841.98	549228.76	540015.80	479854.33	436936.95	478481.10	429708.99	483718.25	548210.49	430126.77	744053.40
MATERIALS	62854.51	48717.80	107741.25	90717.49	71665.74	61648.78	63327.17	55009.35	56249.75	70777.27	48890.92	189420.41
OTHER NON-LABOR	40374.90	33086.63	58168.49	49744.51	52444.75	52301.77	51517.54	43868.23	46798.99	43792.40	31015.96	44992.29
SUBCONTRACTS	27021.58	141395.96	121262.92	87792.32	159522.57	201823.08	233542.36	113413.17	62105.42	71440.65	49258.53	110654.44
TRAVEL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	564918.88	583142.37	836401.43	768270.12	763487.40	752710.58	826866.17	641998.74	648872.41	734220.81	559292.18	1089120.55

Program: C40102		Description: Nuclear Energy Program		Approval: Program Manager		Functional Manager											
Run Date: 9/15/2003		Status Date: 9/30/2003		Cost/Account Manager		Cost/Account Manager											
WBS(4)	BE(4)	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Totals			
C.4.01.02	Nuclear Energy Program	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	1.80			
A08	PLANNING & BUDGETS	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE			
A09	PROCUREMENT	0.64	0.43	0.41	0.16	0.16	0.13	0.12	0.18	0.03	0.14	0.07	0.16	0.18			
A11	PROJECT MGMT SUPPORT	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE			
A14	SECRETARIAL	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	1.44			
A16	SHIPPING/RECEIVING	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	3.52			
A20	OTHER ADMIN SUPPORT	0.02	0.07	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.40			
C30	DATA BASE ENGINEERING	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE			
C38	SOFTWARE ANALYSIS/INTEGRATION ENG	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.40			
E04	CIVIL/STRUCTURAL ENGINEERING	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE			
E08	ENVIRONMENTAL ENGINEERING	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.08			
E11	MECHANICAL ENGINEERING	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	6.00			
E14	NUCLEAR ENGINEERING	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE			
E17	QUALITY ENGINEERING	0.07	0.07	0.02	0.01	0.01	0.11	0.01	0.01	0.01	0.08	0.01	0.01	0.40			
E18	RADIOLOGICAL ENGINEERING	0.10	0.01	0.06	0.10	0.06	0.48	0.33	0.33	0.31	0.26	0.26	0.26	2.00			
E19	SAFETY ENGINEERING	0.26	0.30	0.47	0.65	0.48	0.50	0.38	0.42	0.37	0.40	0.40	0.40	3.00			
E28	PROJ MGMT	0.43	0.46	0.48	0.56	0.50	2.10	2.22	2.86	2.03	2.16	2.25	2.23	17.00			
E34	PROJECT ENGINEER	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE			
E38	REMOTE APPLICATIONS ENGINEERING	1.07	0.43	0.57	0.63	0.59	0.39	0.57	0.39	0.50	0.69	0.68	0.33	5.00			
E41	FIRE PROTECTION	0.36	0.04	0.04	0.26	0.21	0.15	0.15	0.15	0.15	0.15	0.15	0.15	1.20			
E44	OPERATIONS SYSTEM ENGINEER, NUCLEAR FAC	0.11	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.11	0.11	0.11	1.00			
F01	BUILDING/FACILITY MANAGEMENT	4.15	4.04	3.39	3.20	3.20	2.61	2.88	2.88	2.58	3.03	2.79	2.27	30.00			
F04	EMERG PREPAREDNESS/FAC PROTECTION	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.21	3.23	3.21	25.60			
F05	FAC OPERATIONS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	4.00			
F07	FAC/PLANT MAINTENANCE	3.16	3.16	3.04	1.04	1.04	1.04	1.04	0.83	0.80	1.59	1.91	1.88	17.20			
F10	WORK PLANNING AND/OR SCHEDULING	0.07	0.07	0.07	0.12	0.12	0.12	0.12	0.07	0.07	0.07	0.07	0.07	0.60			
F21	OTHER FACILITY SERVICES	2.12	2.35	2.64	3.05	2.84	2.12	2.45	2.18	2.40	2.07	2.07	2.07	18.00			
F22	COST ESTIMATING	0.62	0.61	0.57	0.62	0.62	0.60	0.73	0.69	0.63	0.65	0.73	0.59	5.00			
F23	WASTE/FUEL PKG TRANSPORTATION	0.25	0.25	0.29	0.32	0.32	0.32	0.16	0.04	0.04	0.04	0.04	0.04	2.00			
F26	CONSTRUCTION FIELD ENGINEER	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.56			
F27	CONSTRUCTION SUBCONTRACT TECHNICAL REP	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE			
F31	CONSTRUCTION OTHER TECHNICAL	0.17	0.17	0.32	0.41	0.41	0.41	0.41	0.25	0.14	0.37	0.37	0.37	2.00			
F16	PURCHASING	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE			
P21	SUBCONTRACT ADMIN	0.12	0.09	0.03	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.08			
P23	TRAINING	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE			
P33	OTHER ADMIN SERVICES	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.80			
P44	PLANNING AND CONTROLS	0.09	0.09	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.36			
S04	ENVIRONMENTAL SCIENCES	1.77	1.77	1.68	1.66	1.70	1.69	1.79	1.68	2.16	2.22	2.05	1.90	14.00			
S08	INDUSTRIAL HYGIENE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE			
S14	OTHER SCIENTIFIC	0.43	0.46	0.47	0.46	0.39	0.36	0.36	0.36	0.36	0.37	0.37	0.37	3.00			
S15	ANALYTICAL CHEMISTRY	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE			
S16	CHEMICAL SCIENCES	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.56			
S21	REGULATORY COMPLIANCE - ENVIRONMENTAL	0.02	0.02	0.01	0.04	0.06	0.06	0.06	0.06	0.31	1.50	0.39	0.39	2.00			
T03	DRAFTER	1.58	0.49	0.52	0.36	0.34	0.36	0.34	0.34	0.19	0.20	0.20	0.20	6.00			
T06	FAC OPS/HAZARD WASTE TECH	0.15	0.15	0.19	0.21	0.29	0.21	0.24	0.22	0.19	0.20	0.20	0.20	1.50			
T08	ILLUSTRATOR ARTIST	1.82	1.98	1.56	0.65	0.56	0.55	0.55	0.55	0.53	1.70	2.43	1.70	12.00			
T09	INSTRUMENTATION/CALIBRATION TECH	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.16			
T10	LABORATORY TECH	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE			
T11	LABORATORY TECH	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.56			
T12	QUALITY INSPECT TECH	0.29	0.17	0.01	0.01	0.01	0.83	0.01	0.01	0.01	0.15	0.11	0.11	1.00			
T16	INDUST SAFETY/HEALTH TECH	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE	FTE			
T17	OTHER TECHS/OPS	0.09	0.16	0.10	0.16	0.19	0.32	0.26	0.16	0.08	0.13	0.13	0.13	1.00			
T27	NETWORK TECHNICIAN	0.09	0.11	0.06	0.05	0.11	0.11	0.11	0.06	0.01	0.32	0.16	0.22	0.80			
U06	CARPENTER	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.16			
U09	CUSTODIAN	1.34	0.92	1.11	0.95	1.22	1.39	1.45	0.95	0.92	1.38	0.92	0.92	9.00			
U11	ELECTRICIAN	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.96			
U12	EQUIPMENT OPERATOR	2.82	2.90	2.71	2.50	2.55	2.51	2.47	2.58	2.60	2.44	2.40	2.40	20.00			
U16	FITTER	0.20	0.20	0.29	0.22	0.22	0.42	0.75	0.77	0.75	0.99	0.72	0.28	4.00			
U19	INSTRUMENT SPECIALIST	2.04	1.87	1.82	2.13	1.64	1.68	2.00	1.58	1.39	1.05	1.05	1.05	14.00			
		0.23	0.34	0.26	0.23	0.23	0.23	0.23	0.23	0.23	0.20	0.20	0.42	1.80			

WBS(4)	BE(4)	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Totals
C.4.01.02 Nuclear Energy Program														
	U21 LABORER	2.44	1.71	1.65	1.66	1.39	2.02	1.99	1.88	1.33	2.37	1.87	1.05	1.78
	U24 LOCKSMITH	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
	U28 MATERIAL SPECIALIST	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
	U28 SYS MECHANIC	1.53	1.59	1.37	1.22	1.28	1.17	1.15	1.41	1.35	1.17	1.50	1.26	1.33
	U35 PAINTER	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.68	0.75	1.15	1.15	1.15	0.75
	U46 SERVICE OPER DISPOSAL	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
	U55 WELDER	0.54	0.54	0.54	0.54	0.71	0.80	0.62	0.54	0.48	0.16	0.16	0.16	0.48
	U60 RADIOLOGICAL CONTROL TECH	3.81	3.24	3.12	3.47	2.84	3.21	3.60	3.94	2.63	3.64	3.02	2.01	3.21
	U71 MATERIAL MOVING EQUIPMENT OPERATOR HEAVY	0.44	0.28	0.28	0.28	0.26	0.25	0.27	0.34	0.30	0.20	0.20	0.20	0.28
	U81 CONSTRUCTION CARPENTER (FORCE ACCT)	1.83	1.83	1.90	1.95	1.95	1.95	1.95	1.15	0.61	0.61	0.61	0.61	1.41
	U82 CONSTRUCTION ELECTRICIAN (FORCE ACCT)	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.41	0.17	0.17	0.17	0.17	0.55
	U84 CONSTRUCTION LABORER (FORCE ACCT)	0.17	0.17	0.91	1.40	1.40	1.40	1.40	0.83	0.17	0.17	0.17	0.17	0.38
	U87 CONSTRUCTION PIPE FITTER (FORCE ACCT)	-	-	0.53	0.89	0.89	0.89	0.89	0.47	-	-	-	-	0.38
	U90 WASTE OPS TECH - TRA	1.00	1.00	1.17	1.37	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05
	X16 MIXED/HAZARDOUS WASTE MANAGEMENT	1.39	1.42	1.03	0.94	0.74	0.66	0.51	1.43	0.61	1.07	1.23	0.54	0.96
	X22 SAFETY ANALYSIS	0.09	0.09	0.04	0.03	0.03	0.03	0.03	0.02	-	-	-	-	0.03
	Z01 MANAGER, ADMIN SERVICES	-	-	-	-	-	-	-	-	-	0.02	0.02	0.02	0.01
	Z02 MANAGER, FAC SUPPORT SERVICES	-	-	-	-	-	-	-	-	-	-	-	-	0.31
	Z03 MANAGER, OPERATIONS	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
	Z04 MANAGER, SCIENCE FUNCTION	0.41	0.32	0.30	5.83	1.72	0.30	0.27	0.21	0.18	0.18	0.18	0.18	0.84
	Z08 SUPERVISOR, OPERATIONS	0.94	0.97	1.02	1.04	0.97	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.96
	Z10 FOREMAN, OPERATIONS	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
	Z11 FOREMAN, CRAFTS	0.76	0.70	0.72	0.71	0.75	0.75	0.73	0.72	0.69	0.76	0.76	0.71	0.73
WBS(4) Totals:		54.09	50.16	49.54	53.40	48.27	46.53	49.44	44.10	41.16	47.01	44.53	52.46	48.39

2. MAJOR PRODUCTS AND DELIVERABLES:

Perform preventive maintenance on buildings and infrastructure to meet regulatory requirements and for compliance with applicable Authorization Basis (AB) documents.

- Reduce the number of facility deficiencies.
- Perform building roof repairs and/or replacements.
- Maintain configuration control of programmatic SSCs.

3. ESTIMATE DEVELOPMENT BASIS:

- Historical data.
- Detailed cost estimates.
- Passport estimates.
- Detailed work plans from ES&H, Emergency Preparedness (EP), Engineering, and TRA Facilities.

4. ASSUMPTIONS:

- **Internal**

Maintenance and operations support will be available to perform work as necessary. A portion of the craft support may be performed on overtime hours where it will cause fewer disturbances and will be more productive to the general population.

The existing interface/ownership agreements between TRA Facilities and other organizations and/or programs will not be significantly modified.

Training will be current for all involved in the work scope.

Estimated benefits, to be realized by implementation of Process Improvement Projects (PIPs) resulting in operational streamlining, are built into the estimated resource requirements identified in this work plan. The following Six Sigma initiatives correspond to the work scope requirements in this control account:

- Work Control
- Assessment Redundancy
- Engineering Specifications, Drawings, Designs
- Issues Management Tracking System
- Integrated Engineering Tools.
- **External**

Funding will be available to reduce the TRA Maintenance List and fewer deficiencies will be identified and more corrective issues will be completed. Historically, TRA maintenance has grown faster than the ability to secure resources to correct issues.

Subcontractors will be available to complete larger maintenance activities such as roof repairs/replacements, building modifications, etc. (as determined by Davis Bacon rulings)

5. EXCLUSIONS:

NE will not be responsible for funding common use buildings, roads, and grounds, custodial (except Hot Cells—see C.4.01.02.16.03) general operations and surveillance, general ES&H support, and maintenance of EM funded buildings and structures. NE will fund the operation, management and maintenance of programmatic buildings and utility systems (including the sewer system) and 50% of the ECC operation.

This package is not designed to handle all unknown and regulated material issues at TRA that may fall under the TRA Facilities purview. Unplanned regulated and unknown material issues (as defined by INEEL management) will receive funding for disposition from other sources.

6. SUBCONTRACT STRATEGY: (>\$100K)

Subcontract	Task	Start Date	Finish Date	Budget	Comments
None					

7. MATERIAL/EQUIPMENT/OTHER DIRECT COST REQUIREMENTS: (>\$25K)

Description	Burdened Budget	FY	Comments/Assumptions
None			

8. CONSTRUCTION EQUIPMENT REQUIREMENTS & ASSUMPTIONS:

Description	Source	Usage Date		Comments/Assumptions
		Start	Finish	
None				

Program: C401		Description: Nuclear Reactor Program		Approval: Program Manager													
Run Date: 9/16/2003		Status Date: 9/30/2003		Functional Manager													
		Cost Account Manager															
WBS[6]	BE[2]	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Totals			
C.4.01.02.01 TRA Nuclear Energy Facilities																	
	L Labor	2,931	2,639	4,127	3,255	3,531	3,517	3,495	3,346	3,774	3,963	3,367	6,055	44,000			
		184,928	166,558	260,399	205,294	222,746	221,839	226,307	221,797	255,483	267,914	227,588	406,933	2,867,786			
	M Material Purchases	20,554	18,512	28,942	21,337	22,998	22,904	22,651	18,992	20,272	24,241	20,075	29,873	271,351			
	N Other Non-Labor	11,444	10,308	16,115	12,856	13,964	13,908	13,718	8,912	6,984	8,066	6,680	9,940	132,894			
	S Sub Contracts	3,426	3,086	4,824	3,849	4,180	4,163	4,107	4,118	6,951	17,104	14,164	21,078	91,050			
WBS[6] Totals:		220,352	198,463	310,281	243,335	263,888	262,814	266,783	253,820	289,690	317,324	268,507	467,824	3,363,081			

Abandonment of shallow injection wells, FD22 and FD23

- Completion of closure and abandonment activities
- Submittal of notice of completion to the State

Abandonment of Eight Shallow Injection Wells

- Completion of closure and abandonment activities
- Submittal of notice of completion to the State

2. ESTIMATE DEVELOPMENT BASIS:

The cost estimate is based on FY 2003 actual hours charged for labor resources, and estimates provided by the performing support organizations for specific activities. Activities determined to be new or specific for FY 2004 were either estimated using professional experience and judgment or estimated from costs provided by other organizations and outside sources.

4. ASSUMPTIONS:

- **Internal**

Funding will be provided to complete the work scope per the DWP.

Adequate personnel resources from the required organizations and disciplines will be available to support the work scope as scheduled in the DWP process.

INEEL drawings correctly represent the buildings and system configurations represented in the control account.

Centralization of work control and maintenance scheduling will support the work scope as scheduled in the DWP process.

Labor rate adjustments will not alter the work package cost estimates.

- **External**

There will be no significant changes in the DOE orders, regulatory requirements, provisions of the Voluntary Consent Order, Notice of Violation, INEEL policies and procedures, or any other standard that will force compliance with an emerging requirement that was not planned for in the work scope.

5. EXCLUSIONS:

None

6. SUBCONTRACT STRATEGY:

Subcontract	Task	Start Date	Finish Date	Budget	Comments
TBD	TRA-02 Well Abandonment (perform closure activities)	10/15/2003	12/18/2003	\$102,100	

7. MATERIAL/EQUIPMENT/OTHER DIRECT COST REQUIREMENTS:

Description	Burdened Budget	FY	Comments/Assumptions
None			

8. CONSTRUCTION EQUIPMENT REQUIREMENTS & ASSUMPTIONS:

Description	Source	Usage Date		Comments/Assumptions
		Start	Finish	
None				

decontamination of vaults and ancillary lines and equipment to meet closure requirements. This project is funded 45% from EM and 55% from NE.

VCO Action Plan SITE-TANK-005

Tanks and tank systems identified under the VCO as potentially RCRA hazardous or unknown must be characterized either through sample collection and analytical data or process knowledge. This project will complete the characterization of multiple tanks/tank systems and complete an EDF in support of the characterization. If a tank or tank system is characterized as RCRA hazardous, interim actions will be identified and executed, and follow-up actions, including potential closure activities, will be developed.

VCO Action Plan SITE-TANK-005, TRA-713 Tank Assessments

The TRA-613 A and B Vault Sumps and the TRA-713 B, C, and D Hot Waste Tank System are identified within the VCO as part of Site Tank 005 System, TRA-004. This project is potentially a very large and complex characterization project and is being completed under "TRA Tank Assessments" (*VCO Action Plan SITE-TANK-005*) for FY 2004. Scope includes sampling of the direct buried TRA-713 B, C and D Hot Waste Storage Tanks and preparation of a Phase 1 EDF. Completion and submittal of the Phase 1 EDF for the TRA-713 tanks will be dependent on completion of the TRA-605B hot waste storage tank scope.

VCO Action Plan SITE-TANK-005, TRA-605B Hot Waste Storage Tank

The TRA-605B hot waste storage tank is part of Site Tank 005 System, TRA-004 as are the TRA-713 tanks. This project has potentially complex sampling challenges and is being completed under "TRA Tank Assessments" (*VCO Action Plan SITE-TANK-005*) for FY 2004. Scope includes sampling of the tank heels and preparation of a Phase 1 EDF. Completion and submittal of the Phase 1 EDF for this tank will be dependent on completion of the TRA-713 scope.

Scope to Be Performed (FY 2004):

Voluntary Consent Order Program Management

FY 2004 scope covers level of effort VCO program management at TRA. The TRA POC will assist the VCO Service Team Manager in coordinating and providing resources to the work package project managers as necessary in order to ensure that VCO milestones are met. The TRA POC will prepare monthly status reports on cost and schedule, interface with TRA facility management, and coordinate TRA labor resources for the work package managers. The TRA project engineer will provide technical support to ensure that the VCO milestones are met.

The TRA WGS facility supervisor and Radiological Control Department Manager provide overall program technical support and resource determinations. Job-specific training for the radiological control technicians is funded in order to fully support the VCO activities at TRA. Funding for RCIMS tracking is provided for the necessary ALARA monitoring of the VCO activities.

VCO Action Plan TRA-001 – Hazardous Waste Determination and Disposition of Legacy Waste

Complete final closure documentation on the remaining waste items. Submit hazardous waste determinations and the closure documents to the IDEQ in support of the final enforceable milestone of June 30, 2004 for 100% characterization and disposition of legacy items.

VCO Action Plan VCO-5.8.d – TRA-730 Catch Tank System Closure

- Complete video inspections necessary to finish the integrity evaluations from the TRA-603 reactor drain tank vault, the TRA-635 pipe pit, the TRA-635 floor drain, and the excavation between the bunkhouse trailer and TRA-630.
- Complete 100% of decontamination and closure certification sampling for piping subunits 7-11 in accordance with the HWMA/RCRA closure plan.
- Complete final radiological decontamination and rinsate sampling for tank subunits 1-4 in accordance with the approved HWMA/RCRA closure plan.
- Complete decontamination of the TRA-730 tank vault for HWMA/RCRA closure.
- Complete isolation of inactive components located within the TRA-630 pump vault as specified in the HWMA/RCRA closure plan.
- Complete decontamination of the TRA-630 pump vault.
- Initiate professional engineer (PE) certification report and owner/operator closure certification.

VCO Action Plan SITE-TANK-005 – Site Wide Tanks Characterization (and potential remediation)

The scope of this work package will support the Phase 1 (characterization) and Phase 2 (remediation) activities of selected tanks or tank systems that are on the VCO and which are located at the TRA.

VCO Action Plan Site-Tank-005, TRA-713 Tank Assessment

The TRA-713 B, C, and D tanks will be sampled if tank heels are determined to be present. The Hazardous Waste Determination/Verification of Empty document will be prepared and submitted based on completion of the TRA-605 hot waste storage tank scope. If characterization results indicate the tanks are holding RCRA hazardous waste, interim actions may be determined and may be submitted to the IDEQ. A draft RCRA closure plan may be initiated.

VCO Action Plan SITE-TANK-005, TRA-605B Hot Waste Storage Tank

The TRA-605B hot waste storage tank will be sampled if tank heels are determined to be present. The Hazardous Waste Determination/Verification of Empty document will be prepared and submitted based on completion of the TRA-713 tank assessment scope. If characterization results indicate the tanks are holding RCRA hazardous waste, interim actions may be determined and may be submitted to the IDEQ. A draft RCRA closure plan may be initiated.

2. MAJOR PRODUCTS AND DELIVERABLES:

VCO Management

- Monthly Report per BBWI Project Controls and VCO Program reporting requirements.

VCO Action Plan TRA-001 – Hazardous Waste Determination and Disposition

- Characterization efforts will be completed on the remaining 100% of NEW TRA-001 track items.
- Submittal of the enforceable milestone, "Complete hazardous waste determinations for 100% of the items and move items determined to be hazardous waste to an interim status or permitted hazardous waste storage or disposal facility."

VCO Action Plan VCO-5.8.d – TRA-730 Catch Tank System Closure

- Submittal of quarterly reports to IDEQ as specified in the approved closure plan.

VCO Action Plan SITE-TANK-005 – Site Wide Tanks Characterization (and potential remediation)

Phase 1

- Preparation of an EDF for each tank system that provides sufficient information to provide a RCRA determination for each item. The EDF will contain information that details the VOE or HWD as well as the results from the sampling and analysis operations per EDF Guidance, GDE-85, "Preparation of Characterization Engineering Design Files for the Voluntary Consent Order Program."
- Resolution of any comments with IDEQ including comments on EDFs prepared in previous years.
- Update of the TRA SITE-TANK-005 system identification documents if major different or new information is found.

Phase 2 (if necessary based on Phase 1 characterization)

- Negotiation of milestones for Phase 2 follow-on activities with the IDEQ upon approval of the tank systems' HWD.
- Submittal of schedules for follow-on actions for tank/tank systems determined to be hazardous.

VCO Action Plan SITE-TANK-005 -TRA-713 Tank Assessment

- Sample results of TRA-713 B, C, and D tank heels if present and hazardous waste determination on the tank heel waste. Completion of characterization EDF based on the sample results.

VCO Action Plan SITE-TANK-005 -TRA-713 Tank Assessment

Sample results of TRA-605B tank heels if present and completion of the hazardous waste determination on the tank heel waste. Completion of characterization EDF based on the sample results.

3. ESTIMATE DEVELOPMENT BASIS:

The cost estimate is based on FY 2003 actual hours charged for labor resources, FY 2003 actual invoiced amounts for subcontracts, and estimates provided by the performing support organizations for specific activities. A cost estimator prepared the catch tank cost estimate using experience and professional judgment estimate costs. Activities determined to be new or specific for FY 2004 were either estimated using professional experience and judgment or estimated from costs provided by other organizations and outside sources.

4. ASSUMPTIONS:

Internal

Specific to all Deliverables:

- Appropriate shipping/disposal containers are available.
- An approved treatment, storage, or disposition path is available for all materials.

Specific to the VCO-5.8.d, TRA-730 Catch Tank System Closure:

- No catastrophic failures of direct-buried CTS ancillary equipment or releases of contaminants to the environment, other than those identified in FY 2003 will be found.
- The cost estimate is based on the assumption that the 4 in. HDC-632 piping is not located beneath TRA-661 as noted on at least one TRA reference drawing.
- The cost estimate is based on the assumption that the radiation fields associated with material contained within the piping beneath TRA-632 will allow removal and disposal of this material.
- The cost estimate is based on the assumption that waste removed will not be transuranic regulated waste in excess of treatment, storage, and disposal facility acceptance limits.
- The cost estimate is based on the assumption that sediment plugs or line blockages encountered can be removed or unblocked with currently available technology and can be readily removed to meet closure performance requirements.

Specific to the Site Tank 005 Phase 1 and Phase 2:

Phase 1:

- No modifications to tanks will be required to complete the characterization activities. Existing access ports are available and will be sufficient to allow sample collection and/or video inspections.
- Work activities can be performed under existing facility authorization basis documentation (Safety Analysis Reports, Auditable Safety Analyses, etc.) without modification or additional safety analyses.

Phase 2:

- Because TRA does not have any systems designed to manage regulated waste, no permitting activities will be planned.
- The VCO SITE-TANK-005 75% characterization milestone to be met in March 2004 is not dependent on EDFs from TRA. FY 2004 Initial Phase 2 activities (development of schedules for follow on actions) will not be initiated until this milestone has been met.

External

- EM will provide adequate funding for those items that have been identified as EM's responsibility in order to meet the baseline schedule and enforceable milestones.

5. EXCLUSIONS:

None

6. SUBCONTRACT STRATEGY:

Subcontract	Task	Start Date	Finish Date	Budget	Comments
TMR	VCO 5.8.d. Excavation No. 3 (line cleaning)	12/01/2003	05/03/2004	\$179.1K	
ANL-W	VCO 5.8.d. Heel & Line Waste Treatment	10/01/2003	09/30/2004	\$321.0K	
TBD	Remote Sampling Design and Equipment (605B)	02/04/2004	04/22/2004	\$150.0K <u>\$159.2K</u> \$309.2K	

7. MATERIAL/EQUIPMENT/OTHER DIRECT COST REQUIREMENTS:

Description	Burdened Budget	FY	Comments/Assumptions
VCO 5.8.d. Excavation No. 3	\$40.2K	2004	Excavation shoring

8. CONSTRUCTION EQUIPMENT REQUIREMENTS & ASSUMPTIONS:

Description	Source	Usage Date		Comments/Assumptions
		Start	Finish	
None				

Program: C401		Description: Nuclear Reactor Program		Approval: Program Manager													
Run Date: 9/16/2003		Status Date: 9/30/2003		Functional Manager													
		Cost Account Manager															
WBS[6]		BE[2]		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Totals	
C.4.01.02.03.02 TRA NE VCO Projects																	
L	Labor			1,736	1,392	2,381	2,101	2,118	2,050	2,326	1,861	1,829	2,581	1,566	1,488	23,429	
				116,170	90,585	151,000	130,459	132,900	123,545	148,308	117,733	127,185	181,626	112,318	105,375	1,537,203	
M	Material Purchases			39,844	27,993	75,340	43,381	45,670	35,759	37,732	33,064	32,535	43,141	26,004	39,163	479,626	
N	Other Non-Labor			7,383	8,564	20,175	19,435	19,522	19,359	19,464	17,544	19,513	15,700	7,751	10,372	184,782	
S	Sub Contracts			5,811	103,604	66,830	69,866	144,420	197,660	221,173	104,232	55,155	54,337	35,094	89,577	1,147,757	
WBS[6] Totals:				169,208	230,746	313,345	263,142	342,512	376,323	426,677	272,572	234,387	294,803	181,167	244,486	3,349,368	

CONTROL ACCOUNT PLAN

WBS: C.4.01.02.05.01
Title: NE Capital Equipment

ESH&QA Activity:	<input type="checkbox"/>	Site Area Director:	David J. Richardson
CAP Manager:	D. Brett Lewis	Planning & Controls:	Eric L. Mickelsen
DOE-ID:	Walter N. Sato	Field Support:	
PROJECT Manager:	Joel W. Duling	ES&H Field Manager:	Paul L. Hapke
PROGRAM LEVEL:	David J. Richardson	Other:	

APPROVED BY:

Control Account Manager

Date

ESH&QA Representative

Date

1. GENERAL WORK DESCRIPTION:

This control account funds activities necessary to manage Test Reactor Area (TRA) capital equipment in accordance with DOE Conduct of Operations, Conduct of Maintenance and facility safety bases orders. The general intent of this control account is to purchase necessary capital equipment for TRA.

TRA activities include the management of buildings and facilities in a responsible and efficient manner. This control account provides capital equipment funding to assist in the corrective and on-going maintenance and operation of Nuclear Energy (NE) facilities and systems.

Scope to Be Performed (FY 2004):

The acquisition of a motorized man-lift is scheduled for FY 2004.

2. MAJOR PRODUCTS AND DELIVERABLES:

The purchase of capital equipment identified in this control account.

3. ESTIMATE DEVELOPMENT BASIS:

Manufacturer provided cost estimates and published suggested prices.

4. ASSUMPTIONS:

Proposed budget figures are within range of actual bid and award dollars including adders.

Estimated benefits, to be realized by implementation of Process Improvement Projects (PIPs) resulting in operational streamlining, are built into the estimated resource requirements identified in this work plan. The following Six Sigma initiatives correspond to the work scope requirements in this control account:

5. EXCLUSIONS:

None

6. SUBCONTRACT STRATEGY:

Subcontract	Task	Start Date	Finish Date	Budget	Comments
None					

7. MATERIAL/EQUIPMENT/OTHER DIRECT COST REQUIREMENTS:

Description	Burdened Budget	FY	Comments/Assumptions
Motorized man-lift	\$100K	2004	

8. CONSTRUCTION EQUIPMENT REQUIREMENTS & ASSUMPTIONS:

Description	Source	Usage Date		Comments/Assumptions
		Start	Finish	
None				

Program: C401	Description: Nuclear Reactor Program	Approval: Program Manager
Run Date: 9/16/2003	Status Date: 9/30/2003	Functional Manager
		Cost Account Manager

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Totals
WBS[6]													
C.4.01.02.05.01 NE Capital Equipment													
L Labor													
Hours	0	0	0	0	0	0	0	0	0	0	3	8	25
Dollars	0	0	0	0	0	0	0	0	0	257	559	1,903	2,719
M Material Purchases													
Dollars	0	0	0	0	0	0	0	0	0	0	0	0	116,200
WBS[6] Totals:	0	0	0	0	0	0	0	0	0	257	559	118,103	118,919

These calculations are based on the assumption that the facility will be fully staffed for 3 months (0.25 fiscal year) for startup and at reduced staffing (one tech, half time; one facility supervisor, half time; and the facility manager, 1/4 time) for the remaining 9 months of FY 2004.

Additionally, it is assumed that sufficient work will be accomplished during FY 2003 on the annual update of the documented safety analysis to reduce costs in FY 2004 by \$20K. This work in FY 2003 will be funded by project dollars already allocated.

TRAHC Operational Expenses

This work package funds expenses directly related to the level of utilization of the facility. Anticipated expenses include health physics (HP) instrumentation rentals, waste (cold and radiological) handling and disposal, radiological and personal protective equipment/supplies, and custodial expenses. This fund will also provide resources required for documenting and fixing assessment deficiencies as well as update of the fire hazard analysis (FHA).

TRAHC Program Equipment Maintenance

This work package funds preventive and corrective maintenance on program equipment (Bin 3) including level of effort maintenance support.

TRAHC Environmental Compliance

This work package funds the activities associated with emissions monitoring and reporting and environmental oversight/consulting as needed.

TRAHC Assessments

This work package funds the internal assessments as required by BBWI management control procedures for compliance with Department of Energy (DOE) orders and regulatory requirements.

TRAHC Restart

This work package provides for the resources necessary to fund restart management self-assessment, contractor Operational Readiness Review (ORR); mockups (if necessary) will also be funded from this work package. Corrective actions from the assessments will be funded from the operational expenses fund. It is assumed that no cost will be added to the TRA Hot Cells from the DOE ORR except corrective actions since the assessors are funded by the ~~Department of Energy~~ DOE, and any other monitoring or assistance activity is discretionary and will be funded by the interested organization.

TRAHC Building Maintenance

This work package funds preventive and corrective maintenance for the TRAHC building (Bin 1) including level of effort maintenance support and facility systems as identified in the Passport database.

2. MAJOR PRODUCTS AND DELIVERABLES:

Maintain facility in compliance with the Authorization Basis
Documented safety analysis update
Fire hazard analysis update
Completion of Contractor and DOE Operational Readiness Reviews

3. ESTIMATE DEVELOPMENT BASIS:

The cost estimate is based on historical operating expenses for a minimal facility staff and currently identified needs for corrective and preventative maintenance. The depth and breadth of the restart requirements and the utilization of the facility will significantly influence the actual funding requirements for FY 2004.

This budget includes the lessons learned during FY 2003 to ensure adequate resources are available to meet the requirements of SAR-100, "INEEL Standardized Safety Analysis Report (SAR) Chapters," and those required to implement annual DSA updates.

4. ASSUMPTIONS:

- **Internal**

Funding at or near the levels proposed in the 2001 Hot Cell Business Plan is based on limited manning of the TRA Hot Cells. According to the business plan, manning is limited to approximately 50% of the year with one supervisor and three technicians. Facility Management is limited to one-quarter FTE. Current facility staffing is one operator at the technician rate and three operators at the facility operations charge rate (one serving as the supervisor and another as facility manager).

The facility staff of one supervisor, two hot cell technicians, and one RCT is sufficient to support full time operational activities for 3 months in FY 2004. If facility activities, such as restart or work projects, require more than 3 months full-time staffing, compensatory actions such as reducing staff, or customer funding will be required to recover expenses and stay within the projected costs. Those activities, such as cell entry, that require additional support will have the extra requirements identified in the scope of work and paid for by the customer.

During the remaining 9 months, minimal staffing will be allocated to cover maintenance and monitoring activities in the Hot Cell Facility. Hot Cell personnel will need to be reassigned to other projects to ensure availability of operating personnel.

Currently the restart activities are scheduled to complete in February 2004. If the facility does not conduct programmatic work within 2 months after restart, the requirements of MCP-2783, "Startup and Restart of Nuclear Facilities," may require a Readiness Assessment (RA-1 or RA-2) be conducted prior to resuming programmatic work. This activity is not funded and is presumed to be funded by potential customers.

Implementation of DSA update will require 20 procedures to be modified.

Minimum corrective maintenance will be performed.

Emissions sampling will continue to be performed by current means and procedures.

Waste removal and disposal will be conducted within the fiscal constraints of the FY 2003 budget. The following are waste removal priorities for FY 2004:

- Transfer or removal of material in cargo container on TRA-617 pad. Rainwater leaks into the cargo container during storms and is warping the wooden boxes containing radioactively contaminated material. At a minimum, the cargo container will need to be replaced to prevent possible contamination leaching on to the TRA-617 pad.
- Removal and disposal of out of date and excess chemicals in the facility. Many will require disposal as mixed waste.
- Characterization and disposal of activated charcoal filter.
- Elementary neutralization of corrosive chemical in service area and Cell 2. Facility personnel may perform this at minimal cost.
- Solidification and removal of non-hazardous liquid waste from mopping.

It is assumed that no cost will be added to the TRA Hot Cells from the DOE ORR except corrective actions since the assessors are funded by the Department of Energy DOE, and any other monitoring or assistance activity is discretionary and will be funded by the interested organization.

- **External**

No catastrophic failure of facility structures, systems, or equipment will occur requiring repair/replacement that will require funding in excess of the currently estimated corrective maintenance budget.

No new federal, state, local, or other standard or requirement will be instituted that requires modification of the facility, the safety basis, or operating processes and procedures.

5. EXCLUSIONS:

This control account does not include funding for the following:

- Reduction of source term in Hot Cell 3
- Decontamination of Hot Cells 2 and 3, other than that required for cell entry
- Activities to restore Hot Cell 1 to operation.

6. SUBCONTRACT STRATEGY:

Subcontract	Task	Start Date	Finish Date	Budget	Comments
None					

7. MATERIAL/EQUIPMENT/OTHER DIRECT COST REQUIREMENTS:

Description	Burdened Budget	FY	Comments/Assumptions
None			

8. CONSTRUCTION EQUIPMENT REQUIREMENTS & ASSUMPTIONS:

Description	Source	Usage Date		Comments/Assumptions
		Start	Finish	
None				

Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	FY04												FY05	
					OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	
C.4.01.02.16.03.07	TRAHC Building Maint (Bin 1)																	
LLHC7000	Building Maint Support	201	01OCT03	30SEP04														Building
LLHC7030	Minor Building Maintenance	201	01OCT03*	30SEP04														Minor B
LLHC7010	Repair Roof Drain Leak in Service Area	19	01MAR04*	31MAR04														Repair Roof Drain Leak in Service Area
LLHC7410	10-Ton Crane Annual Inspection	16	03MAY04*	27MAY04														10-Ton Crane Annual Inspection
LLHC7020	10-Ton Crane Brake Replacement	18	01JUN04*	30JUN04														10-Ton Crane Brake Replacement

Program: C401		Description: Nuclear Reactor Program		Approval: Program Manager													
Run Date: 9/16/2003		Status Date: 9/30/2003		Functional Manager													
		Cost Account Manager															
WBS[6]	BE[2]	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Totals			
C.4.01.02.16.03 Hot Cell Facility Ops & Maintenance																	
L	Labor	1,103	1,051	1,383	1,452	994	784	863	863	913	838	839	2,276	13,358			
		77,623	73,220	95,724	169,863	87,497	53,807	64,816	62,870	64,696	60,394	58,814	167,868	1,031,190			
M	Material Purchases	1,560	1,405	2,196	24,992	1,903	1,895	1,870	1,875	2,186	2,156	1,786	2,657	46,480			
N	Other Non-Labor	12,304	11,082	17,325	13,822	15,013	14,952	14,748	14,789	17,244	17,010	14,086	20,962	183,337			
S	Sub Contracts	0	0	0	14,078	10,922	0	8,263	5,063	0	0	0	0	38,326			
WBS[6] Totals:		91,487	85,706	115,245	222,754	115,336	70,654	89,686	84,597	84,126	79,559	74,686	185,486	1,299,333			

- Yearly budget submittals
- Outage coordinator
- Planning studies
- Cost estimates

3. ESTIMATE DEVELOPMENT BASIS:

Estimate based on experience to date, FY 2003 actuals, and on an allowance.

4. ASSUMPTIONS:

- **Internal**

Major studies will be funded separately.

- **External**

TRA will not provide a separate 10-year plan, but will utilize the INL Ten-Year Comprehensive Site Plan.

5. EXCLUSIONS:

The following mission need documents previously funded under NR were moved to NE and are currently unfunded:

- Plant Project Systems
- TRA-605 Warm Waste Treatment Facility
- ATR-670 Switchgear and Motor Control Center
- General support of NR construction projects was reduced to support only the 40-Ton Crane Project.

6. SUBCONTRACT STRATEGY:

Subcontract	Task	Start Date	Finish Date	Budget	Comments
None					

7. MATERIAL/EQUIPMENT/OTHER DIRECT COST REQUIREMENTS:

Description	Burdened Budget	FY	Comments/Assumptions
None			

8. CONSTRUCTION EQUIPMENT REQUIREMENTS & ASSUMPTIONS:

Description	Source	Usage Date		Comments/Assumptions
		Start	Finish	
None				

Program: C401		Description: Nuclear Reactor Program		Approval: Program Manager		Functional Manager		Cost Account Manager		Status Date: 9/30/2003		Run Date: 9/16/2003		
WBS[6]	BE[2]	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Totals
C.4.01.02.CN.GS NE Construction General Support														
L	Labor	Hours	276	249	389	310	337	237	185	216	213	177	263	3,188
		Dollars	21,837	19,668	30,750	24,531	26,646	19,266	14,679	17,118	16,887	13,985	20,810	252,714
M	Material Purchases	Dollars	702	632	988	788	856	841	844	984	970	804	1,196	10,458
N	Other Non-Labor	Dollars	3,066	2,761	4,317	3,444	3,741	2,865	2,422	2,824	2,785	2,307	3,432	37,687
WBS[6] Totals:			25,605	23,061	36,054	28,763	31,243	22,972	17,945	20,925	20,642	17,095	25,438	300,859

CONTENTS

Approval/Concurrence

Table of Contents

Program Description

- Title Page
- Description
- Action Plan

Summary Technical Baseline

- WBS Index

Summary Schedule Baseline

- Milestone Log

Summary Cost Baseline

- Budget Baseline Table
- Expenditure Forecast
- Labor Profile
- Resource Profile

Appendix A – Control Account Plans (CAPs), Level III Schedules, and CAP Budget Baseline Table

Work For Others Program
C.4.01.03

DESCRIPTION

Objective

The objective of the Work for Others (WFO) Program within the Nuclear Reactor Program is to actively pursue new business to more fully utilize the capacity and capabilities of the Advanced Test Reactor (ATR) by providing irradiation services to customers other than Naval Reactors (NR), such as other Department of Energy (DOE) organizations, private industry, and international customers.

Technical Content

The Advanced Test Reactor (ATR) has been used to study the effects of radiation on materials and also produces rare and valuable medical and industrial isotopes. Information that would normally require years to gather from normal reactor operations can be obtained in a matter of weeks or months using ATR's high neutron flux capability.

Although the primary user of the ATR is the Naval Nuclear Propulsion Program, the facility hosts several other government, commercial, and foreign users. The unique four-leaf-clover core design provides nine main test spaces. Additional smaller test spaces allow even more experiments to be conducted independently. These smaller spaces are routinely used for production of medical and industrial isotopes for commercial and governmental clients. Irradiation testing and radioisotope production is conducted for other DOE and international customers as a means to support full utilization of the capacity and capabilities of the ATR.

Program Work Statement: FY 2004

Work For Others: The WFO Program has been developed as a means to support full utilization of the capacity and capabilities of the ATR and to continue to provide irradiation services and isotope production to non-NR customers.

FY 2004 Planned Work

- Perform minor loop modifications as requested by Bettis
- Perform trace metals analysis work for Knolls Atomic Power Laboratory (KAPL)
- Continue irradiation for Atomic Energy of Canada, LTD (AECL)
- Continue experiment for DOE Oak Ridge Mixed Oxide Fuel (MOX).

Project Key Assumptions

- Test Reactor Area (TRA) Hot Cells will be operational in late CY 2003
- Customers understand the planned ATR cycles for FY 2004 and the limitations to irradiation time due to the core internal changeout (CIC) planned for the second half of FY 2004
- No failure of major equipment components
- No contingency for emerging work
- Projects supported on a full-cost recovery basis without interference to DOE programs.

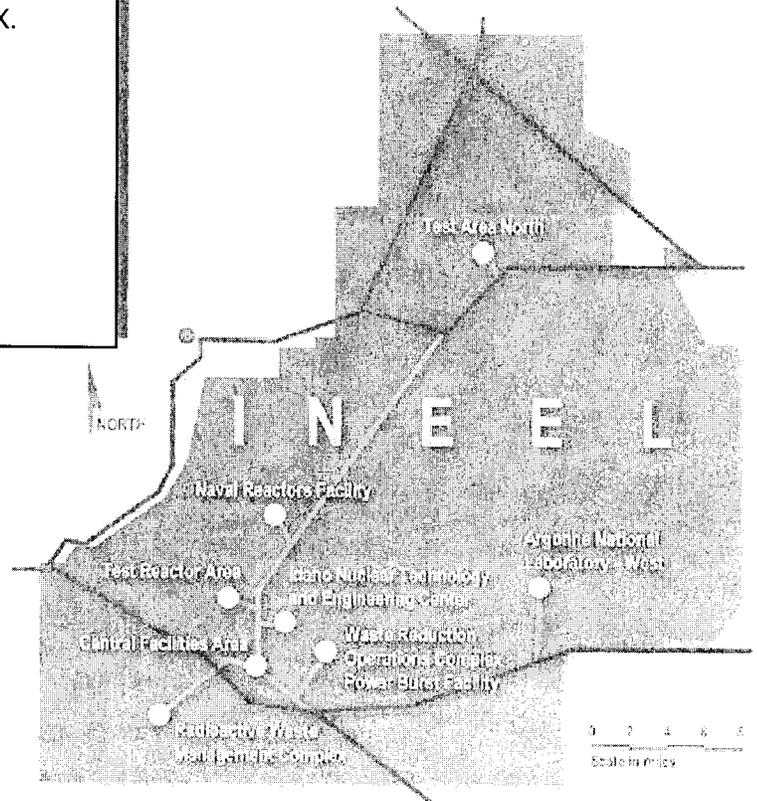
Project Key Exclusions

- Cleanup, restoration, and disposal costs are not included. For example, costs for cleanup of the Primary Coolant System and storage canal, in the unlikely event of a fission product release, are not included
- Project planning will be provided for any FY 2003 carryover work in early FY 2004
- Project planning for new funding from Bettis, KAPL, and AECL will be incorporated into the baseline once it has been received.

ACTION PLAN

FY 2004

- Perform minor loop modifications as requested by Bettis
- Perform trace metals analysis work for KAPL
- Continue Irradiation for the AECL
- Continue experiment for DOE Oak Ridge MOX.



WORK BREAKDOWN STRUCTURE INDEX

WBS#	Title	Responsible Individual
C.4.01	Nuclear Reactor Program	David J Richardson
C.4.01.03	Work for Others (WFO) Program	David J Richardson
C.4.01.03.00	ATR Revenues	John E Dwight
C.4.01.03.00.00	ATR Revenues	John E Dwight
C.4.01.03.01	I-3 Campaigns	Seldon K Penny
C.4.01.03.01.01	I-3 Campaigns	Seldon K Penny
C.4.01.03.01.01.02	I-3 Campaigns	Robert C Howard
C.4.01.03.01.01.ZZ	I-3 Campaigns Suspense	Robert C Howard
C.4.01.03.02	DOE-Oak Ridge	Seldon K Penny
C.4.01.03.02.01	DOE-OR Mixed Oxide Fuel Irradiation	Robert C Pedersen
C.4.01.03.02.01.01	MOX FUEL IRRADIATION	Robert C Pedersen
C.4.01.03.03	KAPL Test Program	Seldon K Penny
C.4.01.03.03.01	KAPL Test Program	Tollan R Whitlock
C.4.01.03.03.01.01	KAPL Test Program	Tollan R Whitlock
C.4.01.03.03.01.ZZ	KAPL Test Program Suspense	Tollan R Whitlock
C.4.01.03.04	Bettis Support Projects	Seldon K Penny
C.4.01.03.04.01	Bettis Support Projects	Tollan R Whitlock
C.4.01.03.04.01.01	Bettis Support Projects	Tollan R Whitlock
C.4.01.03.04.01.ZZ	Bettis Support Projects Suspense	Tollan R Whitlock
C.4.01.03.08	AECL CANIS Experiment	Seldon K Penny
C.4.01.03.08.01	AECL CANIS Experiment	Robert C Howard
C.4.01.03.08.01.01	AECL CANIS Experiment	Robert C Howard
C.4.01.03.08.01.ZZ	AECL CANIS Experiment Suspense	Robert C Howard

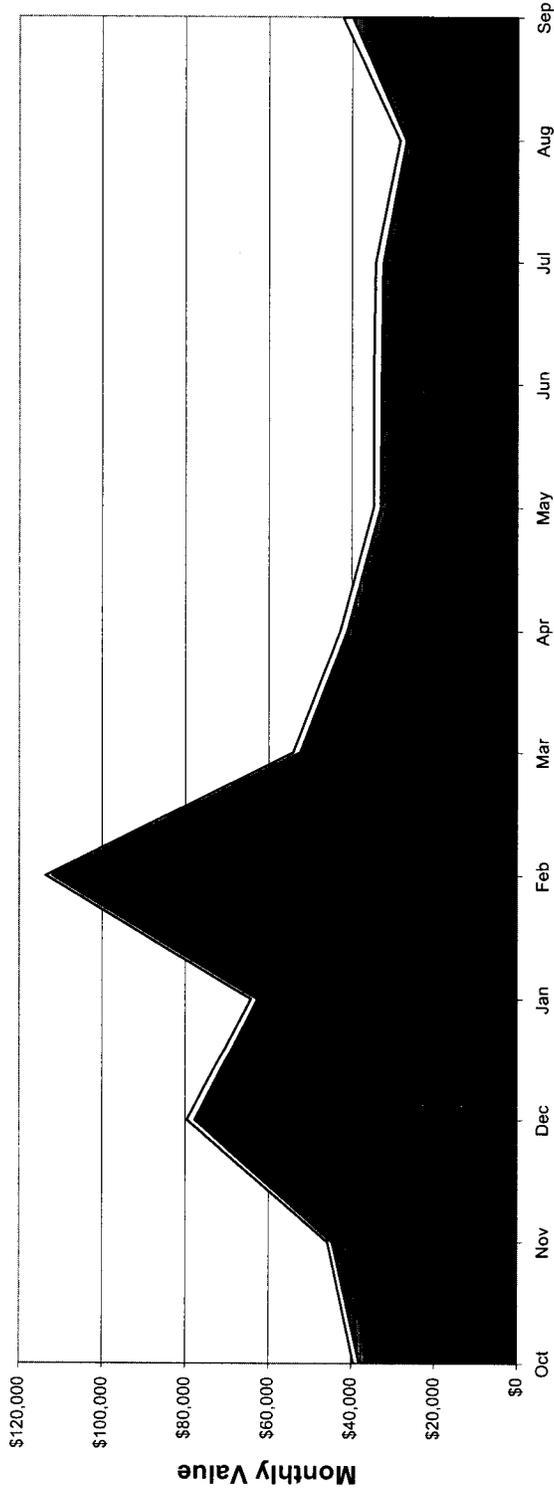
MILESTONE LOG

WBS Element	Description	Dwp Date	Enforceable Date	Level
-------------	-------------	----------	------------------	-------

Program: C40103	Description: Work For Others (WFO) Program	Approval: Program Manager
Run Date: 9/15/2003	Status Date: 9/30/2003	Functional Manager
		Cost Account Manager

WBS[4]	WBS[5]	BE[2]	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Totals
C.4.01.03	Work for Others (WFO) Program														
	C.4.01.03.02	DOE-Oak Ridge													
	L Labor		33.5	38.4	66.5	53.9	70.2	41.1	36.5	28.3	27.3	26.9	22.3	33.1	477.9
	M Material Purchases		2.7	2.5	4.0	3.2	3.5	3.3	3.3	3.3	3.8	3.8	3.1	4.6	41.3
	N Other Non-Labor		1.8	3.7	7.3	5.6	38.3	8.1	1.4	1.6	1.8	1.8	1.5	2.2	75.1
	T Travel		1.4	1.2	1.9	1.5	1.7	1.7	1.6	1.6	1.9	1.9	1.6	2.3	20.3
	WBS[5] Totals:		39.4	45.8	79.7	64.2	113.7	54.1	42.8	34.8	34.8	34.3	28.4	42.3	614.5
WBS[4] Totals:			39.4	45.8	79.7	64.2	113.7	54.1	42.8	34.8	34.8	34.3	28.4	42.3	614.5

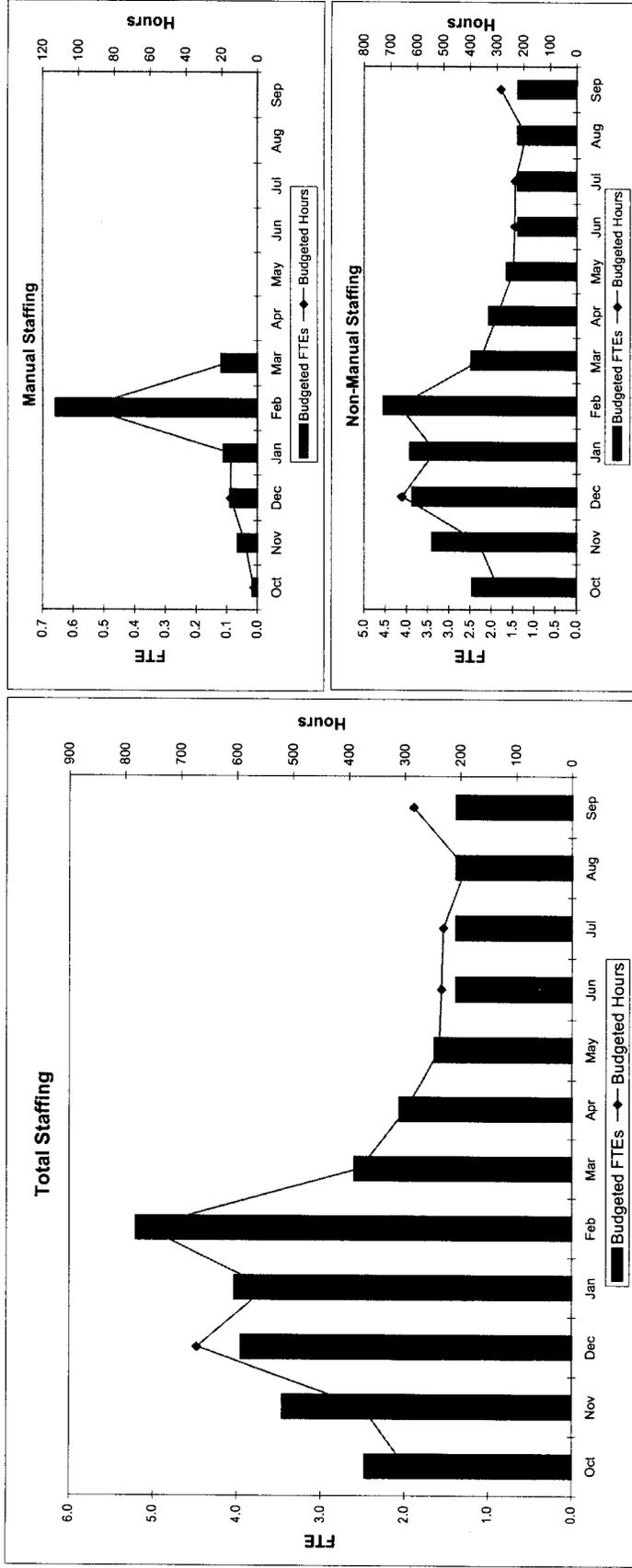
FY 2004 Expenditure Forecast



■ LABOR
 □ MATERIALS
 ■ OTHER NON-LABOR

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
LABOR	33491.35	38393.83	66458.67	53910.59	70229.66	41079.98	36466.68	28284.52	27257.86	26887.56	22266.76	33134.49
MATERIALS	2729.41	2535.36	4024.09	3210.28	3487.07	3339.15	3271.68	3280.71	3825.24	3773.27	3124.81	4649.94
OTHER NON-LABOR	1838.55	3674.68	7323.15	5555.40	38318.62	8077.31	1441.14	1558.58	1817.27	1792.58	1484.51	2209.06
SUBCONTRACTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRAVEL	1359.00	1224.00	1913.63	1526.63	1658.25	1651.50	1629.00	1633.50	1904.63	1878.75	1555.88	2315.25
TOTAL	38418.31	45827.86	79719.53	64202.89	113693.60	54147.94	42808.50	34757.31	34805.00	34332.16	28431.96	42308.73

LABOR PROFILE



	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Budgeted FTEs	2.5	3.5	4.0	4.0	4.0	5.2	2.6	2.1	1.6	1.4	1.4	1.4
Budgeted Hours	298	376	672	546	766	381	298	238	234	231	191	285
Budgeted FTEs	0.0	0.1	0.1	0.1	0.7	0.1						
Budgeted Hours	2	7	15	15	97	17						
Budgeted FTEs	2.5	3.4	3.9	3.9	4.5	2.5	2.1	1.6	1.4	1.4	1.4	1.4
Budgeted Hours	296	369	657	531	669	364	298	238	231	191	181	285

Program: C40103	Description: Work For Others (WFO) Program	Approval: Program Manager Functional Manager Cost Account Manager
Run Date: 9/15/2003	Status Date: 9/30/2003	

WBS[4]	BE[4]	Program	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Totals
C.4.01.03 Work for Others (WFO) Program															
E11	MECHANICAL ENGINEERING	FTE	-	0.15	0.22	0.22	0.22	0.03	-	-	-	-	-	-	0.07
E14	NUCLEAR ENGINEERING	FTE	1.00	1.14	1.22	1.24	1.28	1.04	1.00	0.64	0.41	0.41	0.41	0.41	0.85
E17	QUALITY ENGINEERING	FTE	0.01	0.01	0.01	0.01	0.01	-	-	-	-	-	-	-	0.00
E18	RADIOLOGICAL ENGINEERING	FTE	0.01	0.01	0.01	0.01	0.01	-	-	-	-	-	-	-	0.00
E19	SAFETY ENGINEERING	FTE	0.01	0.01	0.01	0.01	0.04	0.01	-	-	-	-	-	-	0.01
E34	PROJECT ENGINEER	FTE	0.84	0.84	0.84	0.83	0.82	0.67	0.65	0.65	0.65	0.65	0.65	0.65	0.73
E39	APPLIED MECHANICS	FTE	0.04	0.69	1.01	1.01	1.01	0.18	0.09	0.12	0.12	0.12	0.12	0.12	0.39
E54	OPERATIONS SYSTEM ENGINEER, NUCLEAR FAC	FTE	0.14	0.14	0.14	0.13	0.12	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.11
F05	FAC OPERATIONS	FTE	0.03	0.03	0.03	0.02	0.36	0.07	-	-	-	-	-	-	0.05
F10	WORK PLANNING AND/OR SCHEDULING	FTE	0.04	0.04	0.04	0.04	0.04	0.01	-	-	-	-	-	-	0.02
F23	WASTE/FUEL PKG TRANSPORTATION	FTE	0.01	0.01	0.01	0.01	0.06	0.01	-	-	-	-	-	-	0.01
P44	PLANNING AND CONTROLS	FTE	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
T10	LABORATORY TECH	FTE	-	-	-	0.02	0.06	0.01	-	-	-	-	-	-	0.01
T12	QUALITY INSPECT TECH	FTE	-	-	-	-	0.06	0.01	-	-	-	-	-	-	0.01
U16	FITTER	FTE	-	-	-	-	0.06	0.01	-	-	-	-	-	-	0.01
U26	MACHINIST	FTE	-	0.05	0.07	0.07	0.07	0.01	-	-	-	-	-	-	0.02
U29	SYS MECHANIC	FTE	-	-	-	-	0.11	0.02	-	-	-	-	-	-	0.01
U60	RADIOLOGICAL CONTROL TECH	FTE	0.02	0.02	0.02	0.03	0.29	0.05	-	-	-	-	-	-	0.04
U71	MATERIAL MOVING EQUIPMENT OPERATOR,HEAVY	FTE	-	-	-	-	0.11	0.02	-	-	-	-	-	-	0.01
U90	WASTE OPS TECH - TRA	FTE	-	-	-	-	0.01	-	-	-	-	-	-	-	0.00
X22	SAFETY ANALYSIS	FTE	0.05	0.05	0.05	0.05	0.05	0.05	0.02	-	-	-	-	-	0.03
X23	PROBABILISTIC RISK ANALYSIS (PRA)	FTE	0.25	0.25	0.25	0.25	0.25	0.25	0.18	0.11	0.08	0.08	0.08	0.08	0.18
Z08	SUPERVISOR, OPERATIONS	FTE	0.01	0.01	0.01	0.01	0.06	0.01	-	-	-	-	-	-	0.01
WBS[4] Totals:			2.49	3.48	3.97	4.03	5.20	2.60	2.07	1.65	1.39	1.39	1.39	1.39	2.59

Experiment handling and processing will also occur. The necessary safety analysis, including the ATR Experiment Safety Assurance Package (ESAP), will be generated and maintained. Satisfactory PIE results obtained for the previously removed MOX capsules with a burnup of 40 GWd/MT provide the basis for the Safety documentation that permits continuation and a small extension of the final irradiation phase of the MOX project. Flux wire withdrawal and analysis will only be performed once during the year at the completion of the MOX irradiation, when the capsules reach the desired 50 GWd/MT (January 2004). The Flux wires will be counted, analyzed, and compared to neutronic calculations. Experiment handling to remove the experiment during cycles of higher power (PALM cycles) will also occur. The necessary safety analysis, including the ATR ESAP, should have been updated in FY 2003, but will be reviewed to ensure that all tasks are fully covered. Continuous detailed physics analysis will be performed to ensure that all experiment criteria are met and maintained. As-run Neutronics analysis will be performed during irradiation at approximately every 2-week duration and at the end of each ATR cycle. Calculations providing MOX capsule linear heat generation rates (LHGRs) will be generated before the start of each ATR cycle. After the final capsule shipment (probably late February), efforts will continue with project closeout. Disposal of non-needed materials and preparations of final reports, etc, will close the project out in an orderly manner. Peer review for ORNL Post Irradiation Evaluations will also be provided throughout the year.

Scope to be Performed (FY 2005):

All aspects of the project closeout should have been completed during FY 2004. The only efforts should be Peer Review for ORNL and support in closeout of the overall MOX program.

2. MAJOR PRODUCTS AND DELIVERABLES:

Experiment Safety Assurance Package: This document will be revised to demonstrate that the specific operation of the MOX fuel experiment is in compliance with the ATR operating envelope as defined by the ATR Final Safety Analysis Report (UFSAR) and the ATR Technical Safety Requirements (TSR).

Experiment Irradiation: will be continuous throughout the project.

Flux wire evaluation and Data reports: will be generated at the completion of the MOX irradiation.

Neutronics calculations and evaluations: will be performed throughout the MOX irradiation program.

Neutronics calculations to establish LHGRs: will be performed before every cycle to ensure compliance with the MOX safety basis.

Packaging and transporting the MOX capsules to ORNL per all (DOE, DOE, NRC) requirements will take place 1 to 2 months after irradiation is complete.

3. ESTIMATE DEVELOPMENT BASIS:

The MOX irradiation test project was started in 1996, and most of the performers have been with the project throughout its existence. Many of the activities that will be performed in FY 2003 through FY 2004 are similar to activities that have been performed since irradiation began in February of 1998. A good historical basis for all costs involved with these activities is, therefore, available and has been used in the preparation of this work scope. Additional planning to ensure that all safety requirements are met as the MOX experiment burnup is increased to 50 GWd/MT is also included herein. This experience, to date, and a stellar knowledgeable experienced team have produced this estimate.

4. ASSUMPTIONS:

- **Internal**

The Post-Irradiation Examinations (PIE) of the removed MOX capsules do not indicate any abnormalities.

The ATR will continue to function, as intended, and schedules will approximate the 42-day operating period and 7-day planned outage per cycle.

The irradiation space required will be made available for use during the required time frame.

The irradiation charges will be assessed according to the approved ATR Pricing Policy.

Changes to the current ATR FSAR and TSRs will not prohibit continuation of this experiment.

Mixed hazardous waste will not be generated. ORNL will be responsible for the final disposal of the irradiated test assembly and capsules, and any radioactive waste that is not appropriate for the existing waste streams at the Test Reactor Area (TRA).

Projects are normally planned "Cradle-to-Grave." In this case the experiment targets will be shipped to ORNL for PIE. Therefore, closeout activities are deferred to the programmatic higher-level documents to be developed by ORNL.

The project is not presently classified, and no costs associated with security classification have been included.

Cleanup, restoration, and disposal costs are not included, but are the responsibility of the Fissile Material Disposition Program. For example, costs for cleanup of the Primary Coolant System and storage canal, in the unlikely event of a fission product release, are not included.

ORNL will achieve its milestones on or ahead of schedule.

- **External**

ORNL will achieve its milestones on or ahead of schedule.

5. EXCLUSIONS:

None

6. SUBCONTRACT STRATEGY:

Subcontract	Task	Start Date	Finish Date	Budget	Comments
None					

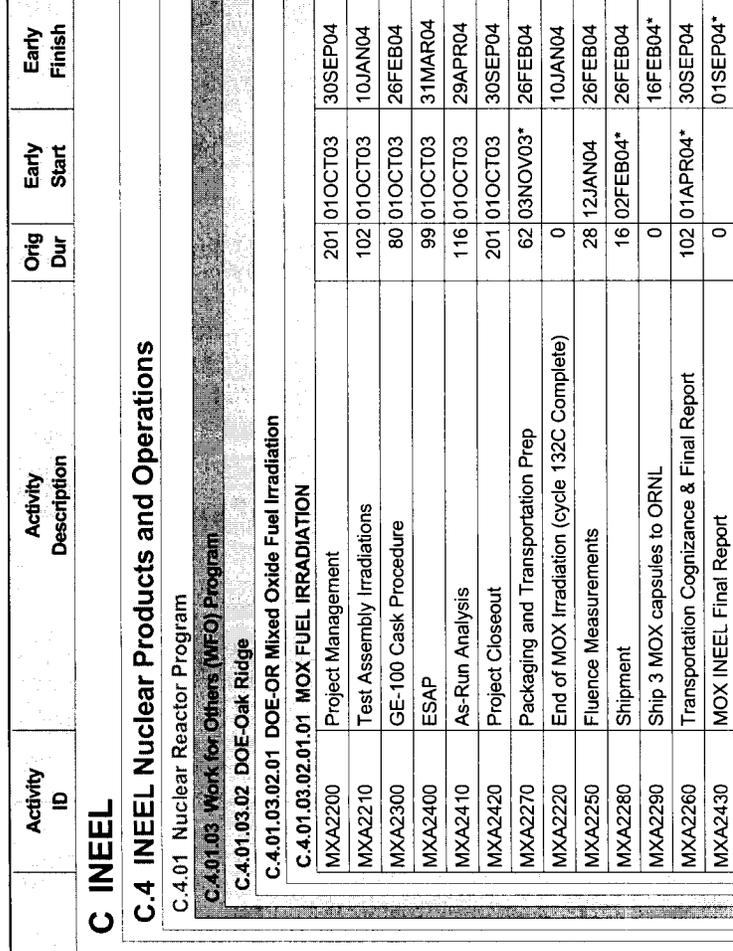
7. MATERIAL/EQUIPMENT/OTHER DIRECT COST REQUIREMENTS:

Description	Burdened Budget	FY	Comments/Assumptions
None			

8. CONSTRUCTION EQUIPMENT REQUIREMENTS & ASSUMPTIONS:

Description	Source	Usage Date		Comments/Assumptions
		Start	Finish	
None				

Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	FY04												FY05								
					S	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP	OCT						
C INEEL																									
C.4 INEEL Nuclear Products and Operations																									
C.4.01 Nuclear Reactor Program																									
C.4.01.03 Work for Others (WFO) Program																									
C.4.01.03.02 DOE-Oak Ridge																									
C.4.01.03.02.01 DOE-OR Mixed Oxide Fuel Irradiation																									
C.4.01.03.02.01.01 MOX FUEL IRRADIATION																									
MXA2200	Project Management	201	01OCT03	30SEP04																					
MXA2210	Test Assembly Irradiations	102	01OCT03	10JAN04																					
MXA2300	GE-100 Cask Procedure	80	01OCT03	26FEB04																					
MXA2400	ESAP	99	01OCT03	31MAR04																					
MXA2410	As-Run Analysis	116	01OCT03	29APR04																					
MXA2420	Project Closeout	201	01OCT03	30SEP04																					
MXA2270	Packaging and Transportation Prep	62	03NOV03*	26FEB04																					
MXA2220	End of MOX Irradiation (cycle 132C Complete)	0		10JAN04																					
MXA2250	Fluence Measurements	28	12JAN04	26FEB04																					
MXA2280	Shipment	16	02FEB04*	26FEB04																					
MXA2290	Ship 3 MOX capsules to ORNL	0		16FEB04*																					
MXA2260	Transportation Cognizance & Final Report	102	01APR04*	30SEP04																					
MXA2430	MOX INEEL Final Report	0		01SEP04*																					



Start Date	01OCT03
Finish Date	30SEP04
Data Date	01OCT03
Run Date	09SEP03 15:37



TRDD - MX04

INEEL

NUCLEAR REACTOR PROGRAM (TRA)

Detailed Work Plan FY2004

Sheet 1 of 1

Date	Revision	Checked	Approved



Program: C401		Description: Nuclear Reactor Program		Approval: Program Manager										
Run Date: 9/16/2003		Status Date: 9/30/2003		Functional Manager										
		Cost Account Manager												
WBS[6]	BE[2]	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Totals
C.4.01.03.02.01 DOE-OR Mixed Oxide Fuel Irradiation														
L	Labor	299	376	672	547	767	382	299	239	235	232	192	286	4,524
	Dollars	33,491	38,394	66,459	53,911	70,230	41,080	36,467	28,285	27,258	26,888	22,267	33,134	477,862
M	Material Purchases	2,729	2,535	4,024	3,210	3,487	3,339	3,272	3,281	3,825	3,773	3,125	4,650	41,251
N	Other Non-Labor	1,839	3,675	7,323	5,555	38,319	8,077	1,441	1,559	1,817	1,793	1,485	2,209	75,091
T	Travel	1,359	1,224	1,914	1,527	1,658	1,652	1,629	1,634	1,905	1,879	1,556	2,315	20,250
WBS[6] Totals:		39,418	45,828	79,720	64,203	113,694	54,148	42,809	34,757	34,805	34,332	28,432	42,309	614,454